TEAPO | Aluminum Electrolytic Capacitors
铝电解电容器

智宝电子股份有限公司

TEAPO ELECTRONICS CO.,LTD.

TEAPO

Company Profile

Established:	September 11th 1978
Capital：	USD 32 million
Revenue：	USD 59 million
Employees：	900
Listing：	August 29th 1998, Taiwan Stock Exchange
Stock Code：	2375
Product Lines：	Aluminum Electrolytic Capacitor
	Conductive Polymer Solid Aluminum Capacitor

Milestones:

1956	Set-up Aluminum Capacitor Division at SAMPO Electronic
1965	Technical cooperation with Elna Japan
1966	Technical cooperation with Hitachi Japan
1971	Technical cooperation with Shinyei Japan
1975	First development and mass production at Low ESR product in Taiwan
1978	Foundation of Teapo Electronic Capacitor
1998	Company stock listed in OTC market in Taiwan
1998	Manufacturing plant in Dongguan ,China
2001	Dongguan factory certified by ISO9001:2000
2005	Teapo acquired G-Luxon
2006	Manufacturing polymer capacitors
2008	Dongguan factory certified by ISO9001:2008
2010	Dongguan factory certified by ISO14001:2004
2014	Dongguan factory certified by ISO/TS16949:2009
2014	Dongguan factory certified by IECQ/QC080000:2012
2014	Dongguan factory certified by OHSAS 18001:2007

Catalogue content

● Product Guide

● Conductive Polymer Aluminum Solid Capacitors

● Aluminum Electrolytic Capacitors

Products Series Table

■ Conductive Polymer Aluminum Solid Capacitors

Classify			Pages	Features	Standard Type	Miniaturization	Long life	Low impedance	High Ripple	Endurance (+R=With ripple)	Rated voltage range (Vdc)
Type	TEAPO	G-LUXON									
SMD Types	VP	VP	29	Standard	*					105℃ 2000hours	2.5~25
	VB	VB	31	High capacitance & Low ESR				*		105℃ 2000hours	2.5~25
	VS	VS	33	Long Life & Low ESR			*	*		105℃ 5000hours	4~20
Radial Types	FG	FG	35	Standard	*					105℃ 2000hours	2.5~25
	FR	FR	37	High Ripple & Low ESR					*	105℃ 2000hours	2.5~6.3
	FF	FF	39	Large Capacitance				*		105℃ 2000hours	2.5~63
	FL	FL	41	Special for Charger NEW	*					105℃ 2000hours	6.3~16
	FS	FS	43	Large Capacitance&Long Life&High Voltage			*			105℃ 2000~5000hours	25~50
	FP	FP	45	8mm height & Low ESR		*		*		105℃ 3000hours	2.5~25
	FH	FH	47	Long life & Low ESR			*			105℃ 5000hours	2.5~16
	FT	FT	49	125℃/2000hrs&Low ESR			*			125℃ 2000hours	6.3~25

■ Surface Mount Aluminium Electrolytic Capacitors

Classify			Pages	Features	Standard Type	Miniaturization	Long life	Low impedance	High Ripple	Endurance (+R=With ripple)	Rated voltage range (Vdc)
Type	TEAPO	G-LUXON									
Vertical Chip	GV	GV	55	General purpose	*					85℃ 2000hours	4~100
	FV	FV	58	Long Life for 85℃			*			85℃ 3000~5000hours	4~100
	SV	SV	60	General purpose	*					105℃ 1000hours	4~100
	DV	DV	62	General purpose	*					105℃ 2000hours	6.3~450
	ZV	ZV	65	Low Impedance				*		105℃ 1000hours+R	4~50
	YV	YV	67	Low impedance				*		105℃ 1000~2000hours+R	6.3~50
	EV	EV	69	Ultra Low impedance				*		105℃ 2000hours+R	6.3~50
	JV	JV	71	Ultra Low Impedance				*		105℃ 2000hours+R	6.3~35
	XV	XV	73	Ultra Low impedance、Long life			*	*		105℃ 3000~5000hours+R	6.3~50
	HV	HV	75	125℃ High temperature			*			125℃ 1000~2000hours	6.3~50
	NV	NV	77	Non-polar	*					105℃ 2000 hours	6.3~35

■Radial Type Aluminium Electrolytic Capacitors

Classify			Pages	Features	Standard Type	Miniaturization	Long life	Low impedance	High Ripple	Endurance (+R=With ripple)	Rated voltage range (Vdc)
Type	TEAPO	G-LUXON									
Low profice	D5	SF	/	Low profice EOL		*				85℃ 1000hours	6.3~50
	D7	SS	/	Low profice EOL		*				85℃ 1000hours	6.3~63
	S5	FX	79	Low profice		*				105℃ 1000hours	6.3~50

Products Series Table

■Radial Type Aluminium Electrolytic Capacitors

Classify			Pages	Features	Standard Type	Miniaturization	Long life	Low impedance	High Ripple	Endurance (+R=With ripple)	Rated voltage range (Vdc)
Type	TEAPO	G-LUXON									
Low profice	S7	SX	81	Low profice		*				105℃ 1000hours	6.3~63
	H5	H5	83	Low profice		*				105℃ 2000 hours	6.3~50
	H7	H7	85	Low profice		*				105℃ 2000 hours	6.3~63
General Purpose	SK	GR	87	Standard	*					85℃ 2000hours	6.3~500
	SE (SEK)	SE	/	Standard EOL	*					105℃ 1000hours	6.3~450
	SH	SM	90	Standard	*					105℃ 2000hours	6.3~500
Low impedance	SZ	LW	94	Ultra low impedance				*		105℃ 1000~2000hours+R	6.3~16
	SC	LZ	96	Low impedance、High Ripple				*		105℃ 1000~3000hours+R	6.3~100
	SJ	LU	99	Low impedance、High Ripple			*	*		105℃ 1000~5000hours+R	6.3~100
	SY	LT	102	Low impedance、Long life			*	*		105℃ 2000~6000hours+R	6.3~100
	TA	TA	105	Low impedance、Long life			*	*		105℃ 4000~10000hours+R	6.3~100
	ST	ST	108	Low impedance、Long life			*	*		105℃ 4000~10000hours+R	6.3~100
	TT	TT	111	Low impedance、Long life、Miniaturization NEW		*	*	*		105℃ 5000hours+R	6.3~50
	TB	TB	113	Low impedance、High Ripple			*	*		105℃ 5000~6000hours+R	6.3~35
	TC	TC	115	Low impedance、Long life			*	*		105℃ 6000~10000hours+R	6.3~100
High Ripple	SQ	LB	118	High Ripple					*	105℃ 2000hours+R	160~450
	SG	LC	120	High Ripple、Long life			*		*	105℃ 3000~5000hours+R	160~500
	SP	SP	123	High Ripple、Long life Upgrade			*		*	105℃ 8000~10000hours+R	160~500
	SU	SU	125	High Ripple、Long life			*		*	105℃ 10000~12000hours+R	160~450
Special Purpose	RN	RN	127	Non-polar Standard	*	*				85℃ 1000hours	6.3~250
	SN	RX	130	Non-polar Standard	*	*				105℃ 1000hours	6.3~250
	SB	LX	132	Low leakage current	*					105℃ 1000hours	6.3~100
	QC	QC	134	Charger NEW	*					105℃ 2000hours	400~450
	TE	TE	136	LED Lighting、Ultra Long Life		*	*			105℃ 12000~20000hours+R	160~400
	AK	AK	138	High Temperature、Long Life			*			125℃ 2000-5000hours	10~450
	AR	AR	140	High Tem、Low impedance、Ultra long Life NEW			*	*		125℃ 3000~5000hours+R	25~63

Products Series Table

■ Snap-in Type Aluminium Electrolytic Capacitors

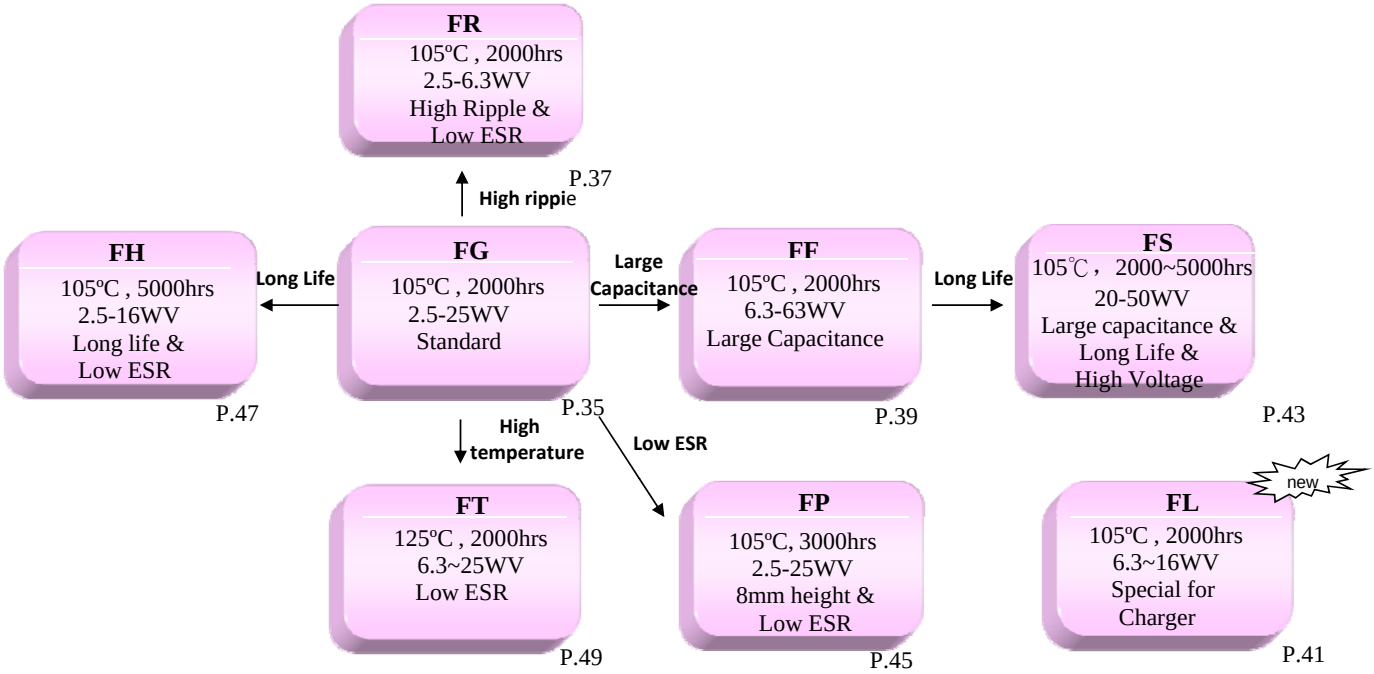
Classify			Pages	Features	Standard Type	Miniaturzation	Long life	Low impedance	High Ripple	Endurance (+R=With ripple)	Rated voltage range (Vdc)
Type	TEAPO	G·LUXON									
General Purpose	LH	TW	142	Standard	*					85℃ 2000hours+R	6.3~500
	LG	HW	148	Standard	*					105℃ 2000hours+R	6.3~500
Long life	LF	LF	154	Long Life			*			85℃ 3000hours+R	10~500
	LJ	LJ	159	Long Life			*			105℃ 3000hours+R	10~500
	LQ	LQ	164	Long Life			*			105℃ 5000hours+R	160~500
	LK	LK	167	Long Life			*			105℃ 7000hours+R	160~450
Miniaturization	LS	LS	170	Downsized、Low profile		*				105℃ 2000hours+R	160~450
	LM	LM	173	Downsized、Low profile、Long Life		*	*			105℃ 3000hours+R	400~450

■ Screw Type Aluminium Electrolytic Capacitors

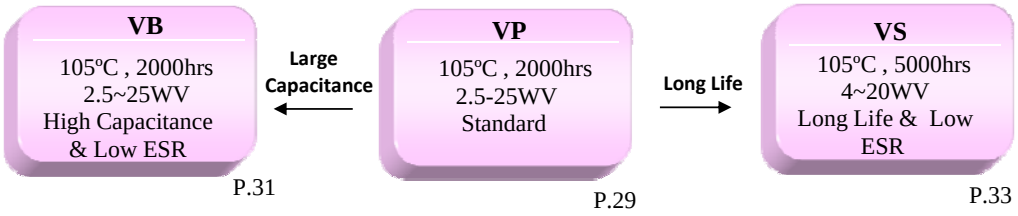
Classify			Pages	Features	Standard Type	Miniaturzation	Long life	Low impedance	High Ripple	Endurance (+R=With ripple)	Rated voltage range (Vdc)
Type	TEAPO	G·LUXON									
General Purpose	KP	KP	175	Standard	*				*	85℃ 2000hours+R	6.3~450
	WP	WP	179	Standard 、High Ripple	*				*	85℃ 2000hours+R	160~550
	QP	QP	181	Standard 、High Ripple	*				*	105℃ 2000hours+R	160~500
	RP	RP	183	Wide temperature range standard	*					105℃ 2000hours+R	10~450
Long life	MP	MP	185	High voltage、Long life			*			85℃ 5000hours+R	350~450
	XP	XP	187	High voltage、Long life			*	*		105℃ 5000hours+R	200~450
	JP	JP	189	High voltage、Long life			*			85℃ 10000hours+R	350~450
	EP	EP	191	High voltage、Long life			*			105℃ 10000hours+R	350~450

Systematic Diagram of Teapo Capacitor

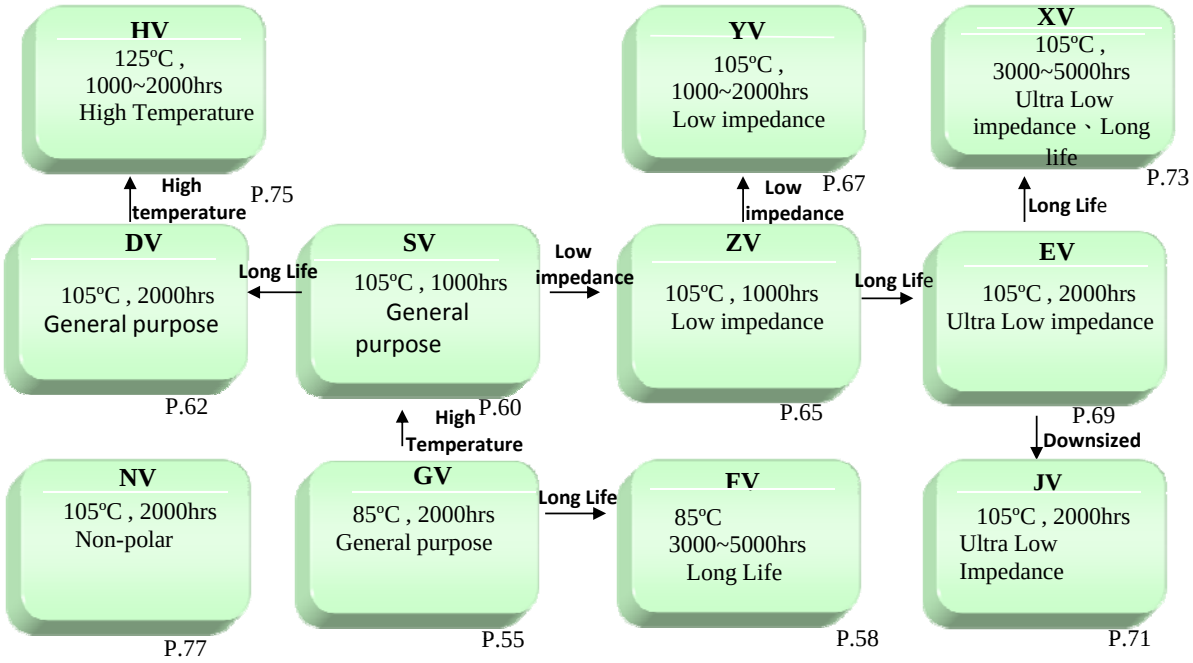
Conductive Polymer Aluminum Solid Capacitors: Radial Type



Conductive Polymer Aluminum Solid Capacitors: SMD Type



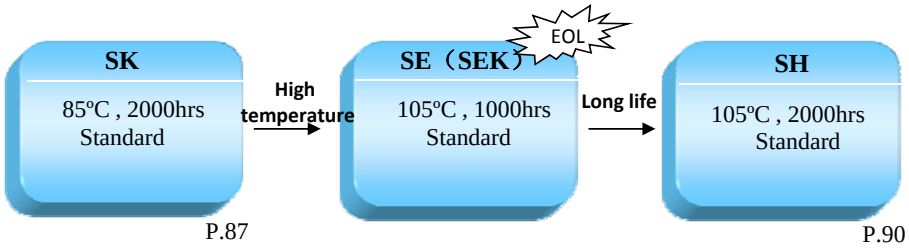
Surface Mount Aluminium Electrolytic Capacitors



Systematic Diagram of Teapo Capacitor

Radial Type Aluminium Electrolytic Capacitors:

Standard ：



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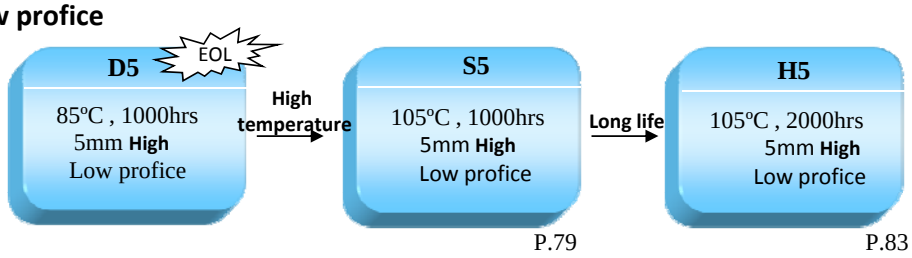
Low profice



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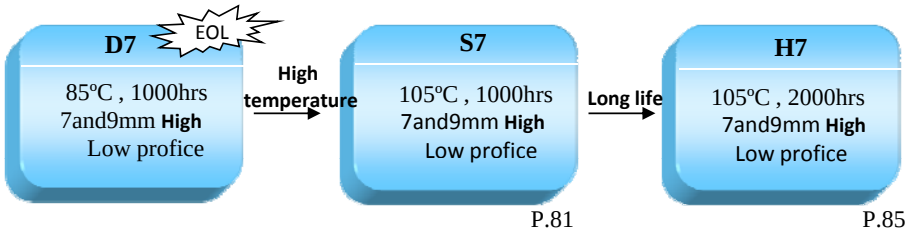

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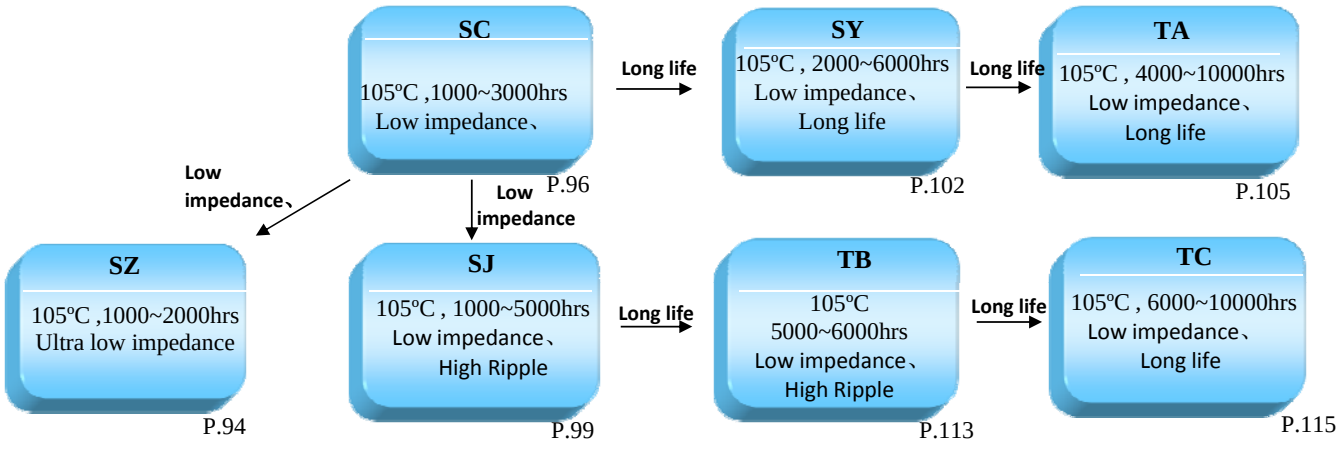
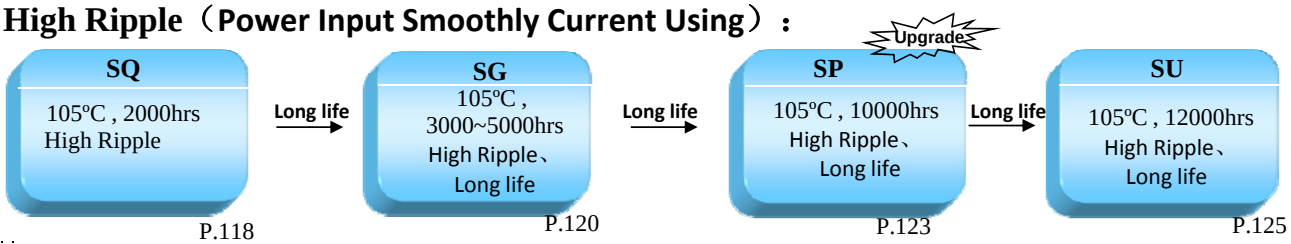
Low ESR（For Power Output Smoothly Current Using）：



P.96 P.102 P.105 P.94 P.99 P.113 P.115

High Ripple（Power Input Smoothly Current Using）：



P.118 P.120 P.123 P.125

Systematic Diagram of Teapo Capacitor

Products For Special

High Temperature (For Vehicle-Mounted

AK
125ºC , 2000~5000hrs
High Temperature、Long Life
P.138

Low impedance →

AR new
125ºC ,3000~5000hrs
High Temperature、Low impedance、
P.140

Non-polar（For Audio Coupling Using）：

RN
85ºC , 1000hrs
Non-polar
P.127

High temperature →

SN
105ºC , 1000hrs
Non-polar
P.130

Dedicated For charger

QC new
105ºC , 2000hrs
Charger
P.134

Low leakage current

SB
105ºC , 1000hrs
Low leakage current
P.132

LED Lighting

TE
105℃
12000~20000Hrs
LED Lighting、Ultra Long Life
P.136

No polarity (LED Lighting& for Vehicle-Mounted)

ST
105ºC , 4000~10000hrs
Low impedance、Long life
P.108

TT new
105ºC , 5000hrs
Low impedance、Long life、Miniaturization
P.111

Snap-in Type Aluminium Electrolytic CapacitorsS(Power input or output)：

LH
85ºC , 2000hrs
Standard
P.142

Long life →

LG
105ºC , 2000hrs
Standard
P.148

Long life →

LJ
105ºC , 3000hrs
Long life
P.159

Long life →

LQ
105ºC , 5000hrs
Long life
P.164

Long life ↓

LF
85ºC , 3000hrs
Long life
P.154

Downsized ↓

LS
105ºC , 2000hrs
Downsized、Low profile
P.170

Downsized ↓

LM
105℃ 3000hours
Downsized、Low profile、Long Life
P.173

Long life ↓

LK
105ºC , 7000hrs
Long life
P.167

Screw Type Aluminium Electrolytic Capacitors(For Frequency Converter Using)

WP
85ºC ,2000hrs
Standard 、High Ripple
P.179

← High Ripple

KP
85ºC , 2000hrs
Standard
P.175

Long life →

MP
85ºC , 5000hrs
High voltage 、Long Life
P.185

Long life →

JP
85ºC , 10000hrs
High voltage、Long life
P.195

high temperature ↓

QP
105ºC , 2000hrs
Standard 、High Ripple
P.181

← High Ripple

RP
105ºC , 2000hrs
Wide temperature
P.183

Long life →

XP
105ºC , 5000hrs
High voltage 、Long life
P.187

Long life →

EP
105ºC , 10000hrs
High voltage 、Long life
P.191

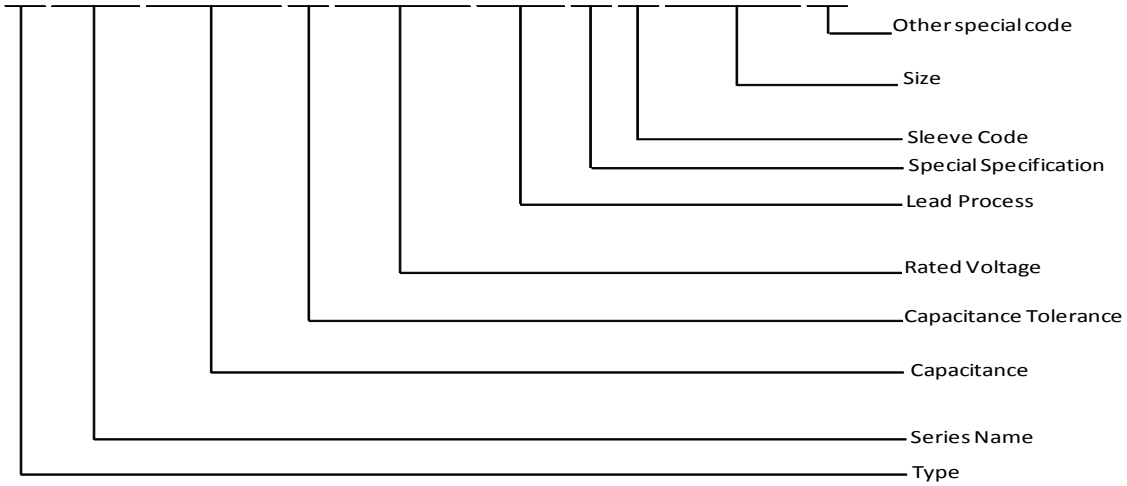
Industry Application

Recommended Applications	Conductive Polymer Aluminum Solid	SURFACE MOUNT	RADIAL LEAD TYPE 6.3~100V	RADIAL LEAD TYPE 160~500V	SNAP-IN TYPE	SCREW TYPE
Charger	FG、FF、FR、FL	GV、SV、DV、EV、XV	SC、SJ	SH、QC	—	—
Lighting Equipment	FG、FF	HV	ST、TA、TC	TE、SG、SU	—	—
Network Communication	FG、FF	EV、DV、XV、HV	SJ、SY、TA、TC	SG、SP、SU	—	—
Power Supply	FG、FF、FR、FT	GV、SV、DV、EV、XV	SH、SY	SH、SG	—	—
Control Panel	—	GV、SV、DV	SH、SC	SH	—	—
Audio	—	GV、DV、EV、XV、NV	SC、SE、SH、SK	—	LH、LG、LJ	—
Intelligent Electric Meters Intelligent Water Meter Intelligent Gas Meter	—	EV、XV、DV	SH、SY、TA	SH、SG、SQ	LG、LJ	—
UPS	—	DV	—	—	LS、LK	MP
Inside and Outsize Accessories for Automotive	—	EV、XV、DV	GR、SE、SH、SJ、SY、AK、AR	—	—	—
Ethernet Router Interchanger	FG	DV、EV	SC、TA	—	—	—
Servosystem	—	DV、XV	—	SG、SU	LM、LQ	MP
Plastic Working Equipment	—	—	—	—	LM、LQ	MP
Electric Car Equipment Charging pile	—	DV			LG、LQ	MP、XP
Inverter	—	DV、EV、XV	—	SU	LJ、LQ、LK	MP
Inverter Air-Conditioner Inverter Washer Inverter Refrigerator	—	DV、EV、XV	SH	SP、SU	LG、LJ、LQ、LF、LM	MP、XP
Printer Facsimile Machine	—	DV、EV、XV	—	SQ、SG	LG、LS	—
Elevator	—	DV	SK、SH、ST、TA、SY	SH、SG、SP	LG、LH、LS、LQ	—
Mainboard	—	GV、SV、DV	SK、SE、SH	SK、SE、SH	—	—

Product Guide

Part Number System

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
K	S	C	4	7	6	M	1	0	0	S	1	A	C	C	1	1	K



Code 1 Type

Code	Model Type
K	TEAPO Radial Type (PET sleeve)
V	SMD (V-chip) Type (Nylon coating)
S	TEAPO Snap-in Type (PET sleeve)
H	Snap-in Type(No Insulating base,PET sleeve)
P	Conductive Polymer Aluminum Solid Capacitor
N	Screw Type(PVC sleeve)
B	Radial Type special for CP line(PET sleeve)
M	Radial Type 8 φ pitch =2.5mm(PET sleeve)
G	G-LUXON Radial Type (PET sleeve)

Code 2~3 Series Name (as content page 2 to page 4)

Code 4~6 Capacitance

Capacitance(uf)	0.47	4.7	47	470	4700	47000	470000	4700000	47000000	470000000
product code	474	475	476	477	478	479	47A	47B	47C	47D

Code 7 Capacitance Tolerance

A： - 8~ + 32%	B： - 5~ + 10%	C： + 10~ + 30%	D： - 40~ + 0%	W： - 15~ + 0%	X： - 15~ + 5%
G： - 30~ + 0%	H： - 5~ + 15%	I： - 20~ + 0%	J： - 5~ + 5%	Q： - 10~ + 30%	R： - 0~ + 20%
M： -20~ + 20%	N： - 30~ + 30%	O： - 20~ + 10%	P： - 0~ + 30%	K： - 10~ + 10%	L： - 15~ + 15%
S： - 0~ + 50%	T： - 10` + 50%	U： - 10~ + 75%	V： - 10~ + 20%	E： - 12~ + 20%	F： - 5~ + 20%
Y： - 10~ + 150%	Z： - 20~ + 80%				

Code 8~10 Rated Voltage

Rated Voltage(WV)	2.5	5	6.3	63	100	450
product code	2R5	005	6R3	063	100	450

Code 11~12 Lead Process

Code / processing form	Code 11	Code 12	Description
Standard	A	1	Screw type standard type
	S	0	Standard SMD type
		1	Standard Dip & Snap-in type
Ammo tape	T	1	Standard ammo tape (pitch 5mm for dia .~ 13mm)
		2	Ammo tape with straight lead (available for dia. 4~8mm)
		4	Ammo formed tape with pitch 2.5mm (available for dia.4~5mm)
Reel tape	R	1	Standard reel tape (pitch 5mm for dia.~ 10mm)
		2	Reel tape with straight lead (available for dia. 4~8mm)
		3	Reel formed tape with pitch 2.5mm (available for dia.4~5mm)
Straight cut	C	3	Straight cut lead with L : 3.2+/-0.5mm
		5	Straight cut lead with L : 4.0+/-0.5mm
		7	Straight cut lead with L : 5.0+/-0.5mm
Kink(Crimp)cut	K	2	Kink cut lead with L : 4.5+/-0.5mm
Formed cut	F	6	Forming cut lead with L : 4.0+/-0.5 (Pitch : 5mm)

Code 13 Special Specification

A	Standard	J	SMD is 25pcs each row, the bend of SNAP-IN terminal foot is 90°	S	spacer special DIP special requirement	2	Life & ESR special
B	DF (tanδ)special	K	Above life specified in catalog	T	length of body special	3	Life & Impedance special
C	ESR special	L	Pins or Wire diameter	U	Pack special	4	Life & Ripple current special
D	Impedance special	M	Customer requirements	V	Sleeve special	5	Life & LC special
E	Ripple current special	N	Pitch special	W	Capacitance special	6	life & rubber cover or capacitor cover plate
F	LC special	O	LC & ESR or Impedance special	X	DF & LC & ESR or Impedance special	7	DF & ESR or Impedance special
G	GUM or special for capacitor cover plate or non-salient point in	P	Under life specified in catalog	Y	RC & LC & ESR or Impedance special	8	DF & RC special
H	Customer requirements	Q	DF & Ripple current & ESR or Impedance	Z	Frequency & ESR or Impedance special	9	DF & LC special
I	RC & LC special	R	Shelf is 1000Hrs	1	Life & DF special	0	RC & ESR or Impedance special

Code 14 Sleeve Code（please contact us if the sleeve code in the form cannot corresponding with your requirement.）

Code	Series	Color
1	SK	Dark blue with white printing
5	SH,SG,SP,SB,SY,SJ,RN,SN,RB,SR,BX,SQ,AK,ST,TA,SU,TB,TLH,LG,LJ,LF,LQ,LM,TE,LS,LK,CG,TT,QC,S5,S7,H5,H7,KP,WMP,XP,JP,EP,RP	Black with white printing
6	TC	Black with golden printing
C	SC	Green with golden printing
H	SZ	Royal blue with golden printing
N	GV,FV,SV,DV,ZV,YV,EV,JV,XV,HV,CV,NV FG,FP,FR,FF,FS,FH,FT,FL,VP,VB,VS	SMD standard pack & POLYMER

Code 15~17 Case Size (Please contact us if the case size is required and not shown in the table.)

Code 15 Diameter

Code	A	B	C	D	E	F	G	8	H
Case size	3	4	5	5.5	6.3	7.3	8	8.2	10

Code	9	J	K	L	M	N	7	P	Q
Case size	10.2	12	12.5	13	16	18	18.5	20	22

Code	R	S	T	U	V	W	X	Y	Z
Case size	25	30	35	40	45	51	64	77	90

Code 16~17 Length

For ECAP-DIP & POLYMER-DIP & SNAP-IN & SCREW TYPE ：

Code	05	07	09	10	1A	11	1B	12	1C	13
Length	05	07	09	10	10.5	11	11.5	12	12.5	13

Code	14	15	16	17	18	20	25	30	3B	32
Length	14	15	16	17	18	20	25	30	31.5	32

Code	35	3F	36	40	45	50	55	60	65	70
Length	35	35.5	36	40	45	50	55	60	65	70

Code	75	80	90	96	A0	B5	C1	D0	E4	F5
Length	75	80	90	96	100	115	121	130	144	155

For V-CHIP SMD

Code	01	02	03	04	05	06	07	08
Length	5.4	6.2	10.2	7.7	13.5	16、16.5	12.5	5.8

For POLYMER SMD

Code	A1	A2	A3	A4	A5	A6	A7	A8	A9
Length	5.8	6.0	6.7	7.7	10.2	10.4	12.0	12.2	9.0

Code 18 other special code

H: Intelligent instrument	R:Medical	X:Weekly date code	6:Industrial equipment / inverter
K:TEAPO	S:Auto grade	0:G.LUXON	

Taping specifications for Raidal Type:

Fig.1：Code T1/R1 : Ammo / Reel Tape (Φ4 – Φ6.3)

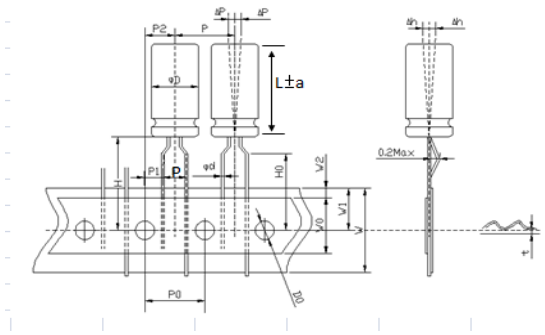


Fig.2：Code T1/R1 : Ammo / Reel Tape (Φ8)(P3=2.0~2.7, θ =110°±15°)

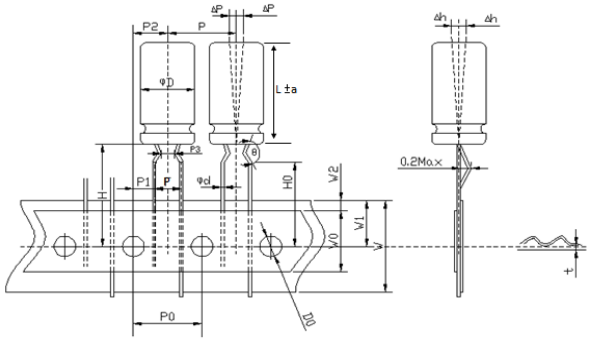


Fig.3：Code T1/R1 : Ammo / Reel Tape (Φ10)

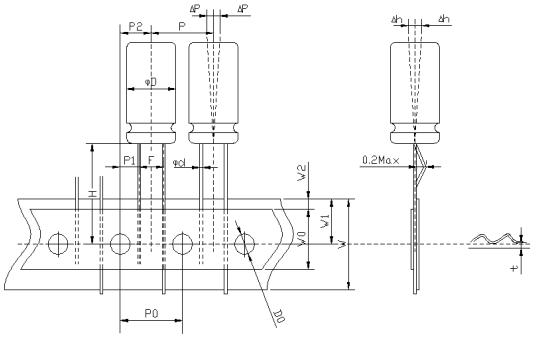


Fig.4：Code T1 : Ammo Tape (Φ13~Φ18)

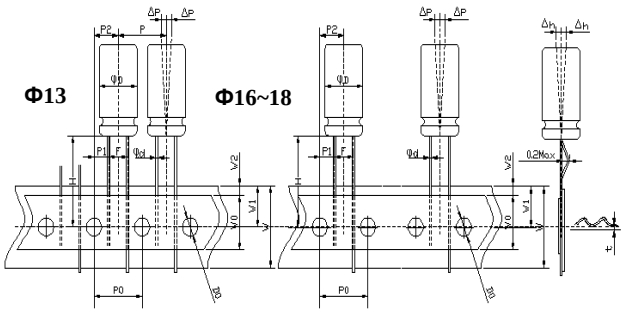


Fig.5：Code T2/R2 ，Φ4 ~ Φ8

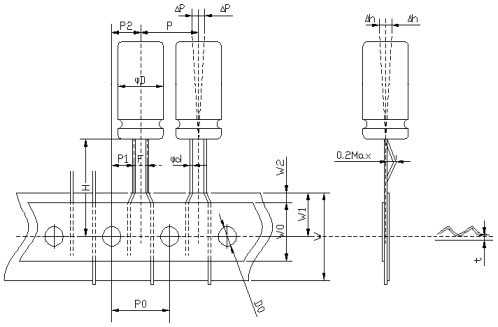
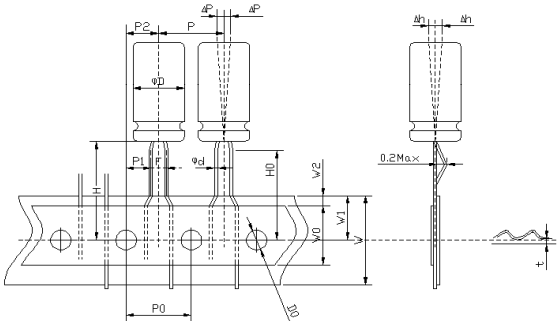


Fig.6：Code T4/R3 : Ammo / Reel Formed Tape (Φ4～Φ5／pitch 2.5mm)



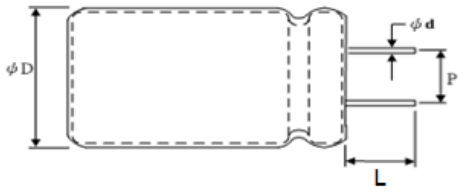
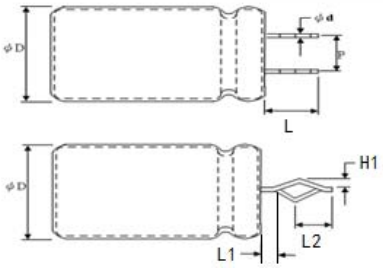
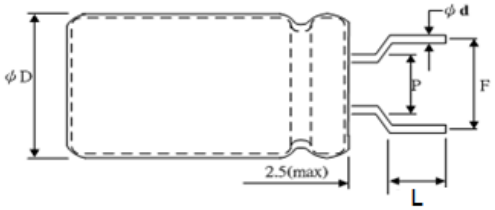
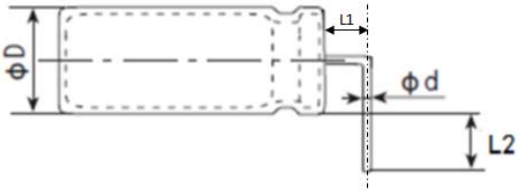
unit：mm

Code	Symbol	φd	P	P0	P1	P2	F	W	W0	W1	W2	H	H0	D0	△P	△h	t
	Tolerance	±0.05	±1.0	±0.3	±0.5	±1.0	+0.6/－0.2	±0.5	min	±0.5	max	±0.5	±0.5	±0.3	max	max	±0.3
T1/R1	4x5	0.45	12.7	12.7	3.85	6.35	5.0	18.0	8.0	9.0	2.0	18.5	16.0	4.0	0.2	0.2	0.6
	5x5~11	0.45or0.5	12.7	12.7	3.85	6.35	5.0	18.0	8.0	9.0	2.0	18.5	16.0	4.0	0.2	0.2	0.6
	6.3x5~11	0.45or0.5	12.7	12.7	3.85	6.35	5.0	18.0	8.0	9.0	2.0	18.5	16.0	4.0	0.2	0.2	0.6
	Tolerance	±0.05	±1.0	±0.3	±0.7	±1.0	+0.6/－0.2	±0.5	min	±0.5	max	±0.5	±0.5	±0.3	max	max	±0.3
	8x5~30	0.45~0.6	12.7	12.7	3.85	6.35	5	18.0	8.0	9.0	2.0	18.5	16.0	4.0	0.2	0.2	0.6
	Tolerance	±0.05	±1.0	±0.3	±0.5	±1.0	+0.6/－0.2	±0.5	min	±0.5	max	±0.5	—	±0.3	max	max	±0.2
	10x10~30	0.6	12.7	12.7	3.85	6.35	5	18.0	8.0	9.0	2.0	18.5	—	4.0	0.2	0.2	0.7
	Tolerance	±0.05	±1.0	±0.3	±0.7	±1.3	+0.6/－0.2	±0.5	min	±0.5	max	±0.5	—	±0.3	max	max	±0.3
	12.5x15~25	0.6	15	15	5.00	7.50	5.0	18.0	8.0	9.0	2.0	18.5	—	4.0	0.2	0.2	0.7
	13x13~40	0.6	15	15	5.00	7.50	5.0	18.0	8.0	9.0	2.0	18.5	—	4.0	0.2	0.2	0.7
	16x16~40	0.8	30	15	3.75	7.50	7.5	18.0	8.0	9.0	2.0	18.5	—	4.0	0.2	0.2	0.7
	18x20~32	0.8	30	15	3.75	7.50	7.5	18.0	8.0	9.0	2.0	18.5	—	4.0	0.2	0.2	0.7
Code	Symbol	Φd	P	P1	P0	P2	F	W	W0	W1	W2	H	—	D0	△p	—	t
	Tolerance	±0.05	±1.0	±0.5	±0.3	±1.0	+0.6/-0.2	±0.5	min	±0.5	max	±0.5	—	±0.3	max	—	±0.2
T2/R2	4x5～7	0.45	12.7	5.6	12.7	6.35	1.5	18	8	9	3	18.5	—	4	0.2	—	0.6
	5x5～11	0.45or0.5	12.7	5.35	12.7	6.35	2	18	8	9	3	18.5	—	4	0.2	—	0.6
	6.3x5～11	0.45or0.5	12.7	5.1	12.7	6.35	2.5	18	8	9	3	18.5	—	4	0.2	—	0.6
	8x5～20	0.6	12.7	4.6	12.7	6.35	3.5	18	8	9	3	18.5	—	4	0.2	—	0.6
Code	sign	Φd	P	P0	P1	P2	F	W	W0	W1	W2	H	H0	D0	△P	△h	t
	Tolerance	±0.05	±1.0	±0.3	±0.5	±1.0	+0.6/－0.2	±0.5	min	±0.5	max	±0.5	±0.5	±0.3	max	max	±0.3
T4/R3	4x5~4x7	0.45	12.7	12.7	5.1	6.35	2.5	18.0	8.0	9.0	2.0	18.5	17.0	4.0	0.2	0.2	0.6
	5x5~5x11	0.45or0.5	12.7	12.7	5.1	6.35	2.5	18.0	8.0	9.0	2.0	18.5	17.0	4.0	0.2	0.2	0.6

TEAPO

Product Guide

Cut/Formed Lead For Radial Lead Type：

Shape	Suitable size	Shape	Suitable size
Code C5：Straight Cut 	ΦD=4~18	Code K2：Kink cut，& Crimping 	ΦD=4~18
CodeF*：Molding Truncation type 	ΦD=4~8	CodeV*：Horizontal processing 	ΦD=4~18

unit：mm

C	Code	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H
	L	2.5	2.8	3.2	3.4	4.0	4.5	5.0	5.5	6.5	7.0	8.0	10.0	3.6	6.0	3.2	4.2	2.4
	Code	J	K	L	M	N	P	Q	R	S	T	U	V	X	Y	Z	W	
	L	4.2	3.7	12.0	2.0	2.2	2.5	13.5	9.0	20.0	16.0	18.0	3.0	13.0	12.5	15.0	3.1	

K	Code	1	2	3	4	5	6	7	9
	L	3.2	4.5	5.0	3.5	4.0	4.3	3.5	3.2
	Code	A	B	E	D	F	H	K	L
	L	3.3	3.6	3.6	3.3	18.0	7.0	6.8	4.0

F	Code	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H
	L	3.0	3.1	3.2	3.4	3.5	4.0	4.8	4.5	3.2	6.0	4.3	5.0	3.0	3.6	5.0	3.0	6.5
	Code	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	Z	I	
	L	3.7	2.5	2.2	1.5	2.9	3.7	7.0	4.2	9.0	2.8	3.7	2.4	4.0	3.1	4.5	4.0	

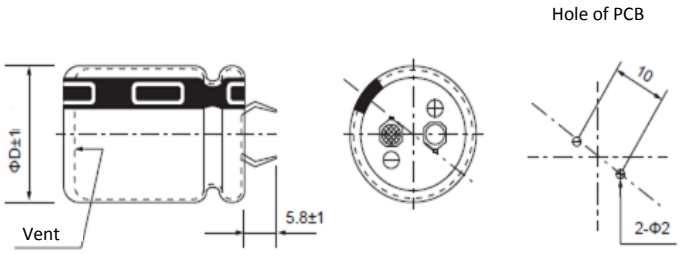
V	Procesn umber	1	2	6	J	Q	F	8	N
	L1	1.25±0.25	2.5±0.5	2.5±0.25	1.0±0.5	1.5±0.5	1.25±0.25	2.0±0.5	2.2±0.5
	L2	2.6±0.3	3.5±0.5	4.1±0.5	3.85±0.25	3.0±0.5	11.5±0.5	4.0±0.5	＜3.6
	Procesn umber	5	P	3	Y	R	G	9	Z
	L1	2.5±0.25	5.0±0.5	2.5±0.25	1.0±0.5	1.5±0.5	1.0±0.2	2.0±0.5	2.2±0.5
	L2	3.25±0.25	3.25±0.25	4.1±0.5	3.85±0.25	3.0±0.5	2.4±0.3	4.0±0.5	＜3.6
	Procesn umber	B	S	U	H	D	O	E	M
	L1	2.5±0.5	2.0±0.5	3.5±0.3	1.0±0.2	2.0±0.5	2.5±0.5	1.5±0.2	3.3±0.2
	L2	3.3±0.5	3.5±0.3	5.0 +0,-0.5	2.4±0.3	6.7±0.5	7.0±0.5	2.25±0.25	3.25±0.25
	Procesn umber	X	W	V	7	C	A	4(Don't cut the foot)	T
	L1	2.5±0.5	2.0±0.5	1.0±0.5	2.0±0.5	＜1.6(containΦd)	2.5±0.3	4.0±0.5	＜2.0
	L2	5.8±0.5	2.5±0.5	3.5±0.3	3.2±0.4	2.0±0.5	3.7±0.3	15.5±0.5	9.3±0.5

Note: if the above size can not satisfied your need please contact us.

Available Terminals For SNAP-IN Type：

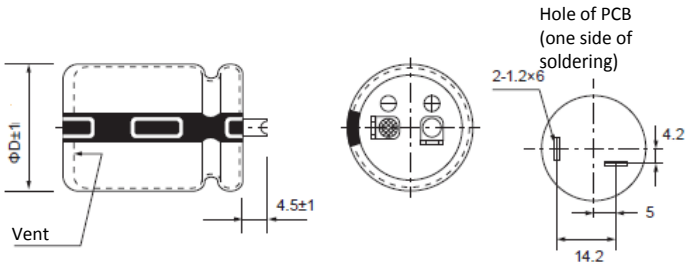
standard product code：S1(the NO.13 code is G)

apply to size 22～ ϕ 35



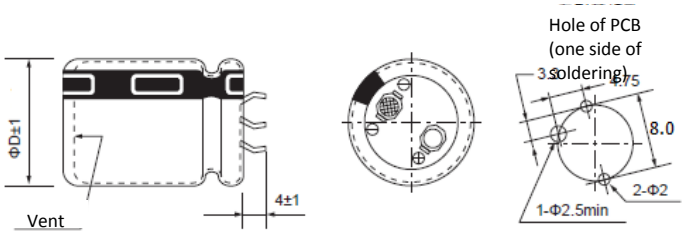
code：LL

apply to size ϕ 30 ～ϕ 40



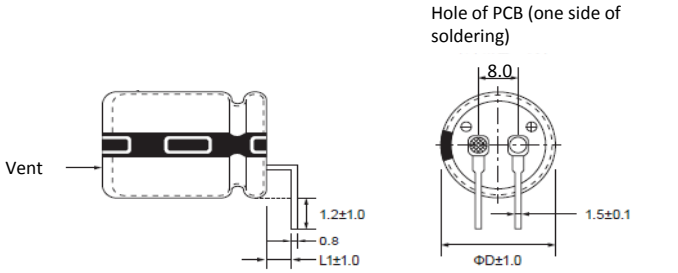
three terminal code：L3

apply to size ϕ 30, ϕ 35



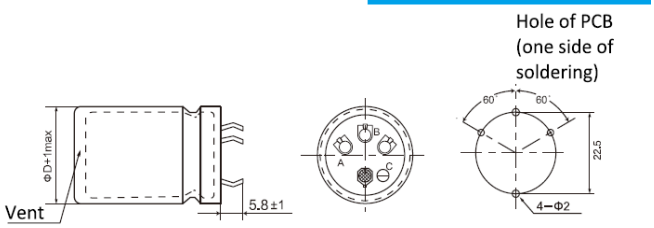
Horizontal code：V3

apply to size ϕ22~ϕ25



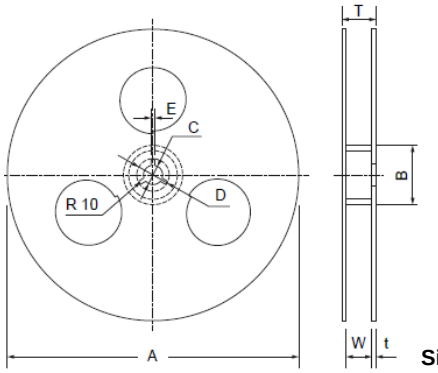
four terminal code：L4

apply to size Φ35~Φ40



Packaging Specification

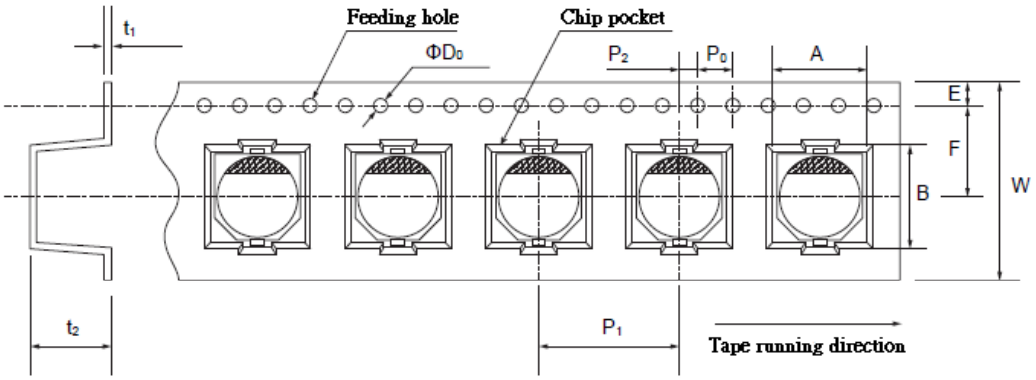
1.SMD Packing Specification



Size Unit：mm

Size	A	B	C	D	E	W	T	t
4Φ ~ 5Φ	380±2	84min	13.0±0.5	42	2.0±0.5	14±1	18±1	2.0
6.3Φ ~ 8× 6.7	380±2	84min	13.0±0.5	42	2.0±0.5	18±1	22±1	2.0
8×10.2 ~ 10Φ	380±2	84min	13.0±0.5	42	2.0±0.5	26±1	30±1	2.0
12.5Φ	380±2	84min	13.0±0.5	42	2.0±0.5	32±1	36±1	2.0
16.0Φ	380±2	84min	13.0±0.5	42	2.0±0.5	44±1	48±1	2.0

① Reel Tape



Size Unit：mm

Symbol / SizeDxL	W	A	B	Po±0.1	P1	P2±0.1	F	ΦDo	t1	E	t2
4x5.4	12.0	4.7	4.7	4.0	8.0	2.0	5.5	1.5+0.1-0	0.4	1.75	5.8
5x5.4(5.8*)	12.0	5.7	5.7	4.0	12.0	2.0	5.5	1.5+0.1-0	0.4	1.75	5.8
6.3x5.4(5.8*)	16.0	7.0	7.0	4.0	12.0	2.0	7.5	1.5+0.1-0	0.4	1.75	5.8
6.3x7.7*	16.0	7.0	7.0	4.0	12.0	2.0	7.5	1.5+0.1-0	0.4	1.75	8.3
8x6.2	16.0	8.7	8.7	4.0	12.0	2.0	7.5	1.5+0.1-0	0.4	1.75	6.8
8x10.2(10.4*)	24.0	8.7	8.7	4.0	16.0	2.0	11.5	1.5+0.1-0	0.4	1.75	11.0
10x10.2*(12.2*)	24.0	10.7	10.7	4.0	16.0	2.0	11.5	1.5+0.1-0	0.4	1.75	11.0
12.5x13.5	32.0	13.4	13.4	4.0	24.0	2.0	14.2	1.5+0.1-0	0.4	1.75	14.0
12.5x16.0	32.0	13.4	13.4	4.0	24.0	2.0	14.2	1.5+0.1-0	0.4	1.75	16.2
16.0x16.5	44.0	17.5	17.5	4.0	28.0	2.0	20.2	1.5+0.1-0	0.4	1.75	16.7

② **Packaging Specification**

Size	Q'ty per	Inner box	Measurement	gross	Outer carton	Measurement	gross
DxL(mm)	(pcs)	(pcs)	(mm)	(kg)	(pcs)	(mm)	(kg)
4x5.4	2000	20,000	390x195x395	4	40,000	420x410x414	9
5x5.4(5.8*)	1000	10,000	390x195x395	5	20,000	420x410x414	11
6.3x5.4 (5.8*)	1000	10,000	390x235x405	5	20,000	420x410x492	12
6.3x7.7*	1000	10,000	390x235x405	7	20,000	420x410x492	14
8x6.2	1000	10,000	390x235x405	7	20,000	420x410x492	15
8x10.2(10.4*)	500	4,000	390x255x405	6	8,000	420x410x530	13
10x10.2*(12.2*)	500	4,000	390x255x405	8	8,000	420x410x530	17
12.5x13.5	200	1,200	390x255x405	5	2,400	420x410x530	13
12.5x16.0	150	900	390x255x405	5	1,800	420x410x530	13
16.0x16.5	125	625	390x255x405	5	1,250	420x410x530	13

Note: product size don't marked with "*" mark is an applicable polymer solid aluminium electrolytic capacitor.

More detailed information please contact our company.

Packaging Specification

2.Conductive Polymer Aluminum Solid Capacitors

① Bulk package：Standard

Classification	Standard			
size ΦDxL(mm)	Vinyl bag Qty (pcs)	Inner box (pcs)	Outer carton (pcs)	gross weight (kg)
5×7,5×9,6.3×5.4	2,000	16,000	32,000	11
5.5×9,6.3×6,6.3×8	1,000	12,000	24,000	10
6.3×10.5	1,000	10,000	20,000	14
8x8,8x9,8x11.5	500	7,500	15,000	17
10×12.5	200	4,000	8,000	15

② Bulk package：Cutting & Forming

Classification	Cutting & Forming			
size ΦDxL(mm)	Vinyl bag Qty (pcs)	Inner box (pcs)	Outer carton (pcs)	gross weight (kg)
5×7,5×9,6.3×5.4	2,000	10,000	40,000	16
5.5×9,6.3×6,6.3×8	2,000	10,000	40,000	15
6.3×10.5	1,000	7,000	28,000	17
8x8,8x9	500	4,000	16,000	18
8x11.5	500	4,000	16,000	18
10×12.5	200	2,000	8,000	15

③ Ammo Tape(Fig.1)

Classification	Ammo Tape				
size ΦDxL(mm)	Inner box (mm)	Outer carton (pcs)	Outer carton (mm)	Outer carton (pcs)	gross weight (kg)
6.3Φ	340×275×50	2,000	355×297×290	10,000	8
8Φ×5-16L	340×230×50	1,000	355×252×290	5,000	7
10Φ×10~17L	340×230×50	600	355×252×290	3,000	7

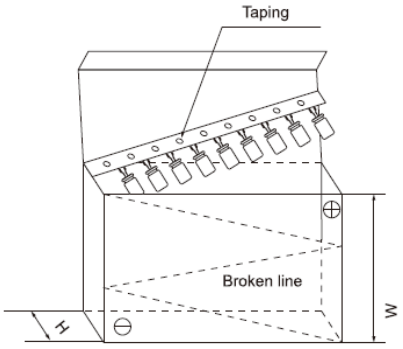


Fig.1

④ Reel Tape(Fig.2)

Classification	Roll Reel braid		
size ΦDxL(mm)	Inner box (pcs)	Outer carton (pcs)	gross weight (kg)
6.3Φ	2,000	10,000	6
8Φ×5-16L	1,600	8,000	12
10Φ×10~17L	1,000	5,000	14

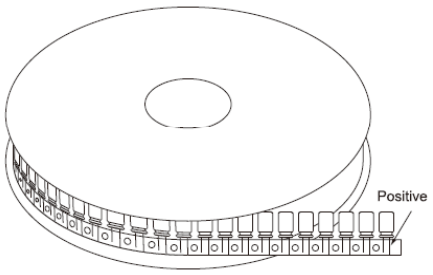


Fig.2

3.Radial Lead Type Aluminium Electrolytic Capacitors

① Bulk package：Standard

Classification	Standard				Classification	Standard			
size DxL(mm)	Vinyl bag Qty (pcs)	Inner box (pcs)	Outer carton (pcs)	gross weight (kg)	size DxL(mm)	Vinyl bag Qty (pcs)	Inner box (pcs)	Outer carton (pcs)	gross weight (kg)
4×5	2,000	24,000	48,000	13	13×13,13×15	100	2,400	4,800	15
4×7	2,000	20,000	40,000	11	13×18,13×20	100	1,800	3,600	15
5×5	2,000	20,000	40,000	12	13×25	100	1,200	2,400	14
5×7	2,000	16,000	32,000	13	13×30	100	1,200	2,400	16
5×11	1,000	12,000	24,000	13	13×34,13×36	100	1,000	2,000	14
6.3×5	2,000	16,000	32,000	11	13×38,13×40	100	800	1,600	15
6.3×7	2,000	12,000	24,000	10	16X15,16X20	100	1000	2000	22
6.3×11	1,000	10,000	20,000	14	16X25	100	1000	2000	24
8x7	500	10,000	20,000	14	16X30,16X32	100	800	1600	20
8×9,8×11	500	7,500	15,000	17	16X36,16X40	100	600	1200	22
8×14	500	5,000	10,000	12	16X45	100	500	1000	22
8×16	500	5,000	10,000	16	18X15,18X20	100	800	1600	21
8×20	200	4,000	8,000	14	18X22,18X25	100	800	1600	23
10×12.5	200	4,000	8,000	15	18X30	100	600	1200	25
10×15	200	3,600	7,200	16	18X32,18X36,18X40	100	500	1000	25
10×17	200	3,600	7,200	17	18X45,18X50	100	300	600	21
10×20	200	3,000	6,000	19	22X35,22X40	100	300	600	21
10×25	200	2,400	4,800	17					

Product Guide

② Bulk package：Cutting & Forming

Classification	Cutting & Forming				Classification	Cutting & Forming			
size ΦDxL(mm)	Vinyl bag Qty (pcs)	Inner box (pcs)	Outer carton (pcs)	gross weight (kg)	size ΦDxL(mm)	Vinyl bag Qty (pcs)	Inner box (pcs)	Outer carton (pcs)	gross (kg)
4×5	2,000	20,000	80,000	20	13×13,13×15	200	800	3,200	13
4×7	2,000	16,000	64,000	17	13×18,13×20	200	600	2,400	10
5×5	2,000	16,000	64,000	18	13×25	200	600	2,400	14
5×7	2,000	16,000	64,000	23	13×30	100	500	2,000	14
5×11	1,000	10,000	40,000	22	13×34,13×36	100	300	1,200	12
6.3×5	2,000	10,000	40,000	16	13×38,13×40	100	300	1,200	15
6.3×7	2,000	10,000	40,000	15	16X15,16X20	200	1000	2000	22
6.3×11	1,000	7,000	28,000	17	16X25	-	500	4000	44
8x7	500	6,500	26,000	16	16X30,16X32、	-	500	3000	37
8×9,8×11	500	4,000	16,000	18	16X36,16X40	-	500	3000	55
8×14	500	3,000	12,000	14	18X22,18X25	-	500	2000	28
8×16	500	2,000	8,000	13	18X32,18X36,18X40	-	500	1000	25
8×20	200	2,000	8,000	14	18X45,18X50	-	600	1200	40
10×12.5	200	2,000	8,000	15	20X25	-	400	800	20
10×15	200	2,000	8,000	18	22X32	-	320	1920	55
10×17	200	1,600	6,400	15	22X30	-	400	800	25
10×20	200	1,400	5,600	17	22X35,22X40	-	400	800	27
10×25	200	1,200	4,800	16					

③ For lattice bar type packing of standard(Fig.3)

size	Lattice bar of inner carton		Row packing method		Inner box Qty	Outer carton	gross weight
ΦDxL(mm)	Height (mm)	Qty (pcs)	Row number Layer number	Each row (pcs)	(pcs)	(pcs)	(kg)
11.7X26	60	38	20*2	25	1000	2000	9
13x16~13x20	55	18	10*2	25	500	2000	10
16X15-20 L	55	18	10*2	25	500	1000	11
16X21-26 L	60	18	10*2	25	500	1000	12
16X27-32 L	65	18	10*2	25	500	1000	13
16X33-40 L	75	18	10*2	25	500	1000	14
18X15-16 L	50	18	10*2	25	500	1000	12
18X17-26 L	60	18	10*2	25	500	1000	13
18X27-32 L	65	11	12*1	25	300	600	13
18X33-42 L	75	11	12*1	25	300	600	13
18X43-50 L	85	11	12*1	25	300	600	14
20x30-40L	75	9	10*1	20	200	400	13
22x30-40L	75	9	10*1	20	200	400	15
22x41-50L	85	9	10*1	20	200	400	17
25x40-50L	85	9	10*1	20	200	400	19

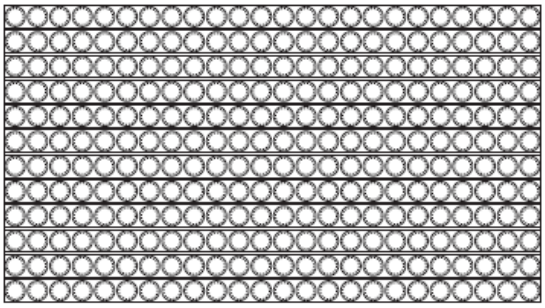


Fig.3

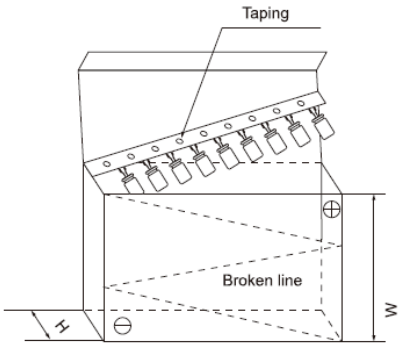


Fig.4

④ For Taping Ammo & Reel(Fig.4)

Classification	Ammo Tape				
size ΦDxL(mm)	inner box (mm)	quantity (pcs/box)	outer carton (mm)	quantity (pcs/box)	gross weight (kg/box)
4Φ	330×275×50	3,000	345×290×278	15,000	6
5Φ	330×230×50	2,000	345×248×280	10,000	6 ~ 7
6.3Φ	330×275×50	2,000	345×290×278	10,000	8
8Φ×5-16L	330×230×50	1,000	345×248×280	5,000	7
8Φ×20L	330×230×58	1,000	345×245×320	5,000	7
10Φ×10~17L	330×230×50	600	345×248×280	3,000	7
10Φ×20~25L	330×230×58	600	345×245×320	3,000	7
10Φ×30L	330×230×65	600	345×245×290	2,400	7
13Φ×32L below	335×235×65	400	352×248×290	1,600	5
13Φ×36L below	335×235×74	400	352×248×325	1,600	5
16Φ×32L below	335×275×65	300	355×297×290	1,200	5
16Φ×36L below	335×275×74	300	355×297×337	1,200	5
18Φ×20~32L below	340×288×63	260	360×305×280	1,040	5

⑤ Roll Reel braid(Fig.5)

Classification	Ammo Tape				
size ΦDxL(mm)	inner box (mm)	quantity (pcs/box)	outer carton (mm)	quantity (pcs/box)	gross weight (kg/box)
4Φ	350*350*110	3,000	370*370*675	15,000	8
5Φ		2,400		12,000	8
6.3Φ		2,000		10,000	6
8Φ×5-16L		1,600		8,000	12
8Φ×20L		1,000		5,000	12
10Φ×10~16L		1,200		6,000	
10Φ×17~20L		1,000		5,000	

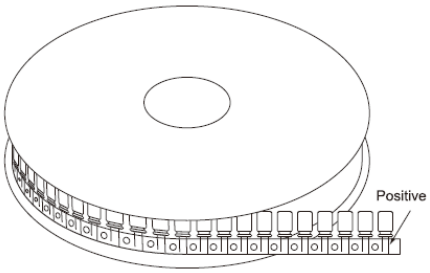


Fig.5

4. SNAP-IN Type Aluminium Electrolytic Capacitors(Fig.6)

size	weighe	inner box	outer carton
ΦDxL(mm)	(g/pcs)	(pcs)	(pcs)
22×25 ~ 30	20 ~ 25	300	1200
22×35 ~ 50	25 ~ 30	200	800
25×25 ~ 30	25 ~ 30	240	960
25×35 ~ 50	30 ~ 35	160	640
30×20 ~ 30	30 ~ 35	135	540
30×35 ~ 50	35 ~ 40	90	360
30 x 70	45~50	80	320
35×25 ~ 30	40 ~ 45	105	420
35×35 ~ 50	45 ~ 50	70	280

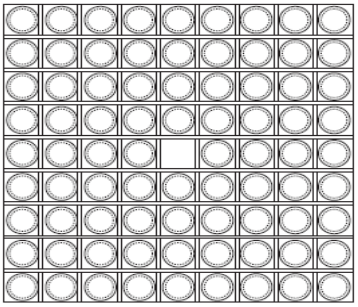


Fig.6

5. SCREW Type Aluminium Electrolytic Capacitors(Fig.7)

size	inner box	outer carton
ΦDxL(mm)	(pcs)	(pcs)
35×50~90High	28	112
35×100~121	28	56
51×70~96	15	60
51×100~130	15	30
64×96~195	8	16
77×96~195	6	12
90*131~196	4	8
90×236		6

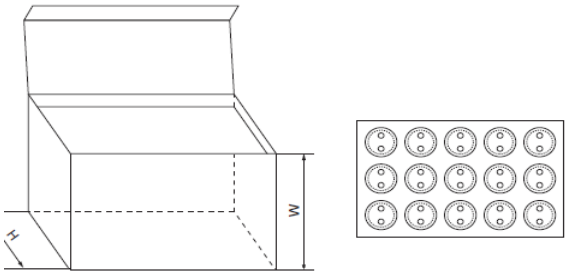


Fig.7

TEAPO

The Proper Usage Method of Conductive Polymer Solid Aluminum Electrolytic Capacitor

Ⅰ.Lifetime Estimation

Subject series：FR/FH/FG/FF/FS/FL/FT/FP/VB/VP/VS

Conductive polymer aluminum solid capacitors are finite life electronic components like aluminum electrolytic capacitors. The lifetime is affected by ambient temperature, humidity, ripple current and surge voltage.

The lifetime of aluminum electrolytic capacitors is affected mainly by the loss of electrolyte as the result of the liquid electrolyte evaporating through the rubber seal materials, resulting in capacitance drop and tanδ rise.On the other hand, the lifetime of conductive polymer aluminum solid capacitors is affected mainly by oxidation degradation of the conductive polymer caused by osmose of oxygen or the thermal degradation of the conductive polymer by ambient temperature or self-heating, resulting in ESR rise and tanδ rise.The infiltration rate of the oxygen is depend on the temperature as the liquid electrolyte evaporation and the relationship follows the Arrhenius's Law, too. Similarly, thermal degradation of the conductive polymer by self-heating follows the Arrhenius's Law, too.Therefore, the lifetime estimation has been using the theory of lifetime increasing by 10 times at every 20℃ reducing of the ambient temperature.

1. Lifetime Estimation

Equation (1) can be used for estimating the lifetime of the conductive polymer aluminum solid capacitors based on the ambient temperature and the rise of internal temperature due to ripple current.

$L_X=L_0X10^{(T0-TX)/20}$----------(1)

Lx：Estimation of actual lifetime (hour)

Lo：Specified lifetime with the rated voltage at the upper limit of the category temperature (hour)

To：Maximum category temperature (℃)

Tx：Actual ambient temperature of the capacitor (℃)

Longer lifetime is expected by lowering the ripple current and the ambient temperature.

Please consult us about lifetime equations for the series of the category temperature 125℃.

Subject series：FT

An approximate value of ripple current-caused ΔT can be calculated using Equation (2)

$\Delta T=\Delta To\times(Ix/Io)^2$----------(2)

ΔTo：Rise in internal temperature due to the rated ripple current (20℃)The product that the maximum category temperature is less than 105ºC

Ix ：Operating ripple current (Arms) actually flowing in the capacitor

Io：Rated ripple current (Arms), frequency compensated, at the upper limit of the category temperature range

Please contact us about the product that the maximum category temperature is more than 125ºC.

To determine more accurate values of ΔT, they can be actually measured using a thermocouple.

2. Rated Ripple Current Frequency Multipliers

Self-heat rise is generated by the ripple current even though the conductive polymer aluminum solid capacitors have low ESR compared to liquid based electrolyte aluminum electrolytic capacitor.Longer lifetime is expected by lowering the ripple current and the ambient temperature. Table 1 shows Frequency Multipliers of Rated ripple current.

Frequency Multipliers

Frequency [Hz]	120	1k	10k	50k	100k~500k
SMD type	0.05	0.3	0.55	0.7	1
Radial lead type	0.1	0.35	0.6	0.8	1

Conductive polymer aluminum solid capacitors have super low ESR characteristic in high-frequency range. On the whole, ESR in low-frequency range relatively rises. Therefore, they can use only l ripple current in low-frequency range.

3. Restriction of calculated lifetime

(1)The result calculated by the estimated lifetime formula, it is not guaranteed lifetime by Nippon Chemi-Con Corporation.

(2)When designer calculate the lifetime of apparatus, please include an ample margin in consideration to the estimated lifetime of a capacitor.

(3)When calculated lifetime result are over 15 years by using the estimated lifetime formula, please consider 15 years to be a maximum in considering that the sealing rubber characteristics vary during the lifetime.

(4) If 15 years or more may be required as an expected lifetime, please consult us.

Ⅱ. About failure and shelf-life

Failure rate(failure rate level) subject to 0.5 %/1000 h of JIS C 5003（ Credibility level 60 %）

The main failure mode of polymer solid aluminum electrolytic capacitor of is shown below.

1. Random failure

The main cause of failure mold is short-circuit due to heat stress, electrical stressing and mechanical stress in using environment or welding.

(1) applied voltage more than rated voltage

(2) applied reverse voltage

(3) Excessive mechanical stress

(4) Applying fast charging and discharging that more than specifications and cause surge current

a.If the short circuit current flows through the solid capacitor will cause the following phenomenon.

(1) When the electric current is less after short-circuit（φ10 : about below1 A，φ8 : about below 0.5 A，φ6.3 : about below 0.2 A）PC-CON body will have little heat but appearance is normal even continuous electricity.

(2) When the short circuit current value exceeds the above numerical, internal temperature will increased, encapsulation adhesive pad summoned and the odorous gases to overflow.

b. In order to ensure the safety in case of occurs short circuit, please take the following countermeasures

(1) Cut off the main power supply and stop using immediately if overflow the odorous gases.

(2) Due to the different conditions , the odorous gases occurrence generally takes a few seconds to several minutes, When using protection circuits we recommend to start protect function in this period.

(3) Cleaned immediately if the gas enters into eye ，gargle immediately if inhalation into mouth.

(4) Don't lick the electrolyte if electrolyte contact with the skin please washing with soap immediately.

(5) PC - CON including combustible material, current value greatly after the short circuit and short circuit parts will have a possibility of spark. In order to protect safety, please pay attention to the design structure and use protection circuit.

2. The wear failure (Shelf life)

Electrical characteristics can make a big change when more than the guarantee time of durability and high temperature and high humidity test, electrolyte will insulation (degradation) formation of open mode eventually.

Even used within the prescribed scope of electrical and mechanical properties, it may also reducing capacitance and increase ESR, so please take care when design.

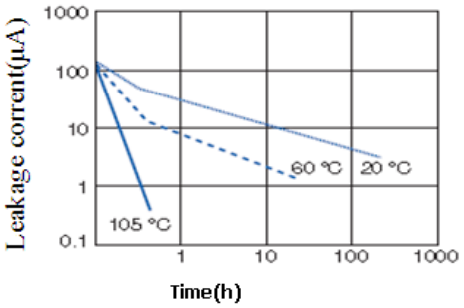
Ⅲ.Leak Current

The leak current of conductive polymer solid aluminum electrolytic capacitor will increase due to the mechanical stress .

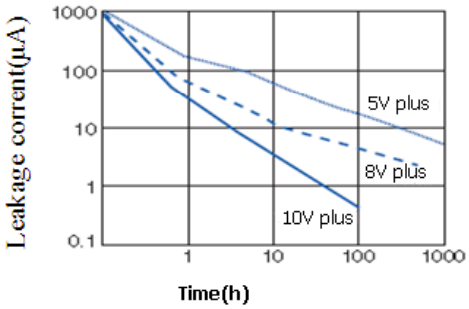
In this case, if the solid capacitor apply voltage below the high using temperature, the repairing effect of leak current will reducing gradually.

If the solid capacitor applies rated voltage within the high using temperature, the repairing speed of leak current will faster.

Conductive polymer solid aluminum electrolytic capacitor
Repiring character of leak current
10μF/16 V.DC（apply 16 V.DC）



Conductive polymer solid aluminum electrolytic capacitor
Repiring character of leak current
33μF/10 V.DC（ambient temperature65℃）
（Test voltage10V.DC）



※In order to show more clearly said repair of leakage current，we use the sample of apply stress to PC-CON that increased leak current on purp

Ⅳ.The limited of faster charging and discharging

Faster charging and discharging will lead to large surge current and then result in short-circuit or increase leak current.

When the surge current value as below, we recommend to use protection circuit in order to maintain high reliability.

(1) more than 10 A

(2) exceed rated ripple current 10times

Ⅴ.Correct mounting

1. About the soldering iron soldering

(a)Avoiding applying stress on PC - CON body when it need to process lead due to unconformity between lead gap and circuit board gap of plug-in mounting.

(b)Avoiding applying excessive stress on PC - CON body when soldering.

(c) When need to take out PC-CON after soldering, please melt molten solder sufficient, implement under the condition of not put stress on the PC - CON body.

(d) Don't let the tip of the soldering iron to touch the PC - CON body.

2. Wave-soldering

(a) Do not have wave soldering to SMD product.

(b) Do not dip the PC-CON body into dissolved soldering flux.

(c) Welding parts only limited between the circuit board and the opposite side of the PC - CON.

(d) Don't splash other place expectation rosin.

(e)Avoiding other parts lie down and touching PC-CON when soldering.

3. Reflow soldering

(a) Do not have reflow soldeering to plug-in mounting product .

(b) Please consult us when use VPS for solderinig.

The Proper Usage Method of Conductive Polymer Solid Aluminum Electrolytic Capacitor

4. Precaution after soldering

Take care for not to apply the following excessive stress for polymer solid aluminum electrolytic capacitor.

(a) Do not tilt down or distorted capacitor.

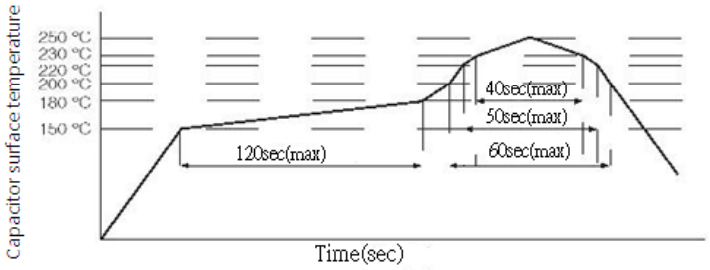
(b)Mobile circuit board can not handle PC - CON.

(c) Do not crash PC-CON.

(d)Do not make the PC - CON touch PCB circuit boards and other components when stacked.

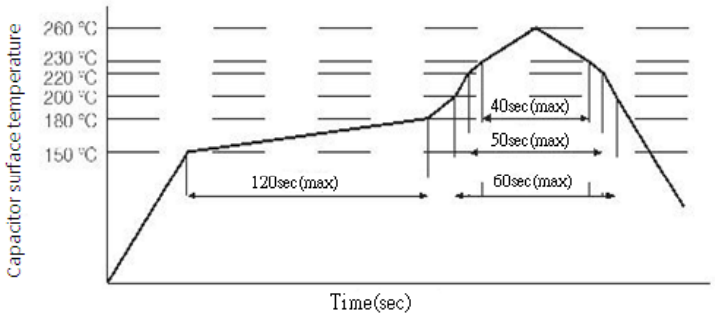
5. Recommended conditions for solder

< peak temperature 250 ℃ lead-free reflow soldering >



Reflow soldering under the condition of the following reflow soldering up to 2 times

< peak temperature 260 ℃ lead-free reflow soldering >



Reflow soldering under the condition of the following reflow soldering up to 1 times

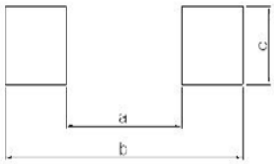
6. Solder iron temperature：less than 400℃±10℃ ；working hours：whithin 5s

Wave-soldering

	Temperature	Time	Number of Time
Preheat	120℃below（ambient temperature）	less than120s	once
Welding Condition	260℃+ 5℃below	less than10+ 1s	less than twice*1

*1 ：For 2 times, solder dipping time total of 10 + 1 seconds.

7.Recommend the bonding pad size



Unit：mm

Size Code	a	b	c
φ5.0	1.4	7.4	1.6
φ6.3	2.1	9.1	1.6
φ8.0	2.8	11.1	1.9
φ10.0	4.3	13.1	1.9

1．Overview of Aluminum Electrolytic Capacitors

1-1 Basic Model of Aluminum Electrolytic Capacitors

1）Capacitors are passive components. Among the various kinds of capacitors, aluminum electrolytic capacitors offer larger CV product per case size and lower cost than the others.In principles of capacitor, its fundamental model is shown in Fig.1 and its capacitance © is expressed by Equation (1) below:

$C = 8.854\times 10^{-12}\ \varepsilon S\ (F)$ ····· (1)

ε：Dielectric constant

S：Surface area of dielectric（m^2）

d：Thickness of dielectric（m）

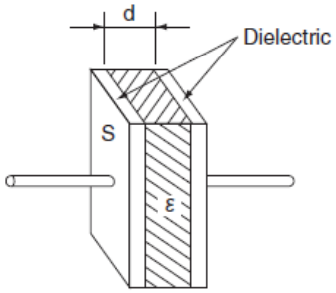


Fig-1 Basic model of capacitor

2）Equation (1) shows that the capacitance (C) increases as the dielectric constant (ε) and/or its surface area (S) increases and/or the dielectric thickness (d) decreases.

An aluminum electrolytic capacitor comprises a dielectric layer of aluminum oxide (Al_2O_3), the dielectric constant (ε) of which is 8 to 10. This value is not significantly larger than those of other types of capacitors

However, by extending the surface area (S) of the aluminum foil electrode by means of etching, and by electrochemically forming a thinner but highly voltage-withstandable layer of oxide layer dielec-tric, the aluminum electrolytic capacitor can offer a larger CV prod-uct per case than other types of capacitors.

3）A basic model of aluminum electrolytic capacitor is shown in Fig. 2.

An aluminum electrolytic capacitor comprises

Anode …Aluminum foil

Dielectric…Electrochemically formed oxide layer (Al_2O_3) on the anode

Cathode …A true cathode is electrolytic solution (electrolyte).

Other component materials include a paper separator that holds electrolyte in place and another aluminum foil that func-tions as a draw-out electrode coming into contact with the true cathode (electrolyte).In general, an aluminum electrolytic capacitor is asymmetrical in structure and polarized. The other capacitor type known as a bi-polar (non-polar) comprises the anodic aluminum foils for both electrodes.

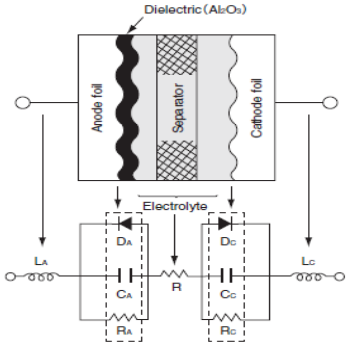


Fig-2Basic model and equivalent circuit aluminum electrolytic capacit

CA、CC：Capacitance due to anode and cathodes foils DA、

DC：Diode effects due to oxide layer on anode and cathode foils L

L ：Inductance due to anode and cathode terminals

R ：Resistance of electrolyte and separator

RA、RC：Internal resistance of oxide layer on anode and cathode foils.

1-2 Structure of Aluminum Electrolytic Capacitor

1）The aluminum electrolytic capacitor has, as shown in Fig. 3, a roll of anode foil, paper separator, cathode foil and electrode terminals (internal and external terminals) with the electrolyte impregnated, which is sealed in an aluminum can case with a sealing material. The terminal draw-out structure, sealing material and structure

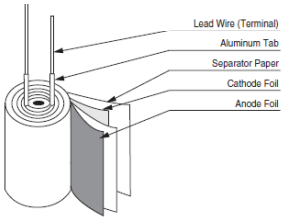


Fig-3 Basic model of element

2）The terminal draw-out structure, sealing material and structure differ depending on the type of the capacitor.Figure 4 shows typical examples.

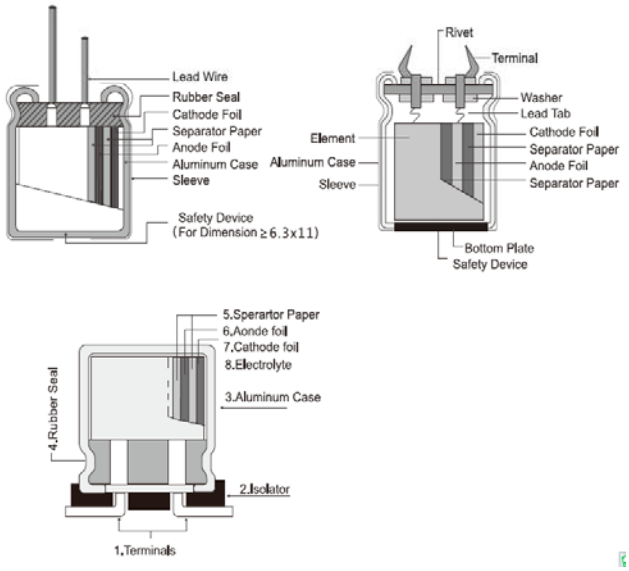


Fig-4 Construction of Aluminum Electrolytic Capacitors

1-3 Features of Capacitor Materials

Aluminum, which is main material in an aluminum electrolytic capacitor,forms an oxide layer (Al_2O_3) on its surface when the aluminum is set as anode and charged with electricity in elec-trolyte.The aluminum foil with an oxide layer formed thereon, as shown in Fig. 5, is capable of rectifying electriccurrent in elec-rolyte. Such a metal is called a valve metal.

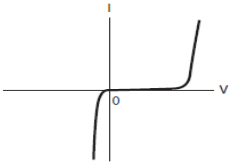


Fig-5 V-I characteristics of aluminum oxide

<Anode aluminum foil>

First, the foil material is electromechanically etched in a chloride solution to extend the surface area of the foil.Secondly, for the foil to form a aluminum oxide layer (Al_2O_3) as a dielectric, more than the rated voltage is applied to the foil in a solu- tion such as ammonium borate. This dielectric layer is as dense and thin as 1.1 - 1.5 nm/volt and showing a high insulation resistance (108 - 109 Ω/m).The thickness of the oxide layer determines withstand voltage according to their direct proportional relationship.For the etching pits to be shaped to the intended thickness of the oxide ,the pit patterns have been designed to have efficient surface area exten- sion depending on the intended withsta voltage (see Fig. 6)

<Cathode aluminum foil>

An etching process is performed to the cathode aluminum foil as well as the anode foil. However, the formation process for oxide layer is generally not performed. Therefore, the surface of the cathode foil only has an oxide layer (Al_2O_3) that has spontane-ously formed, which gives a withstand voltage of about 0.5 volt

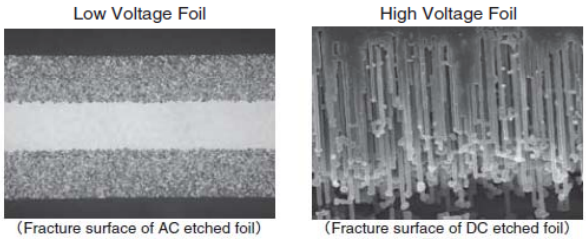


Fig-6 Cross section of aluminum etched foil (SEM)

<Electrolyte>

The electrolyte, an ion-conductive liquid functions as a true coming into contact with the dielectric layer on the sur-face of the foil. The cathode foil serves as a collector electrode to connect the cathode with the external circuit. Electrolyte is an essential controls the perfor mance of the capacitor (temperature frequency characteristics, service life, etc.).

<Paper separator >

The separator maintains uniform distribution of the electrolyte and keeps the anode-to-cathode foil distance unchanged.

<Can case and sealing materials>

An aluminum can case and seal materials mainly consisting of rubber are used for the purpose of keeping airtightness.

1-4 Manufacturing Process

① Etching (for extending the surface area)

This etching process serves to extend the surface area of the foil. This is an AC or DCcurrent-employed electrochem- ical process for etching the foil surface in a chloride solution(see Fig.

② Formation (for forming a dielectric)

This is a process for forming a dielectric layer (Al_2O_3), which is normally performed on the anode aluminum foil.(see Fig. 8)

③ Slitting

This is a process for slitting alumi- n um foi l s (bo th t he ano de paper separators to the specified product size.(see Fig. 9)

④ Winding

This is a process for rolling a set of anode and cathode foils into a cylin drical form with a paper separator inserted between them. During this process, an inner terminal (called a tab) is attached to each of the alumi-num foils. The roll made at this process is called a capacitor element.

⑤ Impregnation

This is a process for impregnating the element with electrolyte as a true cathode. The electrolyte also functions to repair the dielectric ayer.(see Fig. 11)

⑥ Sealing

This process seals the element using the aluminum can case and sealing materials (rubber,rubber- lined cover, etc.) for keeping the case irtight.(see Fig. 12)

⑦ Aging (reforming)

The process of applying voltage to a post-sealed capacitor at high tem- perature is called “aging”. This serves to repair defective dielectrics that have been made on the foil during the slitting or winding process.

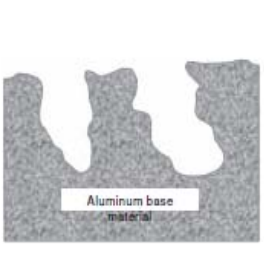
⑧ 100% inspection and packaging

After the aging, all products shall undergo testing for checking their electrical characteristics with chip termination, lead reforming, taping etc. finished, and then be packaged.

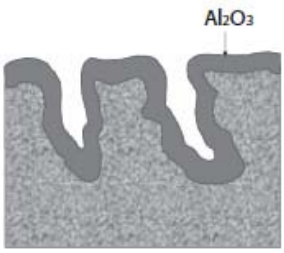
⑨ Outgoing inspections

Outgoing inspections are per - formed as per standard inspection procedures.

⑩ Shipment

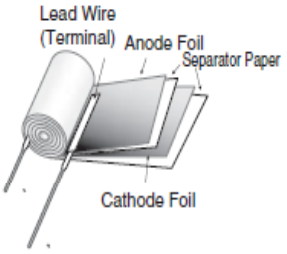


see Fig. 7 Etching Model

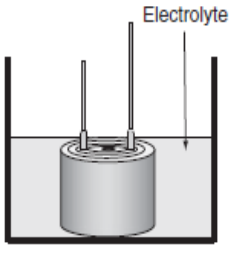


see Fig. 8 Forming Model

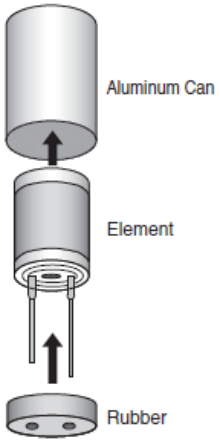
see Fig. 9 Slitting Model



see Fig. 10 Cathode Foil



see Fig. 11 Impregnation



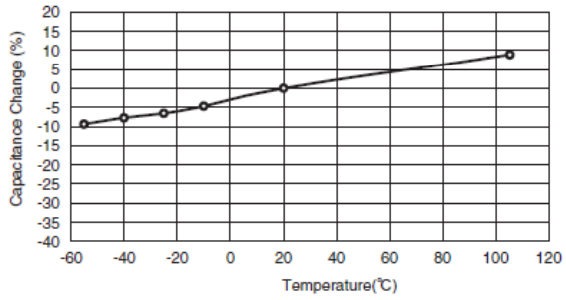
see Fig.12

2 . Basic Performance

2-1 Basic Electrical Characteristics

2-1-1 Capacitance

The larger the surface area of an electrode is, the higher the capacitance (capacity for storing electricity) is. For aluminum electrolytic capacitors, capacitance is measured under the standard of 20°C and a 120Hz AC signal of about 0.5V. Generally,as the temperature rises, the capaci-tance increases; as the temperature decreases, the capaci- tance decreases (Fig. 13). With a higher frequency, the capaci- tance is smaller; with a lower frequency, the capacitance is larger (Fig.14).



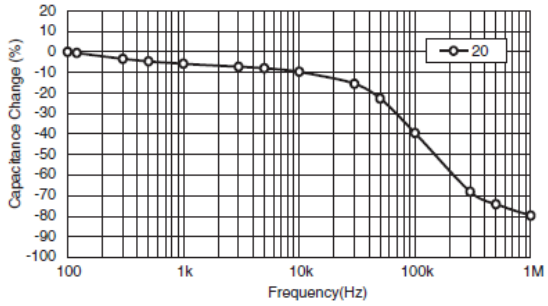


Fig-14 Frequency Characteristics of Capacitance

2-1-2 Tanδ(also called tangent of loss angle or dissip- ation factor)

(Fig. 15) is a simplified model of the equivalent circuit shown in (F For an ideal capacitor with an equivalent series resis- tance of R = 0, the tanδ shown in (Fig. 10) is zero. For an aluminum electrolytic capacitor, the equivalent series resistance (R) is not zero due to the presence of resistance of the electro- lyte and paper separator and other contact resistances. 1/ωC and R are correlated as shown in (Fig. 16) and Equation (2).

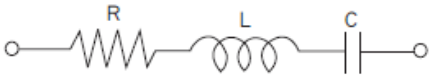


Fig-15 Simplified equivalent circuit

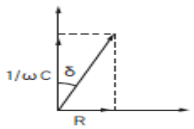


Fig-16 Dissipation Factor (tanδ)

$$\tan\delta = \frac{R}{1/\omega C} = \omega CR \quad \cdots\cdots (2)$$

$\omega : 2\pi f$

π=Circular constant、f : Frequency(f = 120Hz)

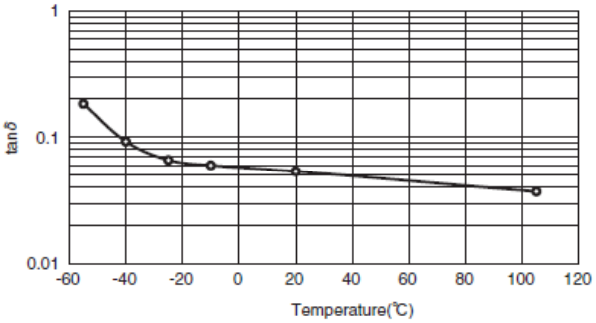


Fig-17 Temperature Characteristics of tanδ

2-1-3 Leakage Current (LC)

①As a feature of an aluminum electrolytic capacitor, when DC voltage is applied to it, the oxide layer that acts as a dielectric in the electrolyte allows a small amount of electric current to flow in it. The small amount of current is called a leakage cur- rent (LC). An ideal capacitor does not allow the leakage current to flow (this is not the case for charging current).

②The leakage current (LC) changes with time as shown in (Fig. 18) value. Therefore, the specifications of LC are defined as a value of the rated voltage at 20°C. As the temperature rises, the LC increases; as the temperature decreases, the LC decreases (Fig.19). As the applied voltage decreases, the LC decreases.

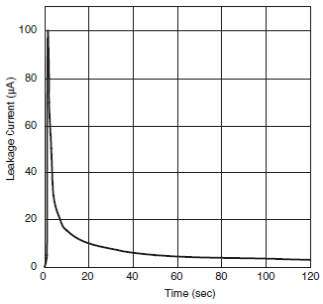


Fig-18 Leakage Current vs. Time

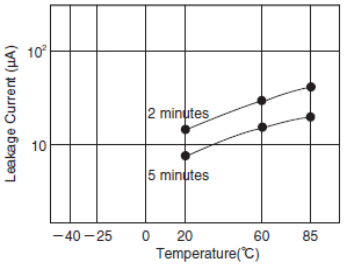


Fig-19 Temperature Characteristics of Leakage Current

2-2 Frequency Characteristics of Impedance (Z)

①When a capacitor is applied with a voltage with the frequency changed, the impedance (Z), a factor of preventing the AC cur- rent changes as shown in (Fig. 14). This is the impedance-fre-quency characteristics of the capacitor.

②(Fig. 15) is a simplified model of an equivalent circuit of an aluminum electrolyte capacitor. (Fig. 20) shows dotted lines representing a breakdown of the impedance-frequency charac-teristic curve into components (C, R and L). As can be seen in this figure, the impedance-frequency characteristics are a com-position of C, R and L frequency characteristics.

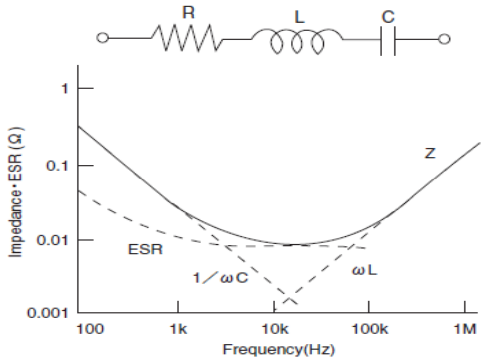


Fig-20 Factor of Impedance Frequency

③The value 1/ωC shows the pure capacitive reactance graphi-cally presented by a straight line going downward at an angle of 45°, and ωL shows the pure inductive reactance graphically presented by a straight line going upward at 45°. R shows the equivalent series resistance (ESR). At a range of lower frequencies, the R curve goes downward due to the dielectric loss frequency -dependence. At a range of higher frequencies, the R curve tends to be almost flat since resistance of electro- lyte and paper separator is dominant and independent on frequency. Equation (3) shows this tendency.

$$Z=\sqrt{R^2+\left(\omega L-\frac{1}{\omega C}\right)^2} \quad \cdots\cdots (3)$$

④Because the impedance characteristics of an aluminum elec-trolyte capacitor depend on resistance of the electrolyte and paper separator, the Z value at the self-resonant frequency tends to be shown by the solid line in (Fig.21). The resistance of the electrolyte varies depending on tem- perature: as the temperature rises, the impedance decreases; and as the temperature decreases, the impedance increases,as shown in (Fig. 22).

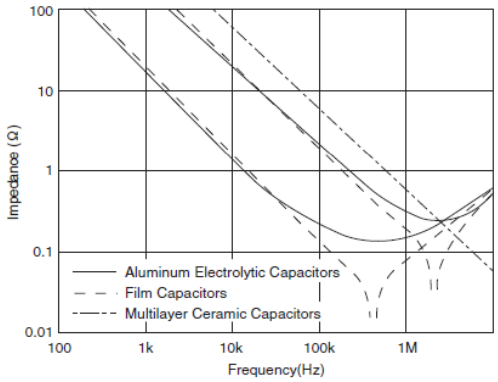


Fig-21 Frequency Characteristics of each Capacitors Impedance

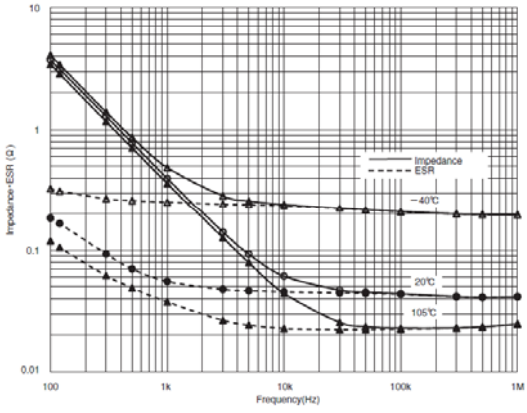


Fig-22 Temperature and Frequency Characteristics of Impedance・ ESR

3 . Reliability

For designing the device with aluminum electrolytic capacitors, a failure rate and useful life are necessary to be considered for their reliability. The failure rate of aluminum electrolytic capacitors is approximated by the bathtub curve shown in (Fig.23).

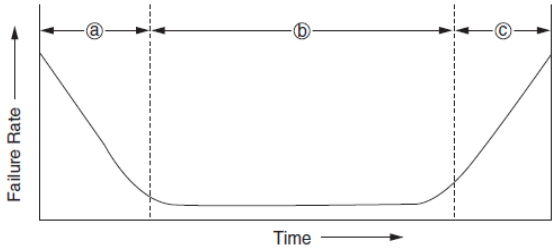


Fig-23 Bathtub curve

a Early failure period

At the comparatively early periods of use, devices/components fail by deficiencies in design or manufacturing process or incompatibility with operation conditions.For aluminum electrolytic capacitors, these defectives are removed by debugging at one of manufacturing processes before shipments.

b Random failure period

Failure is stable low in occurrence and appears unrelated to their served term. Aluminum electrolytic capacitors are low in failures in this period compared with semi-conductors and solid tantalum capacitors.

c Wear-out failure period

In this period, the failure rate increases with the served time For alur inum electrolytic capacitors, since they were completed in manu-facturing, the electrolyte impregnated has gradually evaporated and diffused out of the capacitors through the rubber seal materials with time, which leads to decrease in the capacitance and/or increase tanδ When any of these values changes beyond the allowable range of specifications, the capacitors are defined as “fell into the wear-out failure”. The served term until the capacitors fall into the wear-out failure period is called a useful life.

4 . Failure Modes

Aluminum electrolytic capacitors have two categories of failures catastrophic failure and wear-out failure.

<Catastrophic failure>

This is a failure mode that completely destroys the function of the capacitor such as short circuit and open circuit failure

<Wear-out failure>

This is a failure mode where the electrical parameters of the capacitor gradually deteriorate and fail. The criteria for determin-ing if this failure has occurred depend on the purpose of a device. For each series of capacitors, the following electrical parameters have been defined as criteria in the specifications of Endurance in the catalogs or product specifications:

- Change in capacitance
- Tanδ
- Leakage current

①Failure rates are often measured in units of % per 1000 hours (10^{-5}/hour). For higher reliability devices designed with a smaller failure rate, units of Failure In Time (FIT) (10_{-9}/hour) is used.

②Aluminum electrolytic capacitors are considered as components of wear-out failure mode, the electrical characteristics of which gradually deteriorate and their failure rate increases with time. In general, the failure rate in FIT is determined by total component-

hours (product of the number of tested components and test hours).

③Due to the definition of FIT, the same FIT rate can be calculated in both cases of testing on the large number of tested components and also testing for long test periods of time. However, these cases mean differently for aluminum electrolytic capacitors. Using the failure rate is not suited to express the reliability of aluminum electrolytic capacitors, but the electrical characteristics based ifetime in hour should be considered to express the reliability.

④Also, there are MTBF (Mean Time Between Failures) and MTTF (Mean Time To Failure) to express reliability. The latter is appli- cable for aluminum electrolytic capacitors because they are categorized into a group of non-repairable systems, equipment and devices for which MTTF is applicable.Failure modes depend on the application conditions that lead to fail. (Fig. 24).

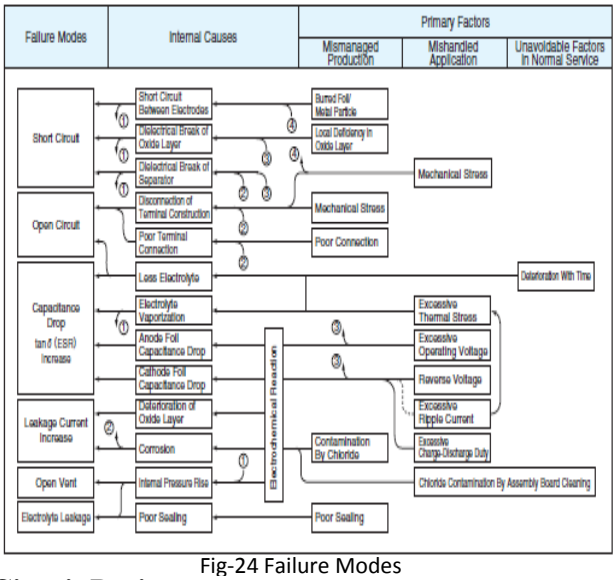


Fig-24 Failure Modes

5. Circuit Design

1) Operating Temperature, Equivalent Series Resistance(ESR), Ripple Current and Load Life

★ MTTF(Mean-Time-TO-Failure) means the useful life at room temperature 25℃.

1-1Load life:

If the capacitor's max. operating temperature is at 105℃(85℃), then after applying capacitor's rated voltage (WV) for L_0 hours at 105℃(85℃), the capacitor shall meet the requirements in detail specification.where L_0 is called "load life" or "useful life (lifetime) at 105℃(85℃)" .

$L x = L_0 \times 2^{(To-Tx)/10} \times K^{-\triangle Tx/5}$

where $\triangle T_x = \triangle T_0 \times (Ix / I_0)^2$, Ix>$I_0$,K=4; Ix≦$I_0$,K=2

1-2Ripple life:

If the capacitor's max. operating temperature is at 105℃(85℃), then after applying capacitor's rated voltage (WV) with the ripple current for Lr hours at 105℃(85℃), the capacitor shall meet the requirements in detail specification. where Lr is called "ripple life" or "useful ripple life(ripple lifetime) at 105℃(85℃)" .

$L x = L_r \times 2^{(To-Tx)/10} \times K^{(\triangle To - \triangle Tx)/5}$

where $\triangle Tx = \triangle T_0 \times (Ix / I_0)2$, Ix>$I_0$,K=4; Ix≦$I_0$,K=2

The (ripple) life expectancy at a lower temperature than the specified maximum temperature may be estimated by the following equation, but this expectancy formula does not apply for ambient below +40℃.

L_0= Expected life period (hrs) at maximum operating temperature allowed.

Lr= Expected ripple life period (hrs) at maximum operating temperature allowed

Lx= Expected life period (hrs) at actual operating temperature

T_0= Maximum operating temperature (℃) allowed

Tx= Actual operating ambient temperature (℃)

Ix= Actual applied ripple current (mArms) at operating frequency f0 (Hz)

I_0= Rated maximum permissible ripple current IR(mArms) x frequency multiplier (Cf) at f0 (Hz)

※Ripple Current calculation: no need Temperature Multiplying Factor.

※For Ripple life , Ix Should be 80% equal or more of Io,if less than 80%, calculate with 80%.

$\triangle T_0$≦5℃= Maximum temperature rise (℃) for applying I_0 (mArms)

△Tc=Temperature rise (℃) of capacitor case for applying Ix (mA/rms)

△Tx= Temperature rise (℃) of capacitor element for applying Ix (mArms) =Kc△Tc=Kc(Tc-Tx)

where Tc is the surface temperature (℃) of capacitor case

Tx= is ditto.

Kc= is transfer coefficient between element and case of capacitor from table below : from table below :

Φ	≦8	10	12.5/13	16	18	22	25	30	35
Kc	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.50	1.65

※ The estimated life is limited to 15 years, if it exceeds 15 years, take 15 years as standard.

★ The formula of Equivalent Series Resistance (ESR)

The operating frequency of ESR, DF, f & C must be the same, usually they test at 120 Hz.

$ESR = DF / 2\pi f C$……(2)

Where DF: Dissipation Factor(tanδ) f : Operating frequency(Hz)
C: Capacitance(F)

★ Estimation of life considering the ripple current

The ripple current affects the life of a capacitor because the internal loss (ESR) generates heat.The generated heat will be:

$P = I2 R$-------(3)

Where I : Ripple current(Arms.) R: ESR(Ω)

At this time the increase in the capacitor temperature will be:

$\triangle T = I2R / AH$------(4)

Where △T: Temperature increase in the capacitor core(degree)
I : Ripple current(Arms) R: ESR(Ω)

A: Surface area of the capacitor (cm^2)

H: Radiation coefficient(Approx.1.5~2.0´10^{-3} W/ cm^2 . ℃)

The above equation (4) shows that the temperature of a capacitor increases in proportion to the square of the applied ripple current and ESR, and in inverse proportion to the surface area. Therefore, the amount of the ripple current determines the heat generation, which affects the life. The values of △T varies depending on the capacitor types and operating conditions. The usage is generally desirable if △T remains less than 5℃.The measuring point for temper-ature increase due to ripple current is shown below.(Fig. 25).

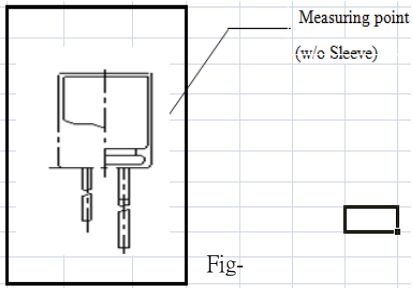


Fig-

Precautions For Conductive Polymer Solid Aluminum Electrolytic Capacitor

Ⅰ.Device circuits design considerations

1.Prohibited to use circuit

Conductive Polymer Solid Aluminum Electrolytic Capacitor（The following is called capacitor）may cause the leak current occur changing due to the heat stress in welding. Please avoid to use in the below circuit.

① High resistance voltage holding circuit.

② Coupled circuits.

③ The other circuits that affected leakage current larger

2.Circuit design

Please design circuit on the basis of confirming the following content.

① As the change of temperature and frequency, electric property of capacitor will changes.Please design circuit after confirming those changes.

② When more than 2 capacitors in parallel，please consider the balance of current when design circuit.

③ When more than 2 capacitors in series，as the difference of load voltage，it may load overvoltage, so please consulting us when using.

④ Please don't install heating components around the capacitor and the back of the printed wiring board.

3.Using capacitors for significantly safety-oriented applications

Consult us about capacitors for a device application affecting human safety (①Aviation and aerospace ②Nuclear ③Medical) or for any device whose failure will make an impact on society.

4.Polarity

Our company conductive polymer capacitor is the solid aluminum electrolytic capacitor with polarity. Never apply a reverse voltage or AC voltage. Connecting with wrong polarity will short-circuit in initial State. About polarity, please confirm product catalogue or the diagram in the product specifications.

5.Operating voltage

Do not apply an over-voltage that exceeds rated voltage, Because even if to load the voltage that more than the rated voltage only for an instant，it can also lead to increased leakage current and short-circuit. The total peak value of the ripple voltage plus the DC voltage must not exceed the rated voltage of the capacitors. In the work, it doesn't need to reduce the voltage. Although capacitors specify a surge voltage, in the temperature range, if under the rated voltage, whatever is the environment temperature; it also has limited and does not assure long-term use.

6.Ripple current

Do not apply an overcurrent that exceeds the rated ripple current specified for the capacitors.◦ Excessive ripple current will increase heat production within the capacitors, shortening the life and short-circuit.

7.Operating temperature

If use beyond working temperature range of environment, can lead to aging and failure performance, please use in working temperature range.

8.Charging and discharging

Don not use capacitor in the circuit of rapid charge and discharge repeatedly. If capacitors are used in the circuits that repeat a charge and discharge, capacitance will decrease and/or the capacitors will be damaged by internal heat generation. When the peak of current value more that 20A, we recommend to use protect circuit in order to keep the reliability.

9.Leakage current

Sometime the leakage current will increase，but if load voltage in working temperature, it will decrease gradually though self-healing effect. In addition, the more closely to the limit temperature, the faster of the reduce speed of leakage current. The reasons for leakage current increase as below：

① Weldding

② High temperature without load, high temperature and high humidity, rapid temperature change test and so on.

10.Failure mode

① Reduce the failure rate by reducing the surrounding temperature, ripple current and load voltage.

② Electrostatic capacity decreases caused by product temperature rise and opening mode wear caused by ESR rise, which are the main failure mode. Sometimes it will occur short-circuit mode due to the overvoltage and large current.

③ Lead to short-circuit due to load the voltage that more than rated voltage, when the current is larger, the shell will expansion or peeling off, give out bad smell due to the internal pressure rising.

④ The constitute material of products containing flammable materials，the short-circuit parts will fire may due to the spark. The install ways 、location、graphic design of the product, please consider the following importance points of design to ensure the absolute safety.

＊Setting up protection circuit and protection devices to ensure that equipment safety.

＊Setting up long circuit etc. , so that the devices will stabilization even of a single fault.

11.The insulation of the capacitor

The outer sleeve of a capacitor does not assure electrical insulation Please have electrical insulation between the capacitor sleeve and cathode terminal and anode terminal and circuit board.

12.Operating conditions

Do not use/expose capacitors to the following conditions:

① Direct contact with water, salt water or oil, or high condensa-tion environment.

② Direct sunlight.

③ Toxic gases such as hydrogen sulfide, sulfurous acid, nitrousacid, chlorine and its compounds, bromine and its compounds and ammonium.

④ Ozone, ultraviolet rays or radiation.

⑤ Extreme vibration or mechanical shock that exceeds limits in the catalogs or product specifications.

13. Capacitor Mounting

① SMD product（mould SMD、SMD）solder graphics of the Capacitor printed wiring board, Please refer to the provisions of the catalogue or specifications for graphic design.

② For radial lead type capacitors, please make sure the terminal spacing of a capacitor equals the holes spacing on the PC board.

③ Do not print any copper trace under the seal (terminal) side of a capacitor. Copper traces should be 1 mm (preferably 2mm or more) spaced apart from the side of the capacitor body.

④ In designing a double-sided PC board, do not locate any through-hole via or unnecessary hole underneath a capacitor.

⑤ In designing a double-sided PC board, do not print any circuit pattern underneath a capacitor.

Ⅱ. Installation

1.Assembling

① Do not try to reuse the capacitors once assembled and electri- fied.

Precautions For Conductive Polymer Solid Aluminum Electrolytic Capacitor

②Capacitors may have been spontaneously recharged with time by a recovery voltage phenomenon. In this case, discharge the capacitors through a resistor of approximately 1kΩ before use.

③ If non-solid aluminum electrolytic capacitors have been stored at any conditions more than 35℃ and 75%RH for long storage periods of time more than the limits specified in the catalogs or product specifications, they may have high leakage current. In this case, discharge by apply-ing the rated voltage through a resistor of approximately 1kΩ.

④ Confirm the rated capacitance and voltage of capacitorsbefore installation.

⑤ Confirm the polarity of capacitors before installation.

⑥ Do not try to use the capacitors that were dropped to the floorand so forth.

⑦ Do not deform the can case of a capacitor.

⑧ Make sure that the terminal spacing of a capacitor equals theholes spacing on the PC board before installing the capacitor.

⑨Do not apply excessive mechanical force to capacitors more than the limits prescribed in the catalogs or product specifications. If apply excessive force, the terminal will break off or deformaiton and affect install, even cause short-circuit,break line, increase LC and demage package.Avoid excessive mechanical force while the capaci- tors are in the process of vacuum-picking, placing and positioning by automatic mounting machines or cutting the lead wires by automatic insertion machines.

2.Soldering and heat resistance

Ensure that the soldering conditions meet the specifications recommended by Nippon Chemi-Con. Note that the leakage current may increase or capacitance may decrease due to ther- mal stresses that occur during soldering, etc. Furthermore, theleakage current which rose gradually decreases, when voltageis applied at below the category upper limit temperature.Addi-tionally the self repairing action is faster when voltage near the rated voltage rather than at a higher voltage is applied at below the category's upper temperature limit.

1）Verify the following before using a soldering iron:

①That the soldering conditions (temperature and time) are within the ranges specified in the catalog or product speci- fications.

② That the tip of the soldering iron does not come into contact with the capacitor itself.

2）Verify the following when flow soldering:

① Do not dip the body of a capacitor into the solder bath only dip the terminals in. The soldering must be done on the reverse side of PC board.

② Soldering conditions should be within the limits prescribed in the catalog or the product specifications.

③ Do not apply flux to any part of capacitors other than their terminals.

④ Make sure the capacitors do not come into contact with any other components while soldering.

Please note the SMD product (SMD type) non-corresponding wave-soldering.

3）Verify the following when reflow soldering:

① Soldering conditions (preheat, solder temperature and sol- dering time) should be within the limits prescribed in the catalogs or the product specification.

② The heat level should be appropriate. (Note that the ther- mal stress on the capacitor varies depending on the type and position of the heater in the reflow oven, and the color and material of the capacitor.)

Except for the surface mount type, reflow soldering must not be used for the other capacitors.

4）Do not reuse a capacitor that has already been soldered to PC board and then removed. When using a new capacitor in the same location, remove the flux, etc. first, and then use a soldering iron to solder on the new capacitor in accordance with the specifications.

3.Handling After Soldering

Do not apply any mechanical stress to the capacitor after sol- dering onto the PC board.

① Do not lean or twist the body of the capacitor after solderingthe capacitors onto the PC board.

② Do not use the capacitors for lifting or carrying the assemblyboard.

③ Do not hit or poke the capacitor after soldering to PC board. When stacking the assembly board, be careful that other components do not touch the aluminum electrolytic capaci- tors.

④ Do not drop the assembled board.

4.Cleaning PC boards

1）Do not wash capacitors by using the following cleaning agents. Solvent resistant capacitors are only suitable for washing using the cleaning conditions prescribed in the catalog or the product specification. In particular, ultrasonic cleaning will accelerate damage to capacitors.

＊Halogenated solvents →cause capacitors to fail due to corro- sion.

＊Alkali system solvents →corrode (dissolve) an aluminum case.

＊Petroleum system solvents →ause the rubber seal material to deteriorate.

＊Xylene →causes the rubber seal material to deteriorate

＊Acetone → erases the markings

CFC alternatives or the other cleaners above; please consult with us.

2）Verify the following points when washing capacitors.

① Monitor conductivity, pH, specific gravity and the water con- tent of cleaning agents. Contamination adversely affects these characteristics.

② Be sure not to expose the capacitors under solvent rich conditions or keep capacitors inside a closed container.

In addition, please dry the solvent sufficiently on the PCboard and the capacitor with an air knife (temperature should be less than the maximum rated category tempera- ture of the capacitor) for 10 minutes. Aluminum electrolytic capacitors can be characteristically and catastrophically damaged by halogen ions, particularly by chlorine ions, though the degree of the damage mainly depends upon the characteristics of the electrolyte and rubber seal ma- terial. When halogen ions come into contact with the ca- pacitors, the foil corrodes when a voltage is applied. This corrosion causes an extremely high leakage current which results venting and an open circuit.

3）Verify the following when reflow soldering:

① Higher alcohol cleaning agents.

Using these cleaning agents, capacitors are capable of with- standing immersion or ultrasonic cleaning for 10 minutes at a maximum liquid temperature of 60℃. Find optimum condition for washing, rinsing, and drying. Be sure not to rub the mark- ing off the capacitor which can be caused by contact with other components or the PC board. Note that shower cleaning ad- versely affects the markings on the sleeve.

② Non-Halogenated Solvent Cleaning.

Immersion, ultrasonic or vapor cleaning for 5 minutes. However, from an environmental point of view, these types of solvent will be banned in near future. We would recommend not using them if at all possible.

③ Isopropyl Alcohol (IPA).

IPA (Isopropyl Alcohol) is one of the most acceptable cleaning agents; it is necessary to maintain a flux content in the cleaning liquid at a maximum limit of 2 Wt.%.）

Precautions For Conductive Polymer Solid Aluminum Electrolytic Capacitor

5.Precautions for using adhesives and coating materials

1) Do not use any adhesive and coating materials containing.

2) Verify the following before using adhesive and coating material.

① Remove flux and dust left over between the rubber seal and the PC board before applying adhesive or coating ma- terials to the capacitor.

② Dry and remove any residual cleaning agents before apply- ing adhesive and coating materials to the capacitors. Do not cover over the whole surface of the rubber seal with the adhesive or coating materials.

③ For permissible heat conditions for curing adhesives or coating materials, please consult with us.

④ Covering over the whole surface of the capacitor rubber seal with resin may result in a hazardous condition be- cause the inside pressure cannot be completely released. Also, a large amount of halogen ions in resins will cause the capacitors to fail because the halogen ions penetrate into the rubber seal and the inside of the capacitor.

⑤ Some coating materials, it cannot be implemented to the capacitor.

6. Fumigation

In many cases when exporting or importing electronic devices, such as capacitors, wooden packaging is used. In order to con-trol insects it may become necessary to fumigate the shipment.Precautions during “Fumigation” using halogenated chemical such as Methyl Bromide must be taken. Halogen gas can pen- etrate packaging materials such as cardboard boxes and vinyl bags. Penetration of the halogenated gas can cause corrosion of Electrolytic capacitors. Nippon Chemi-Con gives consideration to the packaging materials not to require the Fumigation. Verify whether the assembled PC board, products and capaci- tors themselves are subjected to Fumigation during their trans- portation or not.

Ⅲ.The Operation of Devices

1.Do not touch the capacitor terminals directly.

2.Do not short-circuit the terminal of a capacitor by letting it come into contact with any conductive object.

Also, do not spill electric-conductive liquid such as acid or alkaline solu- tion over the capacitor.

3.Please make sure the assembly of the complete circuit of capacitor installation environment.

Do not use capacitors in circumstances where they would be subject to exposure to the following materials

① Oil, water, salty water or damp location.

② Direct sunlight.

③ Ozone, ultraviolet rays or radiation.

④ Toxic gases such as hydrogen sulfide, sulfurous acid, ni- trous acid, chlorine or its compounds, and ammonium.

⑤ Severe vibration or mechanical shock conditions beyond the limits prescribed in the catalog or product specification.

Ⅳ.Maintenance Inspection

1.Make periodic inspections of capacitors that have been used in industrial applications.

Before inspection, turn off the pow- er supply and carefully discharge the electricity in the ca- pacitors. Verify the polarity when measuring the capacitors with a volt-ohm meter. Do not apply any mechanical stress to the terminals of the capacitors.

2.The following items should be checked during the periodic inspections.

①Significant damage in appearance.

②Electrical characteristics: leakage current, capacitance,tanδ and other characteristics prescribed in the catalog or product specification.

We recommend replacing the capacitors if the parts are out of specification.

Ⅴ.Contingencies

1) If gas has vented from the capacitor during use, there is a short circuit and burning, or the capacitor discharges an odor or smoke, turn off the main power supply to the equip- ment or unplug the power cord.

2) If there is a problem with the capacitor or a fire breaks out, the capacitor may produce a burning gas or reactive gas from the outer resin, etc. If this happens, keep your hands and face away from the gas. If vented gas is inhaled or comes into contact with your eyes, flush your eyes imme- diately with water and/or gargle. If vented gas comes into contact with the skin, wash the affected area thoroughly with soap and water.

Ⅵ.Storage

We recommend the following conditions for storage.

1) Store capacitors in a cool, dry place. Store at a temperature between 5 and 35℃, with a humidity of 75% or less.(table-1 Maximum storage term)

The duration, please refer to the table below.

	Before the bag is opened	After the bag is opened
SMD（Resin-Molded chip type	within six months after delivery	Within 30 days after the bag is opened
Radial lead type	within one year after delivery	Within 7 days after the bag is opened

①SMD products are sealed in a PE plastic bag. Use all capacitors in desposit period once the bag is opened.

②If the bag have open and need to storage, please return unused capacitors to the bag, and seal it with a zipper.

③Be sure to follow our recommendations for reflow soldering.

2) Store the capacitors in a location free from direct contact with water, salt water, and oil.

3) Store in a location where the capacitor is not exposed to toxic gas, such as hydrogen sulfide, sulfurous acid, nitrous acid, chlorine or chlorine compounds, bromine or other hal- ogen gases, methyl bromide or other halogen compounds, ammonia, or similar.

4) Store in a location where the capacitor is not exposed to ozone, ultraviolet radiation, or other radiation.

5) It is recommended to store capacitors in their original pack- aging wherever possible.

Ⅶ.Disposal

Please consult with a local industrial waste disposal specialist when disposing of aluminum electrolytic capacitors.

Ⅷ.Regarding compliance for EU REACH Regulation

1) According to the content of REACH handbook (Guidance on requirements for substances in articles which is published on May 2008), our electronic components are "articles with- out any intended release". Therefore they are not applicable for "Registration" for EU REACH Regulation Article 7 (1).

Reference: Electrolytic Condenser Investigation Society:"Study of REACH Regulation in EU about Electrolytic Capacitor" (publicized on 13 March 2008)

2) Nippon Chemi-Con develops the products without substance of very high concern(SVHC).

Ⅸ.Catalogs

Specifications in the catalogs are subject to change without notice. Test data shown in the catalogs are not assured as the whole performance values, but typical values.

TEAPO

SMD Type Conductive Polymer Aluminum Solid Capacitors

VP Standard Series

- Endurance:105℃,2000hrs
- Recommended Applications: Standard SMD type product
- Corresponding product to RoHS

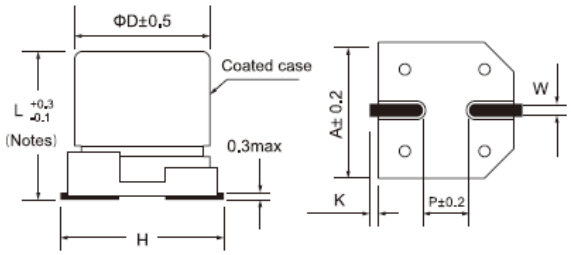
Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	2.5~25VDC
Rated Capacitance Range	22~ 1500μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Surge Voltage	Rated voltage（V) x 1.15
Leakage Current (20℃)	Less than or equal to the value of Table ,(After rated voltage applied for 2 minutes) I： Leakage Current (μA) C：Capacitance(μF) V： Rated Voltage Range(VDC)
Dissipation Factor (MAX) (tan δ) (120Hz ,20℃)	WV 2.5~25 tan δ 0.12
Temperature characteristic Impedance ratio (MAX)	WV / Z(100KHz) 2.5 ~ 25V Z-25℃ / Z+20℃ ≦1.15 Z-55℃ / Z+20℃ ≦1.25
Endurance	After applying rated voltage for 2000 hours at 105℃, the capacitor shall meet the following requirement。 Appearance: No significant damage Capacitance Change: Within ±20% of the initial value Dissipation Factor: Not more than 150% of the initial specified value Equivalent Series Resistance: Not more than 150% of the initial specified value Leakage Current: Not more than the initial specified value
Humidity Test	after subjecting 90 to 95% RH for 1000 hours at 60℃ ，the capacitors shall meet the requirement as Endurance。
Resistance to Soldering Heat＊	Capacitance Change: Within ±10% of the initial value Dissipation Factor: Not more than 130% of the initial specified value Equivalent Series Resistance: Not more than 130% of the initial specified value Leakage Current: Not more than the initial specified value

＊For any doubt about measured values, measure the leakage current again after the following voltage treatment。

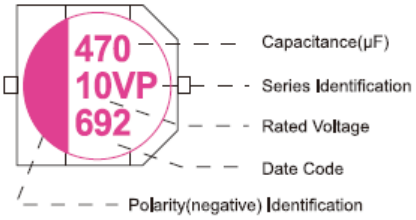
Voltage treatment: Applying DC rated voltage to the capacitors for 2 hours at 105℃ 。

Diagram of Dimensions



(Notes) Φ8 ~ Φ10&6.3X7.7=L±0.3

Marking : case with red printing



SIZE	ΦD x L	A	H(Max)	W	P	K
CA1	5x5.8	5.3	6.5	0.65±0.15	1.5±0.2	0.35+0.15/-0.2
EA1	6.3x5.8	6.6	7.8	0.65±0.15	1.8±0.2	0.35+0.15/-0.2
EA4	6.3x7.7	6.6	7.8	0.65±0.15	1.8±0.2	0.35+0.15/-0.2
GA6	8x10.4	8.3	10	0.9±0.2	3.1±0.2	0.7±0.2
HA5	10x10.2	10.3	12	0.9±0.2	4.6±0.2	0.7±0.2
HA8	10x12.2	10.3	12	0.9±0.2	4.6±0.2	0.7±0.2

Multiplier for Ripple Current

Frequency(HZ)	120≦F＜1K	1K≦F＜10K	10K≦F＜100K	100K≦F≦500K
Coefficient	0.05	0.30	0.70	1.00

TEAPO

SMD Type Conductive Polymer Aluminum Solid Capacitors

VP Standard Series

■Dimensions,Rated Ripple Current,Equivalent Series Resistance

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃100KHz)	ESR (mΩ,20℃ 100KHz)	LC (μA max/2min)
2.5（2.88）	180	5x5.8	1970	30	300
		6.3x5.8	2200	25	300
	220	6.3x5.8	2500	25	300
	390	6.3x7.7	2720	23	300
	470	6.3x7.7	2720	23	300
	1000	8x10.4	3950	18	500
	1200	10x10.2	4000	12	600
	1500	10x10.2	4000	13	750
		10x12.2	5500	12	750
4(4.6)	100	6.3x5.8	2450	26	300
	150	6.3x5.8	2450	26	300
	330	6.3x7.7	2650	25	300
	560	8x10.4	3950	18	448
	820	8x10.4	3950	18	656
		10x12.2	5500	10	656
	1200	10x10.2	4000	12	960
		10x12.2	5500	10	960
6.3(7.25)	47	5x5.8	1380	35	300
	68	6.3x5.8	2400	27	300
	82	6.3x5.8	2400	27	300
	100	5x5.8	1380	35	300
		6.3x5.8	2400	27	300
	120	6.3x5.8	2400	27	300
	220	6.3x5.8	2400	27	300
		6.3x7.7	2650	25	300
	330	6.3x5.8	2400	27	415
		6.3x7.7	2650	25	415
	470	6.3x7.7	2650	25	592
		8x10.4	3610	21	592
	680	8x10.4	3610	21	857
		10x10.2	3650	12	857
	820	8x10.4	3610	21	1033
		10x10.2	3650	12	1033
		10x12.2	5500	10	1033
	1000	8x10.4	3610	21	1260
		10x12.2	5500	10	1260
10(11.5)	22	5x5.8	1270	40	300
	33	5x5.8	1270	40	300
	47	5x5.8	1270	40	300
		6.3x5.8	2250	31	300
	56	6.3x5.8	2250	31	300
	100	6.3x5.8	2250	31	300
		6.3x7.7	2560	27	300

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃100KHz)	ESR (mΩ,20℃ 100KHz)	LC (μA max/2min)
10(11.5)	150	6.3x7.7	2560	27	300
	390	8x10.4	3020	22	780
	470	10x10.2	3500	14	940
		10x12.2	5300	12	940
	560	10x12.2	5300	12	1120
	1000	10x12.2	5300	13	2000
16(18.4)	22	5x5.8	1210	90	300
	33	6.3x5.8	2050	37	300
	39	6.3x5.8	2050	37	300
	47	6.3x5.8	1600	50	300
	82	6.3x7.7	2420	30	300
	100	6.3x7.7	2420	30	320
	120	6.3x7.7	2420	30	384
	150	8x10.4	3490	23	480
	180	8x10.4	3490	23	576
	220	8x10.4	3490	23	704
		10x12.2	5050	14	704
	270	8x10.4	3490	23	864
	330	10x10.2	3100	16	1056
		10x12.2	5050	14	1056
	390	8x10.4	3000	23	1248
	470	10x10.2	3100	16	1504
		10x12.2	5050	14	1504
	560	10x12.2	5050	14	1792
	680	10x12.2	5050	14	2176
	820	10x12.2	5050	14	2624
20(23)	22	6.3x5.8	1650	50	300
	47	6.3x7.7	2000	45	300
	100	8x10.4	3320	24	480
	150	10x12.2	4220	21	600
25(28.75)	22	6.3x5.8	900	65	300
		6.3x7.7	1800	50	300
	27	6.3x5.8	1270	60	300
	47	6.3x5.8	1300	65	300
		6.3x7.7	1800	45	300
	68	6.3x7.7	1800	45	340
	100	8x10.4	3320	35	500
	150	8x10.4	3320	35	750
	180	10x10.2	3100	30	900
	220	8x10.4	3320	35	1100
	270	10x10.2	3320	30	1350
	330	10x12.2	3500	28	1650

TEAPO

SMD Type Conductive Polymer Aluminum Solid Capacitors

VB High capacitance & low ESR Series

- Endurance:105℃,2000hrs
- Recommended Applications: High capacitance & Ultra low ESR Series
- Corresponding product to RoHS

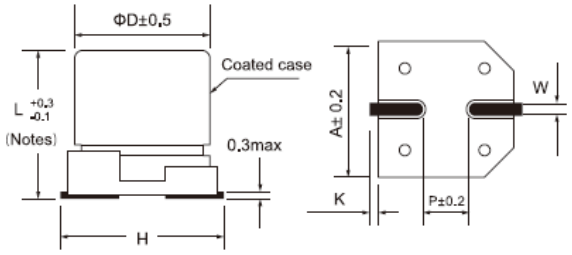
Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	2.5~25VDC
Rated Capacitance Range	33~ 1200μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Surge Voltage	Rated voltage（V) x 1.15
Leakage Current (20℃)	Less than or equal to the value of Table ,(After rated voltage applied for 2 minutes) I： Leakage Current (μA) C：Capacitance(μF) V： Rated Voltage Range(VDC)
Dissipation Factor (MAX) (tan δ) (120Hz ,20℃)	WV 2.5~25 tan δ 0.12
Temperature characteristic Impedance ratio (MAX)	WV / Z(100KHz) 2.5 ~ 25V Z-25℃ / Z+20℃ ≦1.15 Z-55℃ / Z+20℃ ≦1.25
Endurance	After applying rated voltage for 2000 hours at 105℃, the capacitor shall meet the following requirement。 Appearance: No significant damage Capacitance Change: Within ±20% of the initial value Dissipation Factor: Not more than 150% of the initial specified value Equivalent Series Resistance: Not more than 150% of the initial specified value Leakage Current: Not more than the initial specified value
Humidity Test	after subjecting 90 to 95% RH for 1000 hours at 60℃ ，the capacitors shall meet the requirement as Endurance。
Resistance to Soldering Heat＊	Capacitance Change: Within ±10% of the initial value Dissipation Factor: Not more than 130% of the initial specified value Equivalent Series Resistance: Not more than 130% of the initial specified value Leakage Current: Not more than the initial specified value

＊For any doubt about measured values, measure the leakage current again after the following voltage treatment。

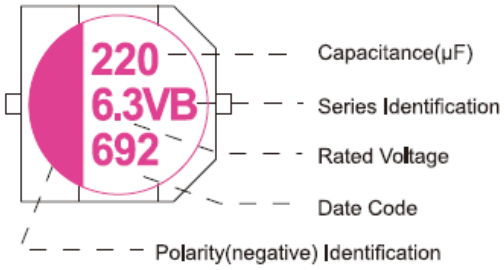
Voltage treatment: Applying DC rated voltage to the capacitors for 2 hours at 105℃ 。

Diagram of Dimensions



(Notes) Φ8～Φ10&6.3X7.7=L±0.3

Marking : case with red printing



SIZE	ΦD x L	A	H(Max)	W	P	K
EA1	6.3x5.8	6.6	7.8	0.65±0.15	1.8±0.2	0.35+0.15/-0.2
EA4	6.3x7.7	6.6	7.8	0.65±0.15	1.8±0.2	0.35+0.15/-0.2
GA6	8x10.4	8.3	10	0.9±0.2	3.1±0.2	0.7±0.2
HA5	10x10.2	10.3	12	0.9±0.2	4.6±0.2	0.7±0.2
HA8	10x12.2	10.3	12	0.9±0.2	4.6±0.2	0.7±0.2

Multiplier for Ripple Current

Frequency(HZ)	120≦F＜1K	1K≦F＜10K	10K≦F＜100K	100K≦F≦500K
Coefficient	0.05	0.30	0.70	1.00

TEAPO

SMD Type Conductive Polymer Aluminum Solid Capacitors

VB

High capacitance & low ESR Series

■Dimensions,Rated Ripple Current,Equivalent Series Resistance

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃100KHz)	ESR (mΩ,20℃ 100KHz)	LC (μA max/2min)
2.5（2.88）	330	6.3x5.8	3160	15	300
	390	6.3x5.8	3160	15	300
	470	6.3x5.8	3160	15	300
	560	6.3x5.8	3500	16	300
		6.3x7.7	3600	13	300
	820	8x10.4	4210	12	410
4(4.6)	270	6.3x5.8	3160	15	300
	330	6.3x5.8	3160	15	300
	470	8x10.4	4520	15	376
	560	8x10.4	4520	15	448
6.3(7.25)	100	6.3x5.8	2500	24	300
	120	6.3x5.8	2500	24	300
	150	6.3x5.8	3160	22	300
	220	6.3x5.8	3160	22	300
	330	6.3x5.8	3390	22	415
		6.3x7.7	3500	18	415
		8x10.4	4210	15	415
	470	6.3x7.7	3500	18	592
		8x10.4	4210	15	592
	560	8x10.4	4210	15	705

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃100KHz)	ESR (mΩ,20℃ 100KHz)	LC (μA max/2min)
6.3(7.25)	560	10x10.2	5025	12	705
	820	8x10.4	4210	15	1033
		10x10.2	5025	12	1033
	1200	10x10.2	5025	12	1512
10(11.5)	120	6.3x5.8	2600	22	300
	150	6.3x7.7	2880	21	300
	330	8x10.4	4000	17	660
	470	10x10.2	5025	12	940
16(18.4)	68	6.3x5.8	2440	25	300
		6.3x7.7	2700	24	300
	100	6.3x5.8	2440	25	320
		6.3x7.7	2700	24	320
	180	6.3x7.7	3320	22	576
		8x10.4	3890	18	576
	220	8x10.4	3890	18	704
	270	8x10.4	3890	18	864
	330	10x10.2	4350	16	1056
	470	10x12.2	6100	10	1504
25(28.8)	33	6.3x7.7	2500	45	300
	47	6.3x7.7	2500	45	300

TEAPO

SMD Type Conductive Polymer Aluminum Solid Capacitors

VS Long Life & low ESR Series

- Endurance:105℃,5000hrs
- Recommended Applications: Long Life Series
- Corresponding product to RoHS

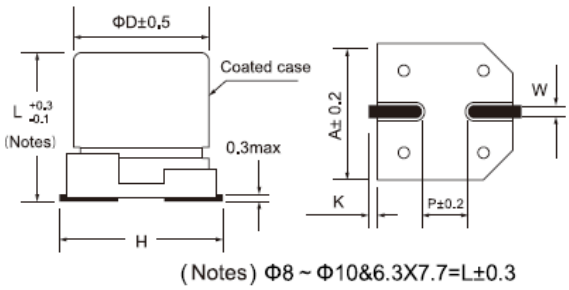
Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	4~25VDC
Rated Capacitance Range	22~ 470μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Surge Voltage	Rated voltage（V) x 1.15
Leakage Current (20℃)	Less than or equal to the value of Table ,(After rated voltage applied for 2 minutes) I： Leakage Current (μA) C：Capacitance(μF) V： Rated Voltage Range(VDC)
Dissipation Factor (MAX) (tan δ) (120Hz ,20℃)	WV: 4~25 tan δ: 0.12
Temperature characteristic Impedance ratio (MAX)	WV / Z(100KHz): 4 ~ 25V Z-25℃ / Z+20℃: ≦1.15 Z-55℃ / Z+20℃: ≦1.25
Endurance	After applying rated voltage for 2000 hours at 105℃, the capacitor shall meet the following requirement。 Appearance: No significant damage Capacitance Change: Within ±20% of the initial value Dissipation Factor: Not more than 150% of the initial specified value Equivalent Series Resistance: Not more than 150% of the initial specified value Leakage Current: Not more than the initial specified value
Humidity Test	after subjecting 90 to 95% RH for 1000 hours at 60℃ ，the capacitors shall meet the requirement as Endurance。
Resistance to Soldering Heat＊	Capacitance Change: Within ±10% of the initial value Dissipation Factor: Not more than 130% of the initial specified value Equivalent Series Resistance: Not more than 130% of the initial specified value Leakage Current: Not more than the initial specified value

＊For any doubt about measured values, measure the leakage current again after the following voltage treatment。

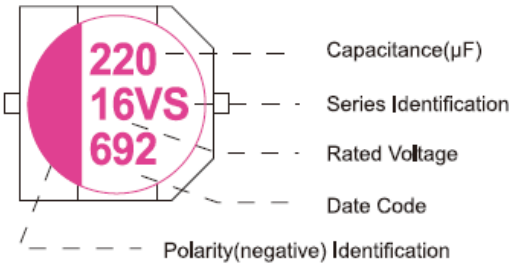
Voltage treatment: Applying DC rated voltage to the capacitors for 2 hours at 105℃ 。

Diagram of Dimensions



(Notes) Φ8～Φ10&6.3X7.7=L±0.3

Marking : case with red printing



SIZE	ΦD x L	A	H(Max)	W	P	K
EA1	6.3x5.8	6.6	7.8	0.65±0.15	1.8±0.2	0.35+0.15/-0.2
EA4	6.3x7.7	6.6	7.8	0.65±0.15	1.8±0.2	0.35+0.15/-0.2
GA6	8x10.4	8.3	10	0.9±0.2	3.1±0.2	0.7±0.2
HA5	10x10.2	10.3	12	0.9±0.2	4.6±0.2	0.7±0.2
HA8	10x12.2	10.3	12	0.9±0.2	4.6±0.2	0.7±0.2

Multiplier for Ripple Current

Frequency(HZ)	120≦F＜1K	1K≦F＜10K	10K≦F＜100K	100K≦F≦500K
Coefficient	0.05	0.30	0.70	1.00

TEAPO

SMD Type Conductive Polymer Aluminum Solid Capacitors

VS Long Life & low ESR Series

■Dimensions,Rated Ripple Current,Equivalent Series Resistance

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃100KHz)	ESR (mΩ,20℃ 100KHz)	LC (μA max/2min)
4（4.6）	150	6.3x5.8	2570	22	300
	330	6.3x5.8	2800	22	300
	470	6.3x7.7	2800	20	376
6.3(7.25)	100	6.3x5.8	2800	22	300
	120	6.3x5.8	2800	22	300
	220	6.3x5.8	2800	22	300
	470	10x10.2	4130	20	592
10(11.5)	47	6.3x5.8	2300	27	300
	56	6.3x5.8	2300	27	300
	68	6.3x5.8	2300	27	300

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃100KHz)	ESR (mΩ,20℃ 100KHz)	LC (μA max/2min)
10(11.5)	120	6.3x5.8	2300	27	300
	470	8x10.4	3000	22	940
16(18.4)	39	6.3x5.8	2200	30	300
	68	6.3x5.8	2200	30	300
	330	10x12.2	3800	14	1056
20(23)	27	6.3x5.8	2450	40	300
	180	10x10.2	3200	25	720
25(28.75)	150	8x10.4	1350	30	750
	220	10x10.2	1800	38	1100
	330	10x12.2	2800	30	1650

TEAPO

Radial Type Conductive Polymer Aluminum Solid Capacitors

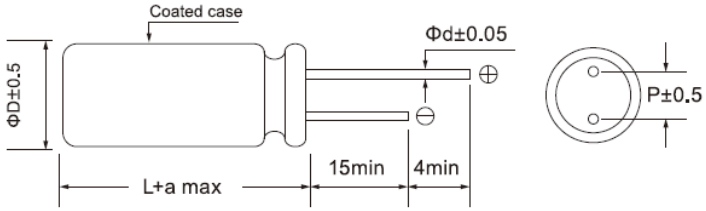
FG Standard Series

- Endurance:105℃,2000hrs
- Recommended Applications: standard
- Corresponding product to RoHS

Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	2.5~25VDC
Rated Capacitance Range	22~ 2200μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Surge Voltage	Rated voltage（V) x 1.15
Leakage Current (20℃)	I≦0.2CV or 300(μA)whichever is greater (After rated voltage applied for 2 minutes) I： Leakage Current (μA) C：Capacitance(μF) V： Rated Voltage Range(VDC)
Dissipation Factor (MAX) (tan δ) (120Hz ,20℃)	WV: 2.5~10 / 12~25 tan δ: 0.08 / 0.12
Temperature characteristic Impedance ratio (MAX)	WV / Z(100KHz): 2.5 ~ 25V Z-25℃ / Z+20℃: ≦1.15 Z-55℃ / Z+20℃: ≦1.25
Endurance	After applying rated voltage for 2000 hours at 105℃, the capacitor shall meet the following requirement。 Appearance: No significant damage Capacitance Change: Within ±20% of the initial value Dissipation Factor: Not more than 150% of the initial specified value Equivalent Series Resistance: Not more than 150% of the initial specified value Leakage Current: Not more than the initial specified value
Humidity Test	after subjecting 90 to 95% RH for 1000 hours at 60℃ ，the capacitors shall meet the requirement as Endurance。
Surge voltage test	After subjecting to 1000 cycles each consisting of charge with the surge voltage specified at normal temperature for 30 seconds through a protective resistor and discharge for 5 minutes 30 seconds,the capacitors shall meet the requirement as Endurance
Failure rate(MAX)	1%per 1,000 hours(confidence level 60% at 105℃)

Diagram of Dimensions



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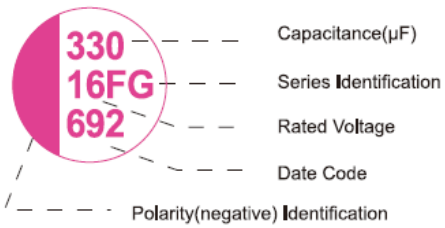


SIZE	ΦD x L	P	φd	a
C07	5x7	2.0	0.5	1.5
C09	5x9	2.0	0.5	1.0
D07	5x7	2.5	0.5	1.0
D09	5x9	2.5	0.5	1.0
D11	5x11	2.5	0.5	1.0
E01	6.3x5.4	2.5	0.45	1.0
E06	6.3x6	2.5	0.5	1.5
E07	6.3x7	2.5	0.5	1.5
E08	6.3x8	2.5	0.5or0.6	1.0
E09	6.3x9	2.5	0.5	1.0

SIZE	ΦD x L	P	φd	a
E11	6.3x11	2.5	0.5	1.0
G08	8x8	3.5	0.6	1.5
G09	8x9	3.5	0.6	1.5
G1B	8x11.5	3.5	0.6	1.0
G12	8x12	3.5	0.6	1.0
G15	8x15	3.5	0.6	1.5
H1A	10x10.5	5.0	0.6	1.0
H1C	10x12.5	5.0	0.6	1.0
H13	10x13	5.0	0.6	1.0
H16	10x16	5.0	0.6	1.0

Multiplier for Ripple Current

Frequency(HZ)	120≦F＜1K	1K≦F＜10K	10K≦F＜100K	100K≦F≦500K
Coefficient	0.05	0.30	0.70	1.00

TEAPO

Radial Type Conductive Polymer Aluminum Solid Capacitors

FG Standard Series

■Dimensions,Rated Ripple Current,Equivalent Series Resistance

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃ 100KHz)	ESR (mΩ,20℃ 100KHz)
2.5（2.88）	560	6.3x6	4000	10
		6.3x8	3160	20
	820	6.3x8	3160	20
		8x11.5	5600	7
	1500	10x12.5	5600	7
	2200	10x12.5	5600	7
4（4.6）	560	6.3x8	3160	20
	680	6.3x8	3160	20
		8x11.5	5600	7
	820	6.3x9	3160	20
		10x12.5	5600	7
	1000	8x11.5	5600	7
		10x12.5	5600	7
	1500	8x11.5	5600	7
	2200	10x12.5	5600	7
6.3（7.25）	47	6.3x5.4	1810	30
	100	6.3x5.4	1810	40
	180	6.3x5.4	1810	30
	220	5x7	3500	11
		6.3x5.4	1810	30
		6.3x6	3160	15
	270	5x7	3500	11
		6.3x7	3500	11
	330	5x7	3500	11
		6.3x5.4	1810	30
		6.3x6	3390	22
	390	5x9	3500	11
		6.3x9	3500	8
	450	5x9	3500	11
		6.3x6	3390	22
	470	5x9	3190	28
		6.3x6	3390	22
		6.3x8	3800	10
		8x8	4200	8
	560	6.3x8	4000	10
		8x8	4800	12
	680	6.3x9	3500	8
		8x11.5	5600	7
	820	6.3x9	3500	8
		8x11.5	5600	7
		10x10.5	5050	8
		10x12.5	5600	7
	1000	8x8	4770	10
		8x11.5	5600	7
	1200	8x11.5	5600	7
		10x10.5	5050	8
	1500	8x11.5	5600	7
		10x10.5	5050	8
		10x12.5	5600	7
	2200	10x12.5	5600	7
6.8（7.82）	180	5x7	2300	20
	220	5x7	2500	20
	270	5x7	2500	20
	330	5x9	3100	15
	390	5x9	3100	15
	450	6.3x6	3100	15
	680	6.3x9	3500	11
	820	6.3x9	3500	11
	1000	6.3x11	4200	10
7.5（8.62）	270	5x9	2690	15

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃ 100KHz)	ESR (mΩ,20℃ 100KHz)
7.5（8.62）	390	5x9	3100	15
	470	5x9	3100	15
	500	5x9	3100	12
	680	6.3x9	3500	12
10（11.5）	68	6.3x5.4	1810	30
	100	5x7	3500	11
		6.3x5.4	2320	27
	150	6.3x5.4	2200	30
	180	6.3x8	2820	25
	220	6.3x8	2820	25
	270	6.3x8	2820	25
	330	6.3x8	2820	25
		8x8	3500	11
	470	6.3x9	2820	25
		8x11.5	5600	8
		10x10.5	5050	8
	560	8x11.5	5600	8
		10x12.5	6100	8
	680	8x11.5	5600	8
		10x12.5	6100	8
	820	8x11.5	5600	8
		10x12.5	6100	8
	1200	10x12.5	6100	8
	1500	10x12.5	6100	8
16(18.4)	22	5x7	2200	30
		6.3x5.4	2200	30
	33	6.3x5.4	2490	24
	47	6.3x5.4	1650	35
		6.3x6	2610	25
	68	6.3x5.4	1650	35
	100	6.3x5.4	2490	24
		6.3x8	2820	24
	150	6.3x8	2820	25
		8x8	3150	22
	180	6.3x8	2820	25
		8x8	3500	16
	270	6.3x9	3100	20
		8x8	3800	15
		8x11.5	5000	11
		10x10.5	5050	14
16（18.4）	330	6.3x9	3100	20
		8x11.5	5000	11
		10x10.5	5050	14
		10x12.5	6100	10
	470	8x11.5	5000	11
		10x10.5	5050	14
		10x12.5	6100	10
	560	8x11.5	5000	11
		10x10.5	5050	11
		10x12.5	6100	10
16（18.4）	680	8x11.5	5000	11
		10x12.5	6100	10
	820	8x12	5000	10
		10x12.5	5000	10
	1000	8x15	5000	10
		10x12.5	5050	14
25（28.75）	33	6.3x8	1650	35
	47	6.3x10.5	1980	35
	68	8x8	2980	35

TEAPO

Radial Type Conductive Polymer Aluminum Solid Capacitors

FR

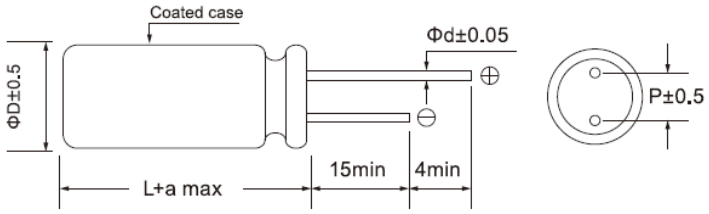
High Ripple & low ESR Series

- Endurance:105℃,2000hrs
- Recommended Applications: High ripple & low ESR Series
- Corresponding product to RoHS

Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	2.5~6.3VDC
Rated Capacitance Range	270~ 2700 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Surge Voltage	Rated voltage（V) x 1.15
Leakage Current (20℃)	I≦0.2CV or 300(μA)whichever is greater (After rated voltage applied for 2 minutes) I： Leakage Current (μA) C：Capacitance(μF) V： Rated Voltage Range(VDC)
Dissipation Factor (MAX) (tan δ) (120Hz ,20℃)	WV: 2.5~6.3 tan δ: 0.10
Temperature characteristic Impedance ratio (MAX)	WV / Z(100KHz): 2.5 ~ 6.3V Z-25℃ / Z+20℃: ≦1.15 Z-55℃ / Z+20℃: ≦1.25
Endurance	After applying rated voltage for 2000 hours at 105℃, the capacitor shall meet the following requirement。 Appearance: No significant damage Capacitance Change: Within ±20% of the initial value Dissipation Factor: Not more than 150% of the initial specified value Equivalent Series Resistance: Not more than 150% of the initial specified value Leakage Current: Not more than the initial specified value
Humidity Test	after subjecting 90 to 95% RH for 1000 hours at 60℃ ，the capacitors shall meet the requirement as Endurance。
Surge voltage test	After subjecting to 1000 cycles each consisting of charge with the surge voltage specified at normal temperature for 30 seconds through a protective resistor and discharge for 5 minutes 30 seconds,the capacitors shall meet the requirement as Endurance
Failure rate(MAX)	1%per 1,000 hours(confidence level 60% at 105℃)

Diagram of Dimensions



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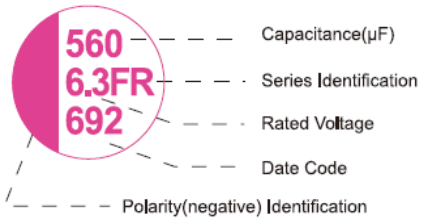


SIZE	ΦD X L	P	φd	a
E08	6.3X8	2.5	0.5or0.6	1.0
E1A	6.3X10.5	2.5	0.6	1.0
G08	8X8	3.5	0.6	1.5
G1B	8X11.5	3.5	0.6	1.0
H1C	10X12.5	5.0	0.6	1.0

Multiplier for Ripple Current

Frequency(HZ)	120≦F＜1K	1K≦F＜10K	10K≦F＜100K	100K≦F≦500K
Coefficient	0.05	0.30	0.70	1.00

Radial Type Conductive Polymer Aluminum Solid Capacitors

FR

High Ripple & low ESR Series

■Dimensions,Rated Ripple Current,Equivalent Series Resistance

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃ 100KHz)	ESR (mΩ,20℃ 100KHz)
2.5（2.88）	560	6.3x8	5000	7
		8x8	6100	7
	680	8x8	6100	7
		8x11.5	6100	7
	820	6.3x8	5000	7
		8x8	6100	7
		8x11.5	6100	7
	1000	8x8	6100	7
		8x11.5	6100	7
	1500	8x11.5	6100	7
	2700	10x12.5	5600	8
4（4.6）	560	6.3x8	5000	7
		8x8	6100	7
		8x11.5	6100	7
	680	8x8	6100	7
		8x11.5	6100	7
	1000	8x8	6100	7
		8x11.5	6100	7
		10x12.5	6100	7

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃ 100KHz)	ESR (mΩ,20℃ 100KHz)
4（4.6）	1200	8x8	6100	7
	1500	8x11.5	6100	7
	1800	10x12.5	6500	9
6.3（7.25）	270	6.3x8	4700	8
	330	6.3x8	4700	8
	470	6.3x8	4700	8
		8x8	5700	8
	560	6.3x8	4700	8
		8x8	5700	8
	680	8x8	5700	8
		8x11.5	5700	7
	820	8x8	5700	8
		8x11.5	5700	7
	1000	8x8	5700	8
		8x11.5	5700	7
		10x12.5	6100	7
	1500	8x11.5	5700	7
		10x12.5	6100	7

TEAPO

Radial Type Conductive Polymer Aluminum Solid Capacitors

FF

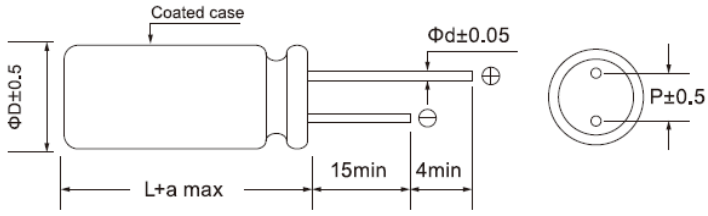
Large capacitance Series

- Endurance:105℃,2000hrs
- Recommended Applications: Ultra low ESR & Large capacitance Series
- Corresponding product to RoHS

Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	6.3~63VDC
Rated Capacitance Range	10~ 2200μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Surge Voltage	Rated voltage（V) x 1.15
Leakage Current (20℃)	I≦0.2CV or 300(μA)whichever is greater(After rated voltage applied for 2 minutes) I： Leakage Current (μA) C：Capacitance(μF) V： Rated Voltage Range(VDC)
Dissipation Factor (MAX) (tan δ) (120Hz ,20℃)	WV: 2.5~63 tan δ: 0.12
Temperature characteristic Impedance ratio (MAX)	WV / Z(100KHz): 2.5 ~ 25V Z-25℃ / Z+20℃: ≦1.15 Z-55℃ / Z+20℃: ≦1.25
Endurance	After applying rated voltage for 2000 hours at 105℃, the capacitor shall meet the following requirement。 Appearance: No significant damage Capacitance Change: Within ±20% of the initial value Dissipation Factor: Not more than 150% of the initial specified value Equivalent Series Resistance: Not more than 150% of the initial specified value Leakage Current: Not more than the initial specified value
Humidity Test	after subjecting 90 to 95% RH for 1000 hours at 60℃ ，the capacitors shall meet the requirement as Endurance。
Surge voltage test	After subjecting to 1000 cycles each consisting of charge with the surge voltage specified at normal temperature for 30 seconds through a protective resistor and discharge for 5 minutes 30 seconds,the capacitors shall meet the requirement as Endurance
Failure rate(MAX)	1%per 1,000 hours(confidence level 60% at 105℃)

Diagram of Dimensions



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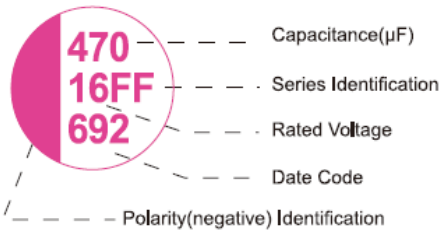


SIZE	ΦD x L	P	Φd	a
E01	6.3x5.4	2.5	0.45	1.0
E06	6.3x6	2.5	0.5	1.5
E08	6.3x8	2.5	0.5or0.6	1.0
G08	8x8	3.5	0.6	1.5
G1B	8x11.5	3.5	0.6	1.0
H1A	10x10.5	5.0	0.6	1.0
H1C	10x12.5	5.0	0.6	1.0

Multiplier for Ripple Current

Frequency(HZ)	120≦F＜1K	1K≦F＜10K	10K≦F＜100K	100K≦F≦500K
Coefficient	0.05	0.30	0.70	1.00

Radial Type Conductive Polymer Aluminum Solid Capacitors

FF

Large capacitance Series

■Dimensions,Rated Ripple Current,Equivalent Series Resistance

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃ 100KHz)	ESR (mΩ,20℃ 100KHz)
6.3(7.25)	150	6.3x5.4	1810	30
	680	6.3x10.5	2800	28
	1000	8x8	3000	10
		8x11.5	4860	8
	1500	8x11.5	4860	8
		10x10.5	5000	8
		10x12.5	5000	7
	1800	10x12.5	5000	7
	2200	10x11.5	5600	7
		10x12.5	5600	7
10(11.5)	560	8x8	3000	12
	680	8x8	3000	12
		8x11.5	4000	12
	820	8x11.5	4000	12
	1000	10x12.5	4360	12
16(18.4)	470	8x11.5	4000	12
	560	8x11.5	4000	12
	820	10x12.5	4000	11
	1000	10x12.5	4200	11
25(28.75)	22	6.3x5.4	1200	60
	47	6.3x5.4	1200	60
		6.3x8	1200	35
	68	6.3x6	1200	35
		8x8	1500	30
	100	6.3x8	1500	35
		8x8	1500	30
	120	6.3x8	1500	35
		8x8	1500	30
	150	8x8	1600	28
	220	8x8	2280	28
	270	8x11.5	2800	28
	330	8x11.5	2800	25
		10x10.5	2800	25
	470	10x12.5	3050	25
	560	10x12.5	3050	25

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃ 100KHz)	ESR (mΩ,20℃ 100KHz)
25(28.75)	680	8x15	2500	20
		10x13	3500	20
	820	10x16	3500	20
	1000	10x16	3500	20
32(36.8)	22	6.3x8	990	60
	47	6.3x8	990	60
	100	8x8	1200	50
	150	8x8	1500	50
35(40.25)	10	6.3x8	990	60
	22	6.3x8	990	60
	33	6.3x6	990	70
		6.3x8	990	60
	47	6.3x8	990	60
	68	6.3x8	990	60
	100	6.3x10.5	1200	50
		8x8	2000	50
		8x11.5	2300	35
	150	8x11.5	2300	35
	220	8x11.5	2400	35
		10x10.5	2400	35
	270	10x12.5	2500	25
	330	10x12.5	2500	25
50(57.5)	33	8x8	1300	48
	47	8x8	1300	48
		8x11.5	1500	45
	68	8x11.5	1500	45
	100	10x10.5	2200	40
		10x12.5	2200	40
	120	10x12.5	2200	40
63(72.45)	10	6.3x8	900	80
	33	8x8	1100	65
	47	8x8	1100	65
	56	10x12.5	1500	55
	100	10x12.5	2000	50

TEAPO

Radial Type Conductive Polymer Aluminum Solid Capacitors

FL

Special for Charger series

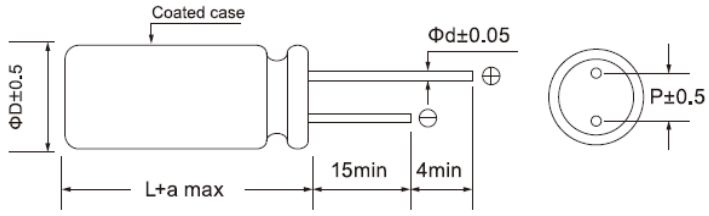
New

- Endurance:105℃,2000hrs
- Recommended Applications:Special charger series
- Corresponding product to RoHS

Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	6.3~16VDC
Rated Capacitance Range	22~ 2200μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Surge Voltage	Rated voltage（V) x 1.15
Leakage Current (20℃)	I≦0.2CV or 300(μA)whichever is greater (After rated voltage applied for 2 minutes) I： Leakage Current (μA) C：Capacitance(μF) V： Rated Voltage Range(VDC)
Dissipation Factor (MAX) (tan δ) (120Hz ,20℃)	WV: 6.3~10 / 12~16 tan δ: 0.08 / 0.12
Temperature characteristic Impedance ratio (MAX)	WV / Z(100KHz): 6.3 ~ 16V Z-25℃ / Z+20℃: ≦1.15 Z-55℃ / Z+20℃: ≦1.25
Endurance	After applying rated voltage for 2000 hours at 105℃, the capacitor shall meet the following requirement。 Appearance: No significant damage Capacitance Change: Within ±20% of the initial value Dissipation Factor: Not more than 150% of the initial specified value Equivalent Series Resistance: Not more than 150% of the initial specified value Leakage Current: Not more than the initial specified value
Humidity Test	after subjecting 90 to 95% RH for 1000 hours at 60℃ ，the capacitors shall meet the requirement as Endurance。
Surge voltage test	After subjecting to 1000 cycles each consisting of charge with the surge voltage specified at normal temperature for 30 seconds through a protective resistor and discharge for 5 minutes 30 seconds,the capacitors shall meet the requirement as Endurance
Failure rate(MAX)	1%per 1,000 hours(confidence level 60% at 105℃)

Diagram of Dimensions



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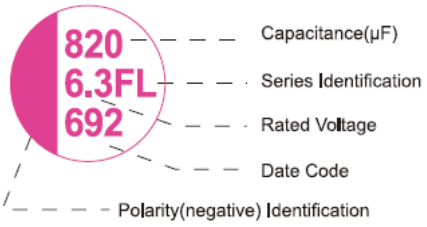


SIZE	ΦD x L	P	φd	a
C07	5x7	2.0	0.5	1.5
C09	5x9	2.0	0.5	1.0
D07	5x7	2.5	0.5	1.0
D09	5x9	2.5	0.5	1.0
D11	5x11	2.5	0.5	1.0
E01	6.3x5.4	2.5	0.45	1.0
E06	6.3x6	2.5	0.5	1.5
E07	6.3x7	2.5	0.5	1.5

SIZE	ΦDx L	P	φd	a
E08	6.3x8	2.5	0.5or0.6	1.0
E09	6.3x9	2.5	0.5	1.0
E11	6.3x11	2.5	0.5	1.0
G08	8x8	3.5	0.6	1.5
G09	8x9	3.5	0.6	1.5
G1B	8x11.5	3.5	0.6	1.0
H1A	10x10.5	5.0	0.6	1.0
H1C	10x12.5	5.0	0.6	1.0

Multiplier for Ripple Current

Frequency(HZ)	120≦F＜1K	1K≦F＜10K	10K≦F＜100K	100K≦F≦500K
Coefficient	0.05	0.30	0.70	1.00

TEAPO

Radial Type Conductive Polymer Aluminum Solid Capacitors

FL

Special for Charger series

New

■Dimensions,Rated Ripple Current,Equivalent Series Resistance

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃ 100KHz)	ESR (mΩ,20℃ 100KHz)
6.3（7.25）	47	6.3x5.4	1810	30
	100	6.3x5.4	1810	40
	180	6.3x5.4	1810	30
	220	5x7	3500	11
		6.3x5.4	1810	30
		6.3x6	3160	15
	270	5x7	3500	11
	330	5x7	3500	11
		6.3x5.4	1810	30
		6.3x6	3390	22
	390	5x9	3500	11
		6.3x9	3500	8
	450	5x9	3500	11
		6.3x6	3390	22
	470	5x9	3190	28
		6.3x6	3390	22
		6.3x8	3800	10
		8x8	4200	8
	560	6.3x8	4000	10
		8x8	4800	12
	680	6.3x9	3500	8
		8x11.5	5600	7
	820	6.3x9	3500	8
		8x11.5	5600	7
		10x10.5	5050	8
		10x12.5	5600	7
	1000	8x8	4770	14
		8x11.5	5600	7
	1200	8x11.5	5600	7
		10x10.5	5050	8
	1500	8x11.5	5600	7
		10x10.5	5050	8
		10x12.5	5600	7
	2200	10x12.5	5600	7
6.8（7.82）	180	5x7	2300	20
	220	5x7	2500	20
	270	5x7	2500	20
	330	5x9	3100	15
	390	5x9	3100	15
	680	6.3x9	3500	11
	820	6.3x9	3500	11
	1000	6.3x11	4200	10

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃ 100KHz)	ESR (mΩ,20℃ 100KHz)
7.5（8.62）	270	5x9	2690	15
	390	5x9	3100	15
	470	5x9	3100	15
	500	5x9	3100	12
	680	6.3x9	3500	12
10（11.5）	68	6.3x5.4	1810	30
	100	5x7	3500	11
		6.3x5.4	2320	27
	150	6.3x5.4	2200	30
	180	6.3x8	2820	25
	220	6.3x8	2820	25
	270	6.3x8	2820	25
	330	6.3x8	2820	25
		8x8	3500	11
	470	6.3x9	2820	25
		8x11.5	5600	8
		10x10.5	5050	8
	560	8x11.5	5600	8
		10x12.5	6100	8
	680	8x11.5	5600	8
		10x12.5	6100	8
	820	8x11.5	5600	8
		10x12.5	6100	8
	1200	10x12.5	6100	8
	1500	10x12.5	6100	8
16(18.4)	22	5x7	2200	30
		6.3x5.4	2200	30
	33	6.3x5.4	2490	24
	47	6.3x5.4	1650	35
		6.3x6	2610	25
	68	6.3x5.4	1650	35
	100	6.3x5.4	2490	24
		6.3x8	2820	24
	150	6.3x8	2820	25
		8x8	3150	22
	180	6.3x8	2820	25
		8x8	3500	16
	270	6.3x9	3100	20
		8x8	3800	15
		8x11.5	5000	11
		10x10.5	5050	14

TEAPO

Radial Type Conductive Polymer Aluminum Solid Capacitors

FS

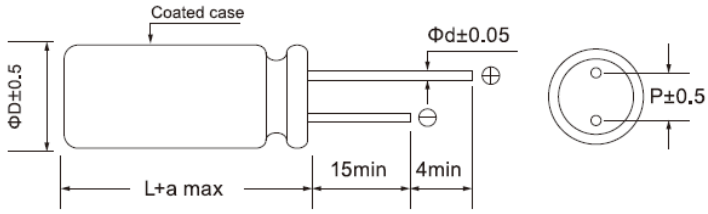
Large capacitance & Long Life & High Voltage Series

- Endurance: 105℃,2000/5000hrs
- Recommended Applications:Large capacitance & Long Life & High Voltage Series
- Corresponding product to RoHS

Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	20~50VDC
Rated Capacitance Range	39~680 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Surge Voltage	Rated voltage（V) x 1.15
Leakage Current (20℃)	I≦0.2CV or 300(μA)whichever is greater(After rated voltage applied for 2 minutes) I： Leakage Current (μA) C：Capacitance(μF) V： Rated Voltage Range(VDC)
Dissipation Factor (MAX) (tan δ) (120Hz ,20℃)	WV: 20~50 tan δ: 0.12
Temperature characteristic Impedance ratio (MAX)	WV / Z(100KHz): 20 ~ 50V Z-25℃ / Z+20℃: ≦1.15 Z-55℃ / Z+20℃: ≦1.25
Endurance	After applying rated voltage for 2000/5000 hours at 105℃, the capacitor shall meet the following requirement。 Appearance: No significant damage Capacitance Change: Within ±20% of the initial value Dissipation Factor: Not more than 150% of the initial specified value Equivalent Series Resistance: Not more than 150% of the initial specified value Leakage Current: Not more than the initial specified value
Humidity Test	after subjecting 90 to 95% RH for 1000 hours at 60℃ ，the capacitors shall meet the requirement as Endurance。
Surge voltage test	After subjecting to 1000 cycles each consisting of charge with the surge voltage specified at normal temperature for 30 seconds through a protective resistor and discharge for 5 minutes 30 seconds,the capacitors shall meet the requirement as Endurance
Failure rate(MAX)	0.5%per 1,000 hours(confidence level 60% at 105℃)

Diagram of Dimensions



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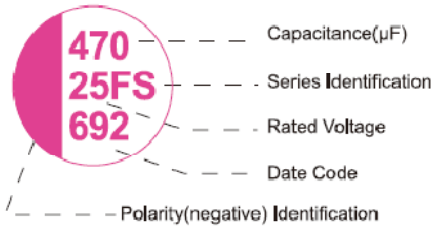


尺寸代码	ΦD x L	P	Φd	a
G08	8x8	3.5	0.6	1.5
G1B	8x11.5	3.5	0.6	1.0
H1B	10x11.5	5.0	0.6	1.0
H1C	10x12.5	5.0	0.6	1.0

Multiplier for Ripple Current

Frequency(HZ)	120≦F＜1K	1K≦F＜10K	10K≦F＜100K	100K≦F≦500K
Coefficient	0.05	0.30	0.70	1.00

Radial Type Conductive Polymer Aluminum Solid Capacitors

FS

Large capacitance & Long Life & High Voltage Series

■Dimensions,Rated Ripple Current,Equivalent Series Resistance

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃ 100KHz)	ESR (mΩ,20℃ 100KHz)
20(23)	390	8x11.5	1760	25
	680	10x11.5	2800	25
25(28.75)	150	8x11.5	1760	25
	220	8x11.5	1760	25
	270	8x11.5	1760	25
	330	10x12.5	2050	25
	390	10x12.5	2050	25
	470	10x12.5	2050	25
35(40.25)	39	8x8	1500	50
	56	8x8	1500	50

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃ 100KHz)	ESR (mΩ,20℃ 100KHz)
35(40.25)	100	8x8	1500	50
		8x11.5	1760	35
	150	8x11.5	1760	35
	220	8x11.5	1760	35
	270	10x12.5	2050	25
50(57.5)	47	8x11.5	1760	38
	56	8x11.5	1760	38
	82	10x12.5	2050	35
	100	10x12.5	2050	35

TEAPO

Radial Type Conductive Polymer Aluminum Solid Capacitors

FP

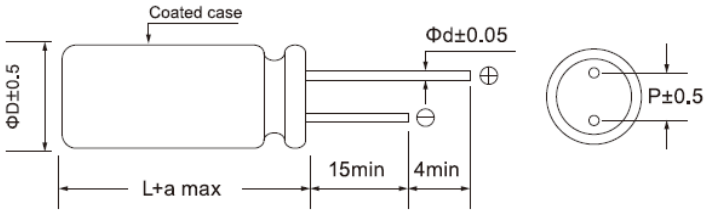
8mm height & Low ESR Series

- Endurance:105℃,3000hrs
- Recommended Applications:8mm height & Ultra low ESR Series
- Corresponding product to RoHS

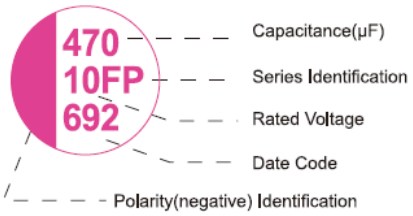
■Dimensions,Rated Ripple Current,Equivalent Series Resistance

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	2.5~25VDC
Rated Capacitance Range	10~ 1200μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Surge Voltage	Rated voltage（V) x 1.15
Leakage Current (20℃)	I≦0.2CV or 300(μA)whichever is greater (After rated voltage applied for 2 minutes) I： Leakage Current (μA) C：Capacitance(μF) V： Rated Voltage Range(VDC)
Dissipation Factor (MAX) (tan δ) (120Hz ,20℃)	WV: 2.5~10 / 16~25 tan δ: 0.08 / 0.12
Temperature characteristic Impedance ratio (MAX)	WV / Z(100KHz): 2.5 ~ 25V Z-25℃ / Z+20℃: ≦1.15 Z-55℃ / Z+20℃: ≦1.25
Endurance	After applying rated voltage for 2000 hours at 105℃, the capacitor shall meet the following requirement。 Appearance: No significant damage Capacitance Change: Within ±20% of the initial value Dissipation Factor: Not more than 150% of the initial specified value Equivalent Series Resistance: Not more than 150% of the initial specified value Leakage Current: Not more than the initial specified value
Humidity Test	after subjecting 90 to 95% RH for 1000 hours at 60℃ ，the capacitors shall meet the requirement as Endurance。
Surge voltage test	After subjecting to 1000 cycles each consisting of charge with the surge voltage specified at normal temperature for 30 seconds through a protective resistor and discharge for 5 minutes 30 seconds,the capacitors shall meet the requirement as Endurance
Failure rate(MAX)	1%per 1,000 hours(confidence level 60% at 105℃)

■ Diagram of Dimensions



■ Marking : case with red printing



SIZE	ΦD x L	P	φd	a
E08	6.3x8	2.5	0.6	1.0
G08	8x8	3.5	0.6	1.5

■ Multiplier for Ripple Current

Frequency(HZ)	120≦F＜1K	1K≦F＜10K	10K≦F＜100K	100K≦F≦500K
Coefficient	0.05	0.30	0.70	1.00

Radial Type Conductive Polymer Aluminum Solid Capacitors

FP

8mm height & Low ESR Series

■Dimensions,Rated Ripple Current,Equivalent Series Resistance

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃ 100KHz)	ESR (mΩ,20℃ 100KHz)
2.5（2.88）	560	6.3x8	4200	8
		8x8	5600	8
	820	6.3x8	4200	8
		8x8	5600	8
	1200	8x8	5600	8
6.3（7.25）	470	6.3x8	4200	8
		8x8	5600	8
	560	6.3x8	4200	8
		8x8	5600	8
	820	8x8	5600	8
10（11.5）	220	6.3x8	2820	25
		8x8	3500	11
	270	6.3x8	2820	25
	330	6.3x8	2820	25
		8x8	3500	11

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃ 100KHz)	ESR (mΩ,20℃ 100KHz)
10（11.5）	470	8x8	3500	11
	560	8x8	5000	10
16(18.4)	100	6.3x8	2820	25
	150	6.3x8	2820	25
	220	6.3x8	2820	25
	270	8x8	3500	11
	330	8x8	3500	11
	470	8x8	4200	11
	560	8x8	4200	11
25（28.75）	10	6.3x8	1200	80
	22	6.3x8	1650	35
	33	6.3x8	1650	35
	56	8x8	1980	35
	68	8x8	1980	35

TEAPO

Radial Type Conductive Polymer Aluminum Solid Capacitors

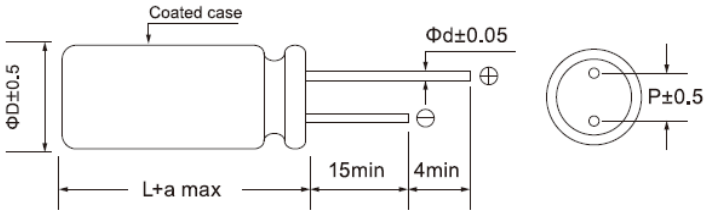
FH Long life & low ESR Series

- Endurance:105℃,5000hrs
- Recommended Applications: Long life & Ultra low ESR Series
- Corresponding product to RoHS

Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	2.5~16VDC
Rated Capacitance Range	100~ 1800 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Surge Voltage	Rated voltage（V) x 1.15
Leakage Current (20℃)	I≦0.2CV or 300(μA)whichever is greater (After rated voltage applied for 2 minutes) I： Leakage Current (μA) C：Capacitance(μF) V： Rated Voltage Range(VDC)
Dissipation Factor (MAX) (tan δ) (120Hz ,20℃)	WV: 2.5~16 tan δ: 0.12
Temperature characteristic Impedance ratio (MAX)	WV / Z(100KHz): 2.5 ~ 16V Z-25℃ / Z+20℃: ≦1.15 Z-55℃ / Z+20℃: ≦1.25
Endurance	After applying rated voltage for 2000 hours at 105℃, the capacitor shall meet the following requirement。 Appearance: No significant damage Capacitance Change: Within ±20% of the initial value Dissipation Factor: Not more than 150% of the initial specified value Equivalent Series Resistance: Not more than 150% of the initial specified value Leakage Current: Not more than the initial specified value
Humidity Test	after subjecting 90 to 95% RH for 1000 hours at 60℃ ，the capacitors shall meet the requirement as Endurance。
Surge voltage test	After subjecting to 1000 cycles each consisting of charge with the surge voltage specified at normal temperature for 30 seconds through a protective resistor and discharge for 5 minutes 30 seconds,the capacitors shall meet the requirement as Endurance
Failure rate(MAX)	1%per 1,000 hours(confidence level 60% at 105℃)

Diagram of Dimensions



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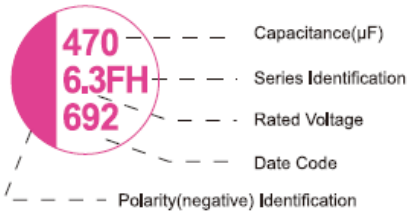


SIZE	ΦD x L	P	Φd	a
E01	6.3x5.4	2.5	0.45	1.0
E08	6.3x8	2.5	0.5or0.6	1.0
G08	8x8	3.5	0.6	1.5
G1B	8x11.5	3.5	0.6	1.0
H1C	10x12.5	5.0	0.6	1.0
G15	8Xx15	3.5	0.6	1.5

Multiplier for Ripple Current

Frequency(HZ)	120≦F＜1K	1K≦F＜10K	10K≦F＜100K	100K≦F≦500K
Coefficient	0.05	0.30	0.70	1.00

Radial Type Conductive Polymer Aluminum Solid Capacitors

FH

Long life & low ESR Series

■Dimensions,Rated Ripple Current,Equivalent Series Resistance

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃ 100KHz)	ESR (mΩ,20℃ 100KHz)
2.5(2.87)	330	6.3x8	3500	8
	560	6.3x5.4	3000	16
		6.3x8	3500	7
	820	6.3x8	3500	7
		8x8	5000	7
4(4.6)	560	6.3x8	3500	8
		8x8	6100	8
	680	8X1x.5	6100	7
	1500	10x12.5	6100	7
6.3(7.25)	220	6.3x5.4	1700	45
	330	6.3x8	3500	10
	470	6.3x8	3500	10
		8x8	3500	10
	560	6.3x8	3500	10
	820	8x11.5	3500	8
	1200	8x11.5	3500	8
	1500	10x12.5	4500	8
	1800	10x12.5	5000	8
10(11.5)	220	6.3x8	2500	15
	270	6.3x8	2800	15

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE (mA/rms,105℃ 100KHz)	ESR (mΩ,20℃ 100KHz)
10(11.5)	330	8x11.5	3500	10
	560	8x11.5	5000	10
	680	8x11.5	5000	10
16(18.4)	100	6.3x5.4	2490	24
		6.3x8	2490	30
	180	6.3x8	2490	25
	220	8x11.5	3000	15
	270	6.3x8	2500	24
		6.3x8	3500	15
		8x8	3500	15
		8x11.5	3500	15
	330	8x8	3500	15
	470	8x11.5	3500	15
		10x12.5	4200	15
	560	8x11.5	3500	12
		10x12.5	6100	10
	680	8x15	3500	11
	820	10x12.5	4000	11
	1000	10x12.5	4000	11

TEAPO

Radial Type Conductive Polymer Aluminum Solid Capacitors

FT

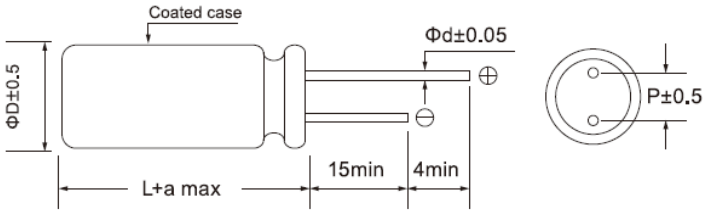
125℃/2000hrs&Low ESR Series

- Endurance:125℃,2000hrs
- Recommended Applications: High temperature resistant products
- Corresponding product to RoHS

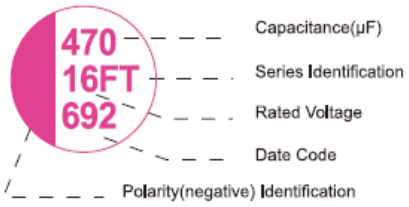
Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +125℃
Rated Voltage Range	6.3~25VDC
Rated Capacitance Range	10~ 1000μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Surge Voltage	Rated voltage（V) x 1.15
Leakage Current (20℃)	I≦0.2CV or 300(μA)whichever is greater (After rated voltage applied for 2 minutes) I： Leakage Current (μA) C：Capacitance(μF) V： Rated Voltage Range(VDC)
Dissipation Factor (MAX) (tan δ) (120Hz ,20℃)	WV 6.3~25 tan δ 0.12
Temperature characteristic Impedance ratio (MAX)	WV / Z(100KHz): 6.3 ~ 25V Z-25℃ / Z+20℃ ≦1.15 Z-55℃ / Z+20℃ ≦1.25
Endurance	After applying rated voltage for 2000 hours at 105℃, the capacitor shall meet the following requirement。 Appearance: No significant damage Capacitance Change: Within ±20% of the initial value Dissipation Factor: Not more than 150% of the initial specified value Equivalent Series Resistance: Not more than 150% of the initial specified value Leakage Current: Not more than the initial specified value
Humidity Test	after subjecting 90 to 95% RH for 1000 hours at 60℃ ，the capacitors shall meet the requirement as Endurance。
Surge voltage test	After subjecting to 1000 cycles each consisting of charge with the surge voltage specified at normal temperature for 30 seconds through a protective resistor and discharge for 5 minutes 30 seconds,the capacitors shall meet the requirement as Endurance
Failure rate(MAX)	1%per 1,000 hours(confidence level 60% at 105℃)

Diagram of Dimensions



Marking : case with red printing



SIZE	ΦD x L	P	Φd	a
E08	6.3x8	2.5	0.5or0.6	1.0
G08	8x8	3.5	0.6	1.5
G1B	8x11.5	3.5	0.6	1.0
G15	8x15	3.5	0.6	1.5
H1C	10x12.5	5.0	0.6	1.0

Multiplier for Ripple Current

Frequency(HZ)	120≦F＜1K	1K≦F＜10K	10K≦F＜100K	100K≦F≦500K
Coefficient	0.05	0.30	0.70	1.00

TEAPO

Radial Type Conductive Polymer Aluminum Solid Capacitors

FT

125℃/2000hrs&Low ESR Series

■Dimensions,Rated Ripple Current,Equivalent Series Resistance

Rated (Surge) Voltage(V)	Capacitance (μF)	SIZE ΦDxL(mm)	RIPPLE(mA/rms,100KHz)		ESR (mΩ,20℃ 100KHz)	LC (μA max/2min)
			Tx：125℃	Tx：105℃		
6.3（7.2）	180	6.3x6	537	1700	45	300
	220	6.3x6	537	1700	45	300
	270	6.3x6	810	2560	45	340
	330	6.3x6	810	2560	45	415
	470	6.3x8	810	2560	35	592
		8x8	810	2560	15	592
	560	8x8	1332	4210	15	705
	680	8x8	1721	5440	15	856
	820	8x8	1721	5440	15	1033
	1000	8x11.5	1721	5440	15	1260
10（11.5）	180	6.3x8	537	1700	45	360
	220	8x8	810	2560	35	440
	270	8x8	810	2560	35	540
	330	6.3x8	537	1700	45	660
		8x8	810	2560	35	660
	470	8x8	810	2560	35	940
	560	8x8	810	2560	35	1120
	680	8x11.5	1332	4210	15	1360
16（18.4）	82	6.3x8	512	1620	50	300
	100	6.3x8	512	1620	50	320
	120	6.3x8	670	2120	50	384
	150	6.3x8	670	2120	50	480
	180	8x8	1151	3640	20	576
	220	8x8	1151	3640	20	704
	270	8x11.5	1493	4720	20	864
	330	8x11.5	1151	3640	20	1056
		10x12.5	1493	4720	16	1056
	470	10x12.5	1493	4720	16	1504
20(23)	47	6.3x8	458	1450	60	300
	56	6.3x8	598	1890	60	300
	68	6.3x8	598	1890	60	300
	82	6.3x8	1050	3320	60	328
	100	8x11.5	1050	3320	24	400
	120	8x11.5	1367	4320	24	480
	150	8x11.5	1367	4320	24	600
25(28.75)	10	6.3x8	458	1450	60	300
	22	6.3x8	458	1450	60	300
	33	6.3x8	458	1450	60	300
	47	6.3x8	598	1890	60	300
	56	6.3x8	598	1890	60	300
	68	6.3x8	1050	3320	60	340
	82	6.3x8	1050	3320	60	410
	100	8x11.5	1050	3320	24	500
		10x12.5	1367	4320	20	500
	150	8x11.5	1367	4320	24	750
	220	8x11.5	1050	3320	24	1100
	270	8x15	1367	4320	20	1350
	330	10x12.5	1367	4320	20	1650

Precautions in Using(Non-Solid Aluminum Electrolytic Capacitor)

Ⅰ.Device circuits design considerations

1 .Confirm installation and operating requirements for capacitors, then use them within the performance limits prescribed in this catalog or product specifica- tions.

2. Polarity

Aluminum electrolytic capacitors are polariz

Never apply a reverse voltage or AC voltage. Connecting with wrong polarity will short-circuit or damage the capacitor with the pressure relief vent opening early on. To identify the polarity of a capacitor, see the relevant diagram in the catalogs or product specifications, or the polarity marking on the body of the capaci-tor. Incidentally, the rubber end seal bungs of the radial lead type capacitors have a solder-flux gas escaping configuration, which is nothing to do with the polarity of the capacitors. For circuits where the polarity is occasionally reversed, use a bi-polar type of aluminum electrolytic capacitor. However, note that even bi-polar type capacitors must not be used for AC circuits.

3.Operating voltage

Do not apply an over-voltage that exceeds a rated voltage speci- fied for the capacitors. The total peak value of the ripple voltage plus the DC voltage must not exceed the rated voltage of the capacitors. Although capacitors specify a surge voltage that exceeds the full rated voltage,it does not assure long-term use but limited use under specific conditions.

4. Ripple current

Do not apply an overcurrent that exceeds the rated ripple current specified for the capacitors. Excessive ripple current will increase heat production within the capacitors, causing the capacitors to be damaged as follows:

- Shorten lifetime
- Open pressure relief vent
- Short circuit

The rated ripple current is specified along with a specific ripple frequency. Where using the capacitors at any other ripple frequency other specified frequency, calculate the allowable ripple current by multiplying the rated ripple current by a frequency compensation factor(Frequency Multiplier) specified for each product series.

5. Operating temperature (Category temperature)

Do not apply high temperatures that exceed the upper limit of the category temperature range specified for the capacitors. Using the capacitor at temperatures higher than the upper limit will considerably shorten the lifetime of the capacitor and make the pressure relief vent open.

In other words, lowering ambient temperatures will extend the expected lifetime of the capacitors.

6) Lifetime

Select the capacitors to meet the service life requirements of a devic

7) Charging and discharging

Do not use capacitors in circuits intended for rapid charge and discharge cycle operations.

If capacitors are used in the circuits that repeat a charge and discharge with a large voltage drop or a rapid charge and discharge at a short interval cycle,capacitance will decrease and/or the capacitors will be damaged by internal heat generation.

Consult us for a heavy charge and discharge type of capacitor so that the capacitor will be designed in accordance with requirements of duty cycle of charge and discharge, the number of cycles, discharging resistance and operating temperatures.

8. Failure mode of capacitors

Non-solid aluminum electrolytic capacitors have a limited lifetime which ends in an open circuit failure mode, in general. Depending on the product type and operating conditions, the failure mode may involve in opening of the pressure relief vent.

9.Capacitor insulation

Electrically isolate the following sections of a capacitor from the negative terminal, the positive terminal and the circuit patterns.

- The outer can case of a non-solid aluminum capacitor.
- The dummy terminal of a snap-in type non-solid aluminum capacitor, which is designed for mounting stability.

10. Outer sleeve

The outer sleeve of a capacitor does not assure electrical insulation (except for screw-terminal type capacitors). It should not be used where electrical insulation is required.

11. Operating conditions

Do not use/expose capacitors to the following conditions:

① Direct contact with water, salt water or oil, or high condensa- tion environment.

② Direct sunlight.

③ Toxic gases such as hydrogen sulfide, sulfurous acid, nitrous acid, chlorine and its compounds, bromine and its compounds and mmonium.

④ Ozone, ultraviolet rays or radiation.

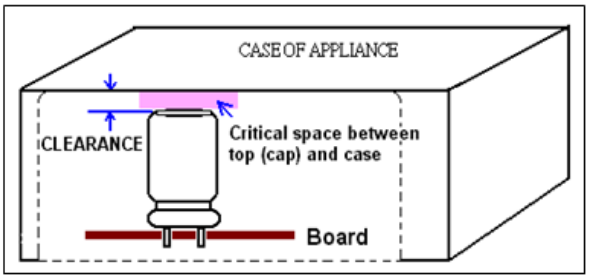
⑤ Extreme vibration or mechanical shock that exceeds limits in the catalogs or product specifications.

The standard vibration condition is applicable to JIS C 5101-4.

12. Mounting

① Non-solid aluminum electrolytic capacitors contain paper separa- tors and electric-conductive electrolyte that contains organic solvent as main solvent material, both of which are flammable. If the electrolyte leaks onto a printed circuit board, it can erode the device circuit pattern, may short-circuit the copper traces, smoke and burn. Make sure of designing a PC board as follows:

- Provide the appropriate hole spacing on the PC board to match the terminal spacing of a capacitor.
- Provide the following adequate clearance space over the pressure relief vent of a capacitor to avoid blocking the correct opening of the pressure relief vent.



Case diameter	Clearance
Φ6.3 to Φ16 mm	≧2 mm
Φ18 to Φ 35 mm	≧3 mm
Φ40 mm &以上	≧5 mm

• Do not locate any wire or circuit pattern over the pressure relief ve of a capacitor.

• If a capacitor is mounted with its pressure relief vent facing down on the PC board, provide a ventilation hole in the board beneath it to let gas escape when the vent opens.

• Do not print any copper trace under the seal (terminal) side of a capacitor. Copper traces should be 1 mm (preferably 2mm or more) spaced apart from the side of the capacitor body.

• Avoid locating any heat source components near capacitors or on the opposite side of the PC board under capacitors.

• In designing a double-sided PC board, do not locate any through-hole via or unnecessary hole underneath a capacitor.

• In designing a double-sided PC board, do not print any circuit pattern underneath a capacitor.

② For a screw terminal type capacitor, tightening the terminal screv and the mounting clamp should be within the maximum torque specified in the catalogs or product specifi- cations. Do not mount a screw terminal type capacitor with the terminals facing downward. Also, if the body of a capaci- or is installed horizontally such as being laid on its side, do not position the pressure relief vent downward.

③ For a chip type capacitor, design the land patterns of the PC boai accordance with the recommended footprint dimen-sions described in the catalogs or product specifications

13. Using capacitors for significantly safety-oriented applications

Consult us about capacitors for a device application affecting human safety (①Aviation and aerospace ②Nuclear ③Medical ④ or for any device whose failure will make an impact on society.Not that some products such as photoflash use capacitors which have been designed for specific applications cannot be used for any other application

14. Others

Design device circuits taking into consideration the following condi

① Electrical characteristics of a capacitor depend on the tempera ture and frequency. In designing the device circuits, consider the change in the characteristics.

② If using more than one capacitor connected in parallel, design th device circuits to balance the current flow in individual capacitors.

③ If using more than one capacitor connected in series, connect shunting resistors in parallel with the individual capacitors to balance the voltage.

Ⅱ.Installation

1.Assembling

① Do not try to reuse the capacitors once assembled and electri- fied, except only capacitors that are taken from a device for periodic inspection to measure their electrical characteristics.

② Capacitors may have been spontaneously recharged with time recovery phenomenon. In this case, through a resistor of approximately 1kΩ before use.

③ If non-solid aluminum electrolytic capacitors have been stored at any conditions more than 35℃ and 75%RH for long storage periods .of time more limits specified in catalogs or product specificas, they may current. In this case, make pre- conditioning by apply-ing the rated voltage through a resistor of approximately 1kΩ.

④ Confirm the rated capacitance and voltage of capacitors before installation.

⑤ Confirm the polarity of capacitors before installation.

⑥ Do not try to use the capacitors that were dropped to the floor and so forth.

⑦ Do not deform the can case of a capacitor.

⑧ Make sure that the terminal spacing of a capacitor equals the holes spacing on the PC board before installing the capaci- tor. For radial lead type capacitors, some standard pre-formed lead types are also available.

⑨ When installing a snap-in type capacitor on the PC board insert the terminals into the holes and press the capacitor down until the body is settled flush on the surface of the PC board (without the body standing off).

⑩ Do not apply excessive mechanical force to capacitors more than the limits prescribed in the catalogs or product specifi- cations. Avoid excessive mechanical force while the capaci- tors are in the process of vacuum-picking, placing and positioning by automatic mounting machines or cutting the lead wires by automatic insertion machines.

2. Soldering and heat resistance

① For soldering using a soldering iron, consider the following conditions:

• Soldering conditions (temperature and time) should be within the limits prescribed in the catalogs or product speci- fications.

• If it is necessary to pre-form the terminal spacing of a capaci- tor to match the hole spacing on the PC board before assembly and soldering, do not make mechanical stress reach into the body of the capacitor but only the lead wires.

• Do not touch the body of a capacitor with the hot tip of the soldering iron.

② For flow soldering, consider the following conditions:

• Do not dip the body of a capacitor into a solder bath. Expose only the terminals to the melt solder with the PC board interposing between the solder and the body of the capacitor. Solder only the reverse side of the PC board where the body of the capacitor is not located.

• Soldering conditions should be within the limits prescribed in the catalogs or product specifications.

• Do not apply flux to any part of a capacitor other than the terminals.

• Do not let any other component lean against nor come into contact with the capacitor while soldering.

③ For reflow soldering, consider the following conditions:

• Soldering conditions (preheat, reflow temperature and time) should be within the limits prescribed in the catalogs or product specifications.

• When using the infrared heater and setting its tempera- tures, adjust the heating levels taking into consideration that the color and materials of a capacitor vary in their infrared absorbance.

• The allowable number of reflow passes is specified in the catalogs or product specifications.

• When mounting a capacitor on the double-sided PC board, do not place any wiring pattern underneath the capacitor.

• Please consult us about vapor phase soldering (VPS).

④ Do not try to reuse the capacitor that was removed from the PC board after soldering.

⑤ Only use chip type capacitors for reflow soldering. The other type capacitors are not designed for the reflow.

3. Handling after soldering

After soldering the PC board, do not apply the following mechanical stress to the capacitor:

① Do not tilt, push down or twist the body of the capacitor.

② Do not grab the body of the capacitor to carry the assembly

③ Do not hit anything against the capacitor. When stacking the assembled boards, do not put any of the PC boards or other components against the capacitor.

④ Do not drop the assembled board.

4. Cleaning assembly boards

① Do not clean capacitors with the following cleaning agents:

• Halogenated solvents: cause capacitor failures due to corrosion.

• Alkali system solvents: corrode (dissolve) the aluminum can case.

• Terpene and petroleum system solvents: deteriorate the rubber seal materials.

• Xylene: deteriorates the rubber seal materials as well.

• Acetone: erases the markings printed on a capacitor.

Where cleaning is necessary, use only solvent resistant type that have been assured for the cleaning within the specific conditions prescriber in the catalogs or product specifications. In particular, carefully set up the conditions for ultrasonic cleaning system.

② Where cleaning the solvent resistance type of aluminum electrolytic capacitors, confirm the following conditions:

• Control the contamination (the conductivity, pH, specific gravity, water content, etc.) of the cleaning agents.

• After the cleaning, do not leave the capacitors (assembly boards) an environment of cleaning agent-rich or in a closed container. Sufficiently evaporate the residual clean- ing agent from the boards and the capacitors by forced hot air at temperatures less the upper limit of category temperature range for more than10 In general, aluminum electrolytic capacitors are sensitive to contamination of halogen ions (particularly to chlorine on the properties of the electrolyte and rubber seal materials used capacitor, the halogen ions lead up to catastrophic failures on the capacitor. Where the inside of a capacitor has been contaminated with more than a certain amount of halogen ions and the capacitor use, the corrosion reaction of aluminum occurs. The corrosion the capacitor to have a significant increase in leakage current with heat produced, open the pressure relief vent and become open Due to global environmental issues (greenhouse effects and other environmental destruction by depletion of the ozone layer), the conventional cleaning solvents of CFC113, Trichloroethylene and 1,1,1-trichloroethylene were replaced by substitutes.

The following are some substitute cleaning agents and allowable cleaning conditions:

a) Fatty-alcohol cleaning agents

Pine Alpha ST-100S (Arakawa Chemical)

Clean Through 750H, 750K, 750L and 710M (Kao)

Technocare FRW-14, 15, 16 and 17 (Momentive Perfor- mance Materials)

[Cleaning conditions]

Either of immersion or ultrasonic cleaning, for a maximum of 10 and at a maximum liquid temperature of 60℃ is acceptable. Make that the markings on the capacitor are not rubbed against any other component or the PC board during cleaning. Note that shower cleaning affects the markings on the capacitor.

b) HCFC (Freon 225) as Alternative CFCs

AK225AES (Asahi Glass)

[Cleaning conditions]

Solvent resistant type capacitors, which were originally developed to intend to resist Freon TE or Freon TES, are also capable of withstanding any one of immersion, ultrasonic or vapor cleaning, for a maximum of 5 minutes (or 2 minutes for KRE and KRE-BP series capacitors or 3 minutes for SRM series). However, this type of cleaning agent is not recom- mended to use, as the cleaning materials may be banned in near future in view of global environmental issues.

c) IPA (Isopropyl Alcohol)

Immersion cleaning with a maximum flux concentration of 2 wt% is acceptable.

5. Adhesives and coating materials

① Do not use any adhesive or coating materials containing halogenated solvents.

② Make sure of the following conditions before applying adhesive or coating materials to a capacitor,

• No flux residue nor stain is left between the rubber seal of a capacitor and PC board.

• Dry the capacitor to remove residual cleaning agents before applying adhesive and coating materials. Do not cover up the entire surface of the rubber seal of the capacitor with adhesives or coating materials.

• Heating and curing conditions for adhesives and coating materi- als should be followed as prescribed in the catalogs or product specifications.

• Covering up the entire surface of the rubber seal with resin mold materials will obstruct the normal diffusion of internal hydrogen gas from a capacitor and result in serious failures. Also, where the adhesive and coating materials contain a large amount of halogen ions, the halogen ions will contaminate the inside of the capacitor through the rubber seal materials, causing the capacitor to become a failure.

• Depending on solvent materials that the adhesive or coating materials contains, note that the outer sleeve of a capacitor may lose a gloss or whiten in appearance.

6. Fumigation

In exporting or importing electronic devices, they may be exposed to fumigation with halide such as methyl bromide. Where aluminum electrolytic capacitors are exposed to halide such as methyl bromide, the capacitors will be damaged with the corrosion reaction with halogen ions in the same way as clean- ing agents. For the export and import, Nippon Chemi-Con considers using some packaging method and so forth so that fumigation is not required. For customers to export or import electronic devices, semi-assembly products or capacitor compo- nents, confirm if they will be exposed to fumigation and also consider final condition of packaging. (Note that either cardboard or vinyl package has a risk of fumigation gas penetration.)

Ⅲ.Precautions during operation of devices

1 . Never touch the terminals of a capacitor directly with bare hands.

2 . Do not short-circuit between the capacitor terminals with anything conductive Also, do not spill any conductive liquid such as acid or alkaline solution over a capacitor.

Precautions in Using Aluminum Electrolytic Capacitors

3 . Confirm environmental conditions where the device will be placed. Do not use the devise in the following environmental

① Water or oil spatters, or high condensation environment

② Direct sunlight.

③ Ozone, ultraviolet rays or radiation.

④ Toxic gases such as hydrogen sulfide, sulfuric acid,nitrous acid, chlorine and its compounds, bromine and its compounds and

⑤ Severe vibration or mechanical shock conditions beyond the limits prescribed in the catalog or product specifica- tion.

The standard vibration condition is applicable to JIS C 5101-4.

Ⅳ.Maintenance inspections

1 . For industrial use capacitors, make periodic inspections the

Before the inspections, turn off the power supply of the device and discharge the electricity of the capacitors. Where checking it by a ohm meter, confirm the polarity beforehand. Do not apply stress to the terminals of the capacitors during inspection.

2 . Characteristics to be inspected

① Significant damage in appearance: vent opening, electro-lyte etc.

② Electrical characteristics: leakage current, capacitance,tanδ and other characteristics prescribed in the catalogs or product

If finding anything abnormal on the characteristics above, check the specifications of the capacitor and take appropriate actions such as replacement.

Ⅴ.Capacitor venting

1 . A capacitor with more than a certain case size has the pressure relief vent functioning to escape abnormal gas pressure increase.

If gas expels from a venting capacitor, disconnect the power supply of the device or unplug the power supply cord. If not disconnecting the power supply, the device circuit may be damaged due to the short circuit failure of the capacitor or short-circuited with the liquid that the gas was condensed to. It may cause secondary damages such as device burnout in the worst case scenario.

The gas that comes out of the open vent is vaporized electro- lyte, smoke.

2 . The gas expelled from a venting capacitor is more than100°C. Never expose your face to the capacitor. If your eyes are exposed to the gas or you inhale it, immediately flush your eyes and/or gargle with water. If the electrolyte comes in contact with the skin, wash with soap and water.

Ⅵ.Storage

1 . Do not store capacitors at high temperature or high humidity. Store the capacitors indoors at temperatures of 5 to 35℃ and humidities of less than 75%RH.

In principle, aluminum electrolytic capacitors should be used within three years after production.

2 . Keep capacitors packed in the original packaging material wherever possible.

3 . Avoid the following storage environmental conditions:

① Water spattering, high temperatures, high humidity or condensa-tion environment.

② Oil spattering or oil mist filled.

③ Salt water spattering or salt filled.

④ Acidic toxic gases such as hydrogen sulfide, sulfuric acid, nitrous acid, chlorine, bromine and methyl bromide filled.

⑤ Alkaline toxic gases such as ammonium filled.

⑥ Acid or alkaline solutions spattering.

⑦ Direct sunlight, ozone, ultraviolet rays or radiation.

⑧ Extreme vibration or shock loading.

4 . JEDEC J-STD-020 is not applicable.

Ⅶ.Capacitor disposal

Please consult with a local organization for the proper disposal of industrial waste. For incinerating capacitors, apply a high-temperature incineration (over 800℃). Incinerating them at temperatures lower than that may produce toxic gases such as chlorine. To prevent capacitors from explosion, punch holes in or sufficiently crush the can cases of the capacitors, then incinerate.

TEAPO

Surface Mount Aluminium Electrolytic Capacitors

GV General purpose Series

- Endurance:85℃, 2000 hours
- Recommended Applications: Suitable for AV(TV,Video,Audio),Monitor/Computer, Home appliance, OA/HA/Communication
- Corresponding product to RoHS

Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +85℃
Rated Voltage Range	4 ~ 100VDC
Rated Capacitance Range	1 ~ 1500 μF
Capacitance Tolerance	± 20 % at 120Hz , 20℃
Leakage Current (20℃)	I≦0.01CV or 3 μA ,whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	Shown in the table of standard rating

Low Temperature Stability Impedance Ratio (MAX)

WV / Z(120HZ)	4	6.3	10	16	25	35	50	63	100
Z(-25℃) / Z(20℃)	7	4	3	2	2	2	2	2	2
Z(-40℃) / Z(20℃)	15	8	6	4	4	3	3	3	3

Endurance

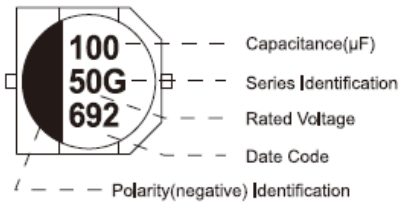
After applying rated voltage for 2000hrs at 85℃,Stay back to 20 ℃ temperature measurement,the capacitors shall meet the following requirements.

Capacitance Change	Within ±20% of the initial value
Dissipation Factor	Not more than 200% of the specified value
Leakage Current	Not more than the specified value

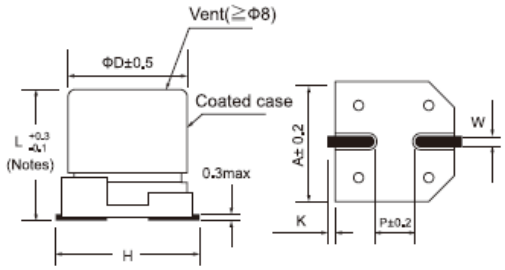
Shelf Life

After placed at 85℃without voltage applied for 1000 hours,Stay back to 20 ℃ temperature measurement, the capacitor shall meet the same requirement as Endurance.

MARKING



Dimensions [mm]



(Notes) Φ8 ~ Φ10&6.3X7.7=L±0.3

Dimensions	ΦD	L	A	H	W	P	K
B01	4.0	5.4	4.3	5.5 Max	0.65±0.1	1.0	0.35+0.15/-0.2
C01	5.0	5.4	5.3	6.5 Max	0.65±0.1	1.5	0.35+0.15/-0.2
E01	6.3	5.4	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
E04	6.3	7.7	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
G02	8.0	6.2	8.3	9.5 Max	0.65±0.1	2.2	0.35+0.15/-0.2
G03	8.0	10.2	8.3	10.0 Max	0.90±0.2	3.1	0.70±0.20
H03	10.0	10.2	10.3	12.0 Max	0.90±0.2	4.6	0.70±0.20

Multiplier for Ripple Current

Frequency (Hz)	60	120	1K	10K
Coefficient	0.80	1.00	1.15	1.25

TEAPO

Surface Mount Aluminium Electrolytic Capacitors

GV General purpose Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 85℃) (120Hz)
4(5)	33	4x5.4	0.35	26
	47	4x5.4	0.35	34
	100	5x5.4	0.35	61
	220	6.3x5.4	0.35	82
	330	6.3x5.4	0.35	80
	470	6.3x7.7	0.35	200
6.3(8)	22	4x5.4	0.26	20
	33	4x5.4	0.26	22
	47	4x5.4	0.26	36
		5x5.4	0.26	46
	100	5x5.4	0.26	47
		6.3x5.4	0.26	71
		6.3X7.7	0.26	143
	220	6.3x5.4	0.35	74
		6.3x7.7	0.35	235
	330	6.3x7.7	0.35	280
		8x6.2	0.35	280
	470	8x6.2	0.35	312
		8x10.2	0.35	380
	1000	8x10.2	0.35	500
		10x10.2	0.35	700
	1500	10x10.2	0.35	750
10(13)	10	4x5.4	0.30	20
	22	4x5.4	0.30	28
		5x5.4	0.30	40
	33	4x5.4	0.30	29
		5x5.4	0.20	43
	47	5x5.4	0.30	43
		6.3X5.4	0.30	66
	100	5X5.4	0.30	43
		6.3x5.4	0.26	70
	150	6.3x5.4	0.26	86
	220	6.3x5.4	0.26	110
		6.3x7.7	0.26	250
		8x6.2	0.26	250
	330	8x10.2	0.26	330
	470	8x10.2	0.26	390
		10x10.2	0.26	400
	680	8x10.2	0.26	420
	1000	10x10.2	0.26	580
16(20)	1	4x5.4	0.16	10
	4.7	4x5.4	0.16	20
	10	4x5.4	0.16	28
		5x5.4	0.16	28
	22	4x5.4	0.26	28
		5x5.4	0.16	39
	33	4x5.4	0.26	30
		5x5.4	0.26	45
		6.3x5.4	0.16	66
	47	5x5.4	0.16	45
		6.3x5.4	0.16	70
		8x6.2	0.16	85
	100	6.3x5.4	0.20	70
		6.3x7.7	0.20	85
		8x6.2	0.2	85
	220	6.3x7.7	0.20	162
		8x10.2	0.20	280
	330	8x10.2	0.20	320
		10x10.2	0.20	380
	470	8x10.2	0.20	350
		10x10.2	0.20	420
	680	10x10.2	0.20	500
25(32)	4.7	4x5.4	0.14	22
	10	4x5.4	0.20	24
		5x5.4	0.14	28
		6.3x5.4	0.14	28
	22	5x5.4	0.20	35
		6.3x5.4	0.14	55
	33	5x5.4	0.20	42
		6.3x5.4	0.14	65
	47	6.3x5.4	0.20	70
		6.3x7.7	0.16	96
		8x6.2	0.16	63
	100	6.3x5.4	0.20	80
		6.3x7.7	0.16	143
		8x6.2	0.16	143
		8x10.2	0.16	180
	180	8x10.2	0.16	210
	220	8x10.2	0.16	230
		10x10.2	0.16	310
	330	8x10.2	0.16	270
		10x10.2	0.16	340
	470	10x10.2	0.16	380
35(44)	2.2	4x5.4	0.12	8
	3.3	4x5.4	0.12	10
		5x5.4	0.12	11
	4.7	4x5.4	0.12	22
	10	4x5.4	0.16	24
		5x5.4	0.12	30
	22	5x5.4	0.16	36
		6.3x5.4	0.12	60
	33	6.3x5.4	0.16	60
		6.3x7.7	0.14	130
	47	6.3x5.4	0.16	70
		6.3x7.7	0.14	165
		8x6.2	0.14	165
	100	6.3x7.7	0.14	140
		8x10.2	0.14	180
		10x10.2	0.14	210
	220	8x10.2	0.14	200
		10x10.2	0.14	310
	150	8x10.2	0.14	180
	330	10x10.2	0.14	350
50(63)	1	4x5.4	0.12	10
	2.2	4x5.4	0.12	16
	3.3	4x5.4	0.12	16
	4.7	4x5.4	0.14	18
		5x5.4	0.12	23
	10	5x5.4	0.14	27
		6.3x5.4	0.12	35
	22	6.3x5.4	0.14	40
		6.3x7.7	0.12	90
	33	6.3x7.7	0.12	90
		8x6.2	0.12	95
		8x10.2	0.12	120
	47	6.3x7.7	0.12	90
		8x6.2	0.12	100
		8x10.2	0.12	120
	56	8x10.2	0.12	130
	100	8x10.2	0.12	200
		10x10.2	0.12	250
	220	10x10.2	0.12	300
63(79)	4.7	5x5.4	0.18	20
		6.3x5.4	0.18	20
	10	6.3x5.4	0.18	20
	22	6.3x7.7	0.18	40

GV

General purpose Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ (%)	Ripple current (mA/rms 85℃) (120Hz)
63(79)	22	8x6.2	0.18	40
		8x10.2	0.18	40
	33	8x10.2	0.18	45
	47	8x10.2	0.18	45
		10x10.2	0.18	55
	100	10x10.2	0.18	60
100(125)	3.3	6.3X7.7	0.18	50
	4.7	6.3x5.4	0.18	40

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ (%)	Ripple current (mA/rms 85℃) (120Hz)
100(125)	4.7	6.3x7.7	0.18	50
		8x10.2	0.18	50
	10	6.3x7.7	0.18	50
		8X10.2	0.18	55
	22	8X10.2	0.18	55
		10X10.2	0.18	85
	33	10X10.2	0.18	90
	47	10x10.2	0.18	95

TEAPO

Surface Mount Aluminium Electrolytic Capacitors

FV Long Life for 85℃

■ Endurance:85℃, 3000～5000 hours
■Recommended Applications: Suitable for AV(TV,Video,Audio),Monitor/Computer, Home appliance, OA/HA/Communication
■ Corresponding product to RoHS

■ Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +85℃
Rated Voltage Range	4 ~ 100VDC
Rated Capacitance Range	1 ~ 1000 μF
Capacitance Tolerance	± 20 % at 120Hz , 20℃
Leakage Current (20℃)	I≦0.01CV or 3 μA ,whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	Shown in the table of standard rating

Low Temperature Stability Impedance Ratio (MAX)

WV / Z(120HZ)	4	6.3	10	16	25	35	50	63	100
Z(-25℃) / Z(20℃)	7	4	3	2	2	2	2	2	2
Z(-40℃) / Z(20℃)	15	8	6	4	4	3	3	3	3

Endurance

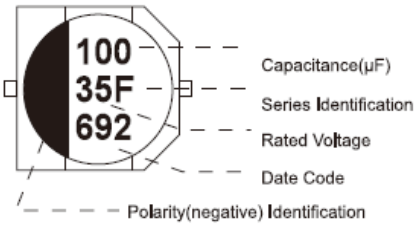
After applying rated voltage for 3000～5000hours at 85℃,Stay back to 20 ℃ temperature measurement,the capacitors shall meet the following requirements.

Capacitance Change	Within ±20% of the initial value
Dissipation Factor	Not more than 200% of the specified value
Leakage Current	Not more than the specified value

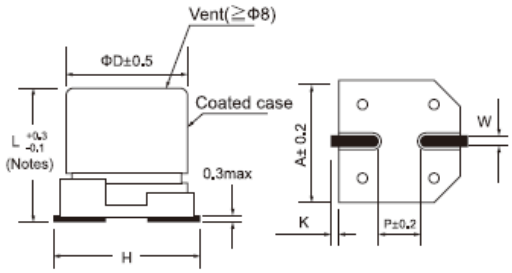
DΦ	4x5.4~6.3x7.7	8x10.2~10x10.2
Life time (hours)	3000	5000

Shelf Life	After placed at 85℃without voltage applied for 1000 hours,Stay back to 20 ℃ temperature measurement, the capacitor shall meet the same requirement as Endurance.

■MARKING



■ Dimensions [mm]



(Notes) Φ8～Φ10&6.3X7.7=L±0.3

Dimensions	ΦD	L	A	H	W	P	K
B01	4.0	5.4	4.3	5.5 Max	0.65±0.1	1.0	0.35+0.15/-0.2
C01	5.0	5.4	5.3	6.5 Max	0.65±0.1	1.5	0.35+0.15/-0.2
E01	6.3	5.4	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
E04	6.3	7.7	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
G03	8.0	10.2	8.3	10.0 Max	0.90±0.2	3.1	0.70±0.20
H03	10.0	10.2	10.3	12.0 Max	0.90±0.2	4.6	0.70±0.20

■ Multiplier for Ripple Current

Frequency (Hz)	60	120	1K	10K
Coefficient	0.80	1.00	1.15	1.25

Surface Mount Aluminium Electrolytic Capacitors

FV Long Life for 85℃

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 85℃) (120Hz)
4(5)	22	4x5.4	0.35	19
	33	4x5.4	0.35	26
	47	4x5.4	0.35	34
	100	5X5.4	0.35	61
	220	6.3X5.4	0.35	82
6.3(8)	22	4x5.4	0.26	20
	33	5x5.4	0.26	22
	47	5x5.4	0.26	46
	100	6.3x5.4	0.26	71
	220	6.3x7.7	0.35	250
	330	6.3x7.7	0.35	300
	470	8x10.2	0.35	380
	1000	10x10.2	0.35	700
10(13)	22	4x5.4	0.30	28
	33	4x5.4	0.30	29
		5x5.4	0.20	43
	47	5x5.4	0.30	43
	100	6.3x5.4	0.26	70
	220	6.3x7.7	0.26	250
	330	8x10.2	0.26	330
	470	10x10.2	0.26	400
	1000	10x10.2	0.26	580
16(20)	4.7	4x5.4	0.16	20
	10	4x5.4	0.16	28
	22	4x5.4	0.26	27
		5x5.4	0.16	39
	33	5x5.4	0.26	45
		6.3x5.4	0.16	66
	47	6.3x5.4	0.16	70
	100	6.3x5.4	0.20	70
	220	8X10.2	0.20	280
	330	10X10.2	0.2	380
	470	10X10.2	0.2	420
25(32)	4.7	4x5.4	0.14	22
	10	4x5.4	0.20	24
		5x5.4	0.14	28

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 85℃) (120Hz)
25(32)	22	6.3x5.4	0.14	55
	33	6.3x5.4	0.14	65
	47	6.3x5.4	0.20	70
		6.3x7.7	0.16	96
	100	8x10.2	0.16	180
	220	10x10.2	0.16	310
35(44)	2.2	4x5.4	0.12	8
	3.3	4x5.4	0.12	10
	4.7	4x5.4	0.12	22
	10	4x5.4	0.16	24
		5x5.4	0.12	30
	22	6.3x5.4	0.12	60
	33	6.3x7.7	0.14	130
	47	6.3x7.7	0.14	165
	100	10x10.2	0.14	210
	220	10x10.2	0.14	310
50(63)	1	4x5.4	0.12	10
	2.2	4x5.4	0.12	16
	3.3	4x5.4	0.12	16
	4.7	5x5.4	0.12	23
	10	6.3x5.4	0.12	35
	22	6.3x7.7	0.12	110
	33	8x10.2	0.12	120
	47	10X10.2	0.12	130
	100	10x10.2	0.12	190
63(79)	4.7	8X10.2	0.18	25
	10	8X10.2	0.18	25
	22	8x10.2	0.18	45
	33	10x10.2	0.18	45
	47	10x10.2	0.18	55
100(125)	3.3	8X10.2	0.18	30
	4.7	8X10.2	0.18	80
	10	8X10.2	0.18	85
	22	10X10.2	0.18	85
	33	10X10.2	0.18	90

TEAPO

Surface Mount Aluminium Electrolytic Capacitors

SV General purpose Series

■ Endurance:105℃, 1000 hours
■Recommended Applications: Suitable for AV(TV,Video,Audio),Monitor/Computer, Home appliance, OA/HA/Communication
■ Corresponding product to RoHS

■ Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	4 ~ 100VDC
Rated Capacitance Range	1 ~ 1500 μF
Capacitance Tolerance	± 20 % at 120Hz , 20℃
Leakage Current (20℃)	I≦0.01CV or 3 μA ,whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	Shown in the table of standard rating

Low Temperature Stability Impedance Ratio (MAX)

WV / Z(120HZ)	4	6.3	10	16	25	35	50	63	100
Z(-25℃) / Z(20℃)	7	4	3	2	2	2	2	2	2
Z(-40℃) / Z(20℃)	15	8	6	4	4	3	3	3	3

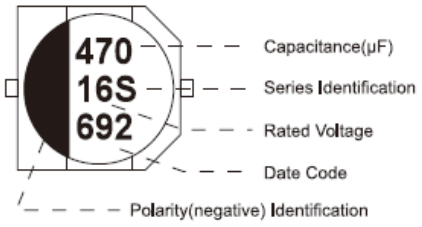
Endurance

After applying rated voltage for 1000hrs at 105℃,Stay back to 20 ℃ temperature measurement,the capacitors shall meet the following requirements.

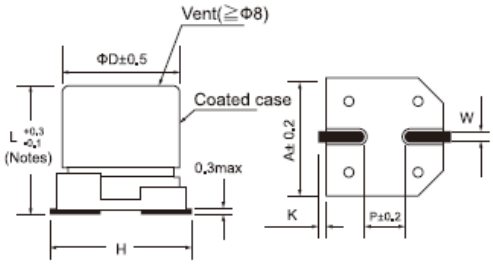
Capacitance Change	Within ±20% of the initial value
Dissipation Factor	Not more than 200% of the specified value
Leakage Current	Not more than the specified value

Shelf Life: After placed at 105℃ without voltage applied for 1000 hours,Stay back to 20 ℃ temperature measurement, the capacitor shall meet the same requirement as Endurance.

■MARKING



■Dimensions [mm]



(Notes) Φ8 ~ Φ10&6.3X7.7=L±0.3

Dimensions	ΦD	L	A	H	W	P	K
B01	4.0	5.4	4.3	5.5 Max	0.65±0.1	1.0	0.35+0.15/-0.2
C01	5.0	5.4	5.3	6.5 Max	0.65±0.1	1.5	0.35+0.15/-0.2
E01	6.3	5.4	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
E04	6.3	7.7	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
G03	8.0	10.2	8.3	10.0 Max	0.90±0.2	3.1	0.70±0.20
H03	10.0	10.2	10.3	12.0 Max	0.90±0.2	4.6	0.70±0.20

■ Multiplier for Ripple Current

Frequency (Hz)	60	120	1K	10K
Coefficient	0.85	1.00	1.15	1.25

Surface Mount Aluminium Electrolytic Capacitors

SV

General purpose Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃) (120Hz)
4(5)	22	4x5.4	0.35	20
	33	4x5.4	0.35	26
	47	4x5.4	0.35	34
	100	5x5.4	0.35	61
	220	6.3x5.4	0.35	82
6.3(8)	22	4x5.4	0.30	29
	33	4x5.4	0.30	43
	47	4x5.4	0.30	43
		5x5.4	0.30	46
	100	5x5.4	0.35	47
		6.3x5.4	0.35	71
	220	6.3x5.4	0.35	74
		6.3x7.7	0.35	120
	330	6.3x7.7	0.35	175
		8X10.2	0.35	230
	470	8x10.2	0.35	300
	1000	8x10.2	0.35	300
		10x10.2	0.35	400
	1500	10x10.2	0.35	480
10(13)	10	4x5.4	0.30	24
	22	4x5.4	0.30	36
	33	4x5.4	0.30	45
		5x5.4	0.30	46
	47	5x5.4	0.30	46
		6.3X5.4	0.30	70
	100	6.3x5.4	0.30	71
		6.3X7.7	0.30	110
	150	6.3X5.4	0.30	86
	220	6.3x7.7	0.3	115
		8X10.2	0.26	160
	330	8x10.2	0.26	200
	470	8x10.2	0.26	230
		10x10.2	0.26	270
	1000	10x10.2	0.26	390
16(20)	4.7	4x5.4	0.16	20
	10	4x5.4	0.16	28
	22	4X5.4	0.16	28
		5x5.4	0.16	39
	33	5x5.4	0.20	39
		6.3x5.4	0.20	65
	47	5x5.4	0.20	39
		6.3x5.4	0.20	70
	100	6.3x5.4	0.20	70
		6.3x7.7	0.20	130
	220	6.3x7.7	0.20	105
		8x10.2	0.20	150
	330	8x10.2	0.20	170
		10x10.2	0.20	230
	470	8x10.2	0.20	230
		10x10.2	0.20	340
	680	10x10.2	0.20	380
25(32)	4.7	4x5.4	0.14	22
	10	4x5.4	0.14	22
		5x5.4	0.14	28
	22	5x5.4	0.14	35

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃) (120Hz)
25(32)	22	6.3x5.4	0.14	55
	33	5x5.4	0.14	45
		6.3x5.4	0.16	65
	47	6.3x5.4	0.16	71
		6.3x7.7	0.16	91
	100	6.3x7.7	0.16	95
		8x10.2	0.16	130
	220	8x10.2	0.16	160
		10x10.2	0.16	273
	330	8x10.2	0.16	180
		10x10.2	0.16	340
	470	10x10.2	0.16	360
35(44)	2.2	4x5.4	0.12	15
	3.3	4x5.4	0.12	18
	4.7	4x5.4	0.12	22
	10	4x5.4	0.12	25
		5x5.4	0.12	30
	22	5x5.4	0.14	35
		6.3x5.4	0.14	60
	33	6.3x5.4	0.14	60
		6.3x7.7	0.14	84
	47	6.3X5.4	0.14	60
		6.3x7.7	0.14	84
		8X10.2	0.14	98
	100	6.3x7.7	0.14	105
		8X10.2	0.14	120
	220	8x10.2	0.14	170
		10x10.2	0.14	240
	330	10x10.2	0.14	250
50(63)	1	4x5.4	0.12	10
	2.2	4x5.4	0.12	16
	3.3	4x5.4	0.12	16
	4.7	5x5.4	0.12	23
	10	6.3x5.4	0.12	35
	22	6.3x7.7	0.12	65
	33	6.3x7.7	0.12	70
		8x10.2	0.12	91
	47	6.3x7.7	0.12	75
		8x10.2	0.12	95
	100	8x10.2	0.12	110
		10x10.2	0.12	145
	220	10x10.2	0.12	210
63(79)	4.7	6.3x5.4	0.18	20
	10	6.3x5.4	0.18	20
	22	8x10.2	0.18	30
	33	8x10.2	0.18	30
	47	8x10.2	0.18	45
	100	10x10.2	0.18	60
100(125)	3.3	8X10.2	0.18	30
	4.7	8X10.2	0.18	50
	10	8X10.2	0.18	55
	22	10X10.2	0.18	60
	33	10X10.2	0.18	65
	47	10x10.2	0.18	65

TEAPO

Surface Mount Aluminium Electrolytic Capacitors

DV General purpose Series

- Endurance:105℃, 2000 hours
- Recommended Applications: Suitable for AV(TV,Video,Audio),Monitor/Computer, Home appliance, OA/HA/Communication,Industrial, Automobile, Meter.
- Corresponding product to RoHS

Specifications

Item	Characteristics		
Category Temperature Range	-55 ~ +105℃		-25 ~ +105℃
Rated Voltage Range	6.3 ~100VDC		160~450VDV
Rated Capacitance Range	1~ 2200 μF		
Capacitance Tolerance	± 20 % (120Hz , 20℃)		
Leakage Current (20℃)	4~10Φ	12.5	12.5
	I≦0.01CV or 3(μA),whichever is greater.	I≦0.01CV or 3(μA),whichever is greater.	I≦0.04CV+100 uA
	(After rated voltage applied for 2 minutes)		(After rated voltage applied for 2 minutes)
	I= Leakage Current (μA) C= Nominal Capacitance (μF) V= Rated Voltage (V)		
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	Shown in the table of standard ratings		

Low Temperature Stability Impedance Ratio (MAX)

WV / Z(120HZ)	6.3	10	16	25	35~100	160~450
Z(-25℃) / Z(20℃)	4	3	2	2	2	4
Z(-40℃) / Z(20℃)	8	6	4	4	3	—

Endurance

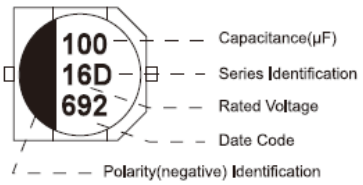
After applying rated voltage for 2000hrs at 105℃,Stay back to 20 ℃ temperature measurement,the capacitors shall meet the following requirements.

Case (Φ)	4~6.3Φ	8~12.5Φ
Capacitance Change	Within ±25% of the initial value	Within ±20% of the initial value
Dissipation Factor	Not more than 200% of the specified value	
Leakage Current	Not more than the specified value	

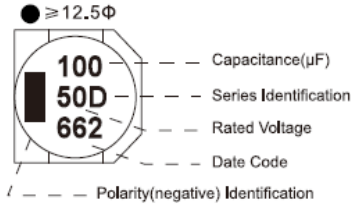
Shelf Life: After placed at 105℃ without voltage applied for 1000 hours,Stay back to 20 ℃ temperature measurement, the capacitor shall meet the same requirement as Endurance.

MARKING

●≦10Φ

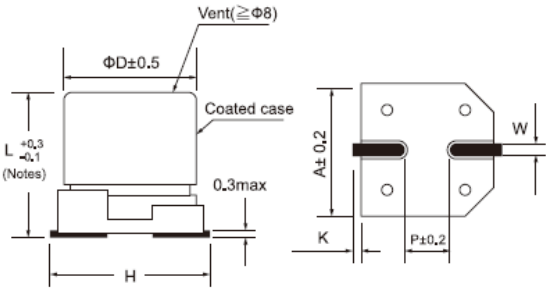


●≧12.5Φ



Dimensions [mm]

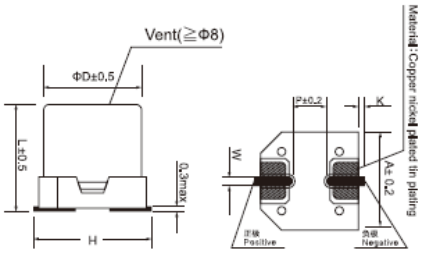
●General structure



(Notes) Φ8～Φ10&6.3X7.7=L±0.3

Φ12.5=L±1.0

●Vibration resistant structure



(Notes) Φ12.5=L±1.0

Dimensions	ΦD	L	A	H	W	P	K
B01	4.0	5.4	4.3	5.5 Max	0.65±0.1	1.0	0.35+0.15/-0.2
C01	5.0	5.4	5.3	6.5 Max	0.65±0.1	1.5	0.35+0.15/-0.2
E01	6.3	5.4	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
E04	6.3	7.7	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
G02	8.0	6.2	8.3	9.5 Max	0.65±0.1	2.2	0.35+0.15/-0.2
G03	8.0	10.2	8.3	10.0 Max	0.90±0.2	3.1	0.70±0.20
H03	10.0	10.2	10.3	12.0 Max	0.90±0.2	4.6	0.70±0.20
K05	12.5	13.5	10.3	15.0 Max	1.20±0.2	4.4	0.70±0.30
K06	12.5	16	10.3	15.0 Max	1.20±0.2	4.4	0.70±0.30
M06	16.0	16.5	10.3	19.0 Max	1.20±0.2	6.4	0.70±0.30

Multiplier for Ripple Current

Frequency (Hz)	60	120	1K	10K
Coefficient	0.85	1.00	1.15	1.25

Surface Mount Aluminium Electrolytic Capacitors

DV General purpose Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃) (120Hz)
6.3(8)	22	4x5.4	0.30	26
	33	4x5.4	0.30	29
	47	4x5.4	0.30	31
		5x5.4	0.30	46
	100	5x5.4	0.30	47
		6.3x5.4	0.30	71
	220	6.3x5.4	0.35	80
		6.3x7.7	0.35	120
	330	6.3x7.7	0.35	140
		8x6.2	0.35	140
		8x10.2	0.35	290
	470	8x10.2	0.35	290
		10x10.2	0.35	380
	1000	8x10.2	0.35	290
		10x10.2	0.35	410
	1500	10x10.2	0.35	460
	2200	12.5x13.5	0.35	680
10(13)	10	4x5.4	0.22	20
	22	4x5.4	0.22	23
	33	4x5.4	0.22	26
		5x5.4	0.22	45
	47	5x5.4	0.22	60
		6.3x5.4	0.22	70
	100	5x5.4	0.30	60
		6.3x5.4	0.30	71
		6.3x7.7	0.30	110
	220	6.3x7.7	0.30	120
		8x6.2	0.30	120
		8x10.2	0.26	260
	330	6.3x7.7	0.3	200
		8x10.2	0.30	290
	470	8x10.2	0.30	320
		10x10.2	0.26	380
	680	8x10.2	0.3	360
	1000	10x10.2	0.26	410
	2200	12.5x13.5	0.30	680
16(20)	10	4x5.4	0.16	28
	22	4x5.4	0.16	29
		5x5.4	0.16	39
	33	5x5.4	0.16	40
	47	5x5.4	0.16	42
		6.3x5.4	0.16	70
	100	6.3x5.4	0.20	71
		6.3x7.7	0.20	130
	220	6.3x7.7	0.20	130
		8x6.2	0.20	130
		8x10.2	0.20	150
		10x10.2	0.20	210
	330	10x10.2	0.20	230
	470	8x10.2	0.20	240
		10x10.2	0.20	380
	1000	12.5x13.5	0.34	550
	2200	16x16.5	0.34	900
25(32)	3.3	4x5.4	0.14	18
	4.7	4x5.4	0.14	22
	6.8	4x5.4	0.14	25
	10	4x5.4	0.14	25
		5x5.4	0.14	28
	22	5x5.4	0.14	28
		6.3x5.4	0.14	55
	33	6.3x5.4	0.14	65
	47	6.3x5.4	0.16	65

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃) (120Hz)
25(32)	47	6.3x7.7	0.16	91
	100	6.3x7.7	0.16	100
		8x6.2	0.16	100
		8x10.2	0.16	230
	220	8x10.2	0.16	230
		10x10.2	0.16	310
	330	8x10.2	0.16	290
		10x10.2	0.16	380
	470	10x10.2	0.16	380
	1000	12.5x13.5	0.26	510
	1500	12.5x16	0.26	590
	2200	16x16.5	0.26	900
35(44)	4.7	4x5.4	0.12	22
	6.8	4x5.4	0.12	25
	10	5x5.4	0.12	30
	22	5x5.4	0.14	35
		6.3x5.4	0.14	60
	33	6.3x7.7	0.14	80
		8x6.2	0.14	80
	47	6.3x5.4	0.14	60
		6.3x7.7	0.14	100
		8x10.2	0.14	210
	100	6.3x7.7	0.14	105
		8x10.2	0.14	240
		10x10.2	0.14	310
		12.5x13.5	0.14	390
	220	8x10.2	0.14	260
		10x10.2	0.14	350
	330	10x10.2	0.14	370
	470	12.5x13.5	0.22	520
	680	12.5x13.5	0.22	590
	1000	16x16.5	0.22	800
	1500	16x16.5	0.22	1000
50(63)	1	4x5.4	0.12	10
	2.2	4x5.4	0.12	16
	3.3	4x5.4	0.12	16
	4.7	5x5.4	0.12	23
	6.8	5x5.4	0.12	30
	10	5x5.4	0.12	35
		6.3x5.4	0.12	40
	22	6.3x5.4	0.12	42
		6.3x7.7	0.12	65
	33	6.3x7.7	0.12	91
		8x6.2	0.12	110
	47	6.3x7.7	0.12	110
		8x6.2	0.12	110
		8x10.2	0.12	210
	100	8x10.2	0.12	240
		10x10.2	0.12	320
	150	10x10.2	0.12	300
	220	10x10.2	0.12	330
	330	12.5x13.5	0.16	490
	470	12.5x16	0.18	550
	1000	16x16.5	0.18	800
100(125)	10	6.3x7.7	0.18	50
	22	8x10.2	0.18	100
	33	8x10.2	0.18	120
		10x10.2	0.18	150
	47	10x10.2	0.18	170
		12.5x13.5	0.18	250
	100	12.5x13.5	0.18	300

DV

General purpose Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ (%)	Ripple current (mA/rms 105℃) (120Hz)
160(200)	33	12.5x13.5	0.20	95
	47	16x16.5	0.20	240
	100	16x16.5	0.20	250
200(250)	10	12.5x13.5	0.20	80
	22	12.5x16	0.20	110
	33	12.5x16	0.20	120
	47	16x16.5	0.20	220
250(300)	3.3	12.5x13.5	0.20	60
	4.7	12.5x13.5	0.20	65
	10	12.5x13.5	0.20	70
	22	12.5x13.5	0.20	105

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ (%)	Ripple current (mA/rms 105℃) (120Hz)
250(300)	33	16x16.5	0.20	180
	47	16x16.5	0.20	220
400（450）	3.3	12.5x13.5	0.25	40
	4.7	12.5x13.5	0.25	45
	10	12.5x13.5	0.25	50
	22	16x16.5	0.25	85
	33	16x16.5	0.25	85
450（500）	3.3	12.5x13.5	0.25	40
	4.7	12.5x13.5	0.25	45
	10	12.5x16	0.25	75
	22	16x16.5	0.25	85

TEAPO

Surface Mount Aluminium Electrolytic Capacitors

ZV Low Impedance

■Endurance:105℃, 1000 hours
■Recommended Applications: Suitable for AV(TV,Video,Audio),Monitor/Computer, Battery charger,DC/DC converter,SMPS,Noise filter
■ Corresponding product to RoHS

■ Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	6.3~ 50VDC
Rated Capacitance Range	1 ~ 1500 μF
Capacitance Tolerance	± 20 % at 120Hz , 20℃
Leakage Current (20℃)	I≦0.01CV or 3 μA ,whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	Shown in the table of standard rating

Low Temperature Stability Impedance Ratio (MAX)

WV / Z(120HZ)	4	6.3	10	16	25	35	50
Z(-25℃) / Z(20℃)	4	2	2	2	2	2	2
Z(-40℃) / Z(20℃)	8	4	4	3	3	3	3

Endurance

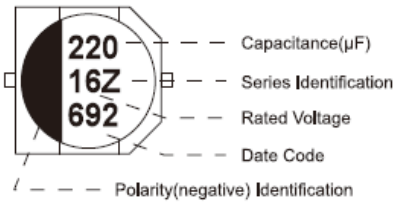
After applying rated voltage for 1000hrs at 105℃,Stay back to 20 ℃ temperature measurement,the capacitors shall meet the following requirements.

Capacitance Change	Within ±20% of the initial value
Dissipation Factor	Not more than 200% of the specified value
Leakage Current	Not more than the specified value

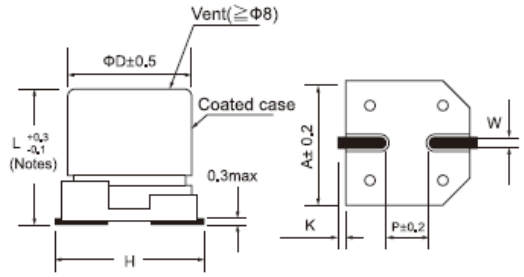
Shelf Life

After placed at 105℃without voltage applied for 1000 hours,Stay back to 20 ℃ temperature measurement, the capacitor shall meet the same requirement as Endurance.

■MARKING



■Dimensions [mm]



(Notes) Φ8 ~ Φ10&6.3X7.7=L±0.3

Dimensions	ΦD	L	A	H	W	P	K
B01	4.0	5.4	4.3	5.5 Max	0.65±0.1	1.0	0.35+0.15/-0.2
C01	5.0	5.4	5.3	6.5 Max	0.65±0.1	1.5	0.35+0.15/-0.2
E01	6.3	5.4	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
E04	6.3	7.7	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
G02	8.0	6.2	8.3	9.5 Max	0.65±0.1	2.2	0.35+0.15/-0.2
G03	8.0	10.2	8.3	10.0 Max	0.90±0.2	3.1	0.70±0.20
H03	10.0	10.2	10.3	12.0 Max	0.90±0.2	4.6	0.70±0.20

■ Multiplier for Ripple Current

Frequency (Hz)	120	1K	10K	100K
Coefficient	0.70	0.80	0.90	1.00

Surface Mount Aluminium Electrolytic Capacitors

ZV Low Impedance

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μ F)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃)	Impedance (Ω,20℃) (100KHz)
4(5)	10	4x5.4	0.35	60	4.0
	22	4x5.4	0.35	60	4.0
	33	4x5.4	0.35	60	4.0
	47	4x5.4	0.35	60	4.0
	68	4x5.4	0.35	60	4.0
	100	5x5.4	0.35	95	3.0
	150	6.3x5.4	0.35	140	2.6
	220	6.3x5.4	0.35	140	2.6
6.3(8)	22	4x5.4	0.26	60	4.0
	33	5x5.4	0.26	95	2.6
	47	5x5.4	0.26	95	2.6
	68	6.3x5.4	0.26	140	1.3
	100	6.3x5.4	0.26	140	1.3
	150	6.3x7.7	0.35	230	0.8
	220	6.3x7.7	0.35	230	0.8
	330	8x10.2	0.35	450	0.5
	470	10x10.2	0.35	670	0.3
	1000	10x10.2	0.35	670	0.3
	1500	10x10.2	0.35	670	0.3
10(13)	10	4x5.4	0.22	60	4
	22	5x5.4	0.22	95	2.6
	33	5x5.4	0.22	95	2.6
	47	6.3x5.4	0.22	95	1.3
	68	6.3x5.4	0.22	140	1.3
	100	6.3x5.4	0.22	140	1.3
	150	6.3x7.7	0.26	230	0.8
	220	6.3x7.7	0.26	230	0.8
	330	8x10.2	0.26	450	0.5
	470	10x10.2	0.26	670	0.3
	1000	10x10.2	0.26	670	0.3
16(20)	10	4x5.4	0.16	60	4.0
	22	5x5.4	0.16	95	2.6
	33	5x5.4	0.16	95	2.6
	47	6.3x5.4	0.16	140	1.3
	68	6.3x7.7	0.20	230	0.8
	100	6.3x5.4	0.20	140	1.3
		6.3x7.7	0.20	230	0.8
		8x6.2	0.20	230	0.8
	150	8x10.2	0.20	450	0.5
	220	8x10.2	0.20	450	0.5
	330	10x10.2	0.20	670	0.3
	470	8x10.2	0.20	450	0.5
		10x10.2	0.20	670	0.3

Rated Voltage (SurageVoltage) (V)	Cap (μ F)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃)	Impedance (Ω,20℃) (100KHz)
25(32)	4.7	4x5.4	0.14	60	4.0
	6.8	4x5.4	0.14	60	4.0
	10	5x5.4	0.14	95	2.6
	22	6.3x5.4	0.14	140	1.3
	33	6.3x5.4	0.14	140	1.3
	47	6.3x5.4	0.14	140	1.3
		6.3x7.7	0.16	230	0.8
	68	8x10.2	0.16	450	0.5
	100	6.3x7.7	0.16	240	0.8
		8x10.2	0.16	450	0.5
	150	6.3x7.7	0.16	240	0.8
	220	10x10.2	0.16	670	0.3
	330	10x10.2	0.16	670	0.3
	470	10x10.2	0.16	670	0.3
35(44)	1	4x5.4	0.12	60	4.0
	2.2	4x5.4	0.12	60	4.0
	3.3	4x5.4	0.12	60	4.0
	4.7	4x5.4	0.12	60	4.0
	6.8	5x5.4	0.12	95	2.6
	10	5x5.4	0.12	95	2.6
	22	6.3x5.4	0.12	140	1.3
	33	6.3x7.7	0.14	230	0.8
	47	6.3x5.4	0.14	170	1.1
		6.3x7.7	0.14	230	0.8
		8x6.2	0.14	230	0.8
	68	8x10.2	0.14	450	0.5
	100	10x10.2	0.14	670	0.3
	220	10x10.2	0.14	670	0.3
	330	10x0.2	0.14	670	0.3
50(63)	1	4x5.4	0.12	60	5.0
	2.2	4x5.4	0.12	60	5.0
	3.3	4x5.4	0.12	60	5.0
	4.7	5x5.4	0.12	95	4.0
	6.8	6.3x5.4	0.12	140	2.6
	10	6.3x5.4	0.12	140	2.6
	22	6.3x7.7	0.12	230	1.3
	33	8x10.2	0.12	300	1.1
	47	8x10.2	0.12	300	1.1
		10x10.2	0.12	670	0.8
	68	10x10.2	0.12	670	0.8
	100	8x10.2	0.12	450	1.1
		10x10.2	0.12	670	0.8
	220	10x10.2	0.12	670	0.8

TEAPO

Surface Mount Aluminium Electrolytic Capacitors

YV Low Impedance

■ Endurance:105℃, 1000~2000 hours
■Recommended Applications: Suitable for AV(TV,Video,Audio),Monitor/Computer, Battery charger,DC/DC converter,SMPS,Noise filter
■ Corresponding product to RoHS

■ Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	6.3~ 50VDC
Rated Capacitance Range	1 ~ 1500 μF
Capacitance Tolerance	± 20 % at 120Hz , 20℃
Leakage Current (20℃)	I≦0.01CV or 3 μA ,whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	Shown in the table of standard rating

Low Temperature Stability Impedance Ratio (MAX)

WV / Z(120HZ)	6.3	10	16	25	35	50
Z(-25℃) / Z(20℃)	2	2	2	2	2	2
Z(-40℃) / Z(20℃)	4	4	3	3	3	3

Endurance

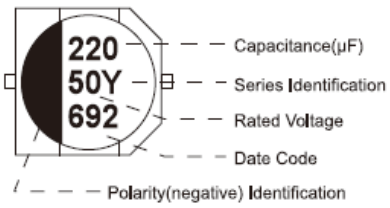
After applying rated voltage for 1000hrs at 105℃,Stay back to 20 ℃ temperature measurement,the capacitors shall meet the following requirements.

Capacitance Change	6.3VF Within ±30% of the initial value,10-50VFWithin ±20% of the initial value
Dissipation Factor	Not more than 200% of the specified value
Leakage Current	Not more than the specified value

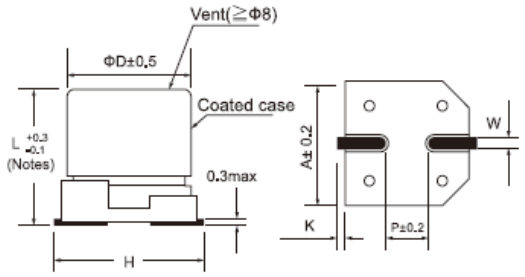
DΦ	4x5.4~6.3x7.7	8x10.2~10x10.2
Life	1000hrs	2000hrs

Shelf Life: After placed at 105℃without voltage applied for 1000 hours,Stay back to 20 ℃ temperature measurement, the capacitor shall meet the same requirement as Endurance.

■MARKING



■Dimensions [mm]



(Notes) Φ8 ~ Φ10&6.3X7.7=L±0.3

Dimensions	ΦD	L	A	H	W	P	K
B01	4.0	5.4	4.3	5.5 Max	0.65±0.1	1.0	0.35+0.15/-0.2
C01	5.0	5.4	5.3	6.5 Max	0.65±0.1	1.5	0.35+0.15/-0.2
E01	6.3	5.4	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
E04	6.3	7.7	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
G03	8.0	10.2	8.3	10.0 Max	0.90±0.2	3.1	0.70±0.20
H03	10.0	10.2	10.3	12.0 Max	0.90±0.2	4.6	0.70±0.20

■ Multiplier for Ripple Current

Frequency (Hz)	120	1K	10K	100K
Coefficient	0.70	0.80	0.90	1.00

Surface Mount Aluminium Electrolytic Capacitors

YV Low Impedance

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃ 100KHz)	Impedance (Ω,20℃) (100KHz)
6.3(8)	22	4x5.4	0.26	60	3.0
	33	5x5.4	0.26	95	1.8
	47	5x5.4	0.26	95	1.8
	100	6.3x5.4	0.26	140	1.0
	220	6.3x5.4	0.26	140	1.0
	330	6.3x7.7	0.26	280	0.3
	470	8x10.2	0.35	450	0.3
	680	8x10.2	0.35	450	0.3
	1000	8x0.2	0.35	450	0.3
	1500	10x10.2	0.35	670	0.15
10(13)	22	5x5.4	0.22	95	1.8
	33	5x5.4	0.22	95	1.8
	47	6.3x5.4	0.22	140	1.0
	100	6.3x5.4	0.22	140	1.0
	220	6.3x7.7	0.22	280	0.3
	330	8x10.2	0.26	450	0.3
	470	8x10.2	0.26	450	0.3
	680	10x10.2	0.26	670	0.15
	1000	10x10.2	0.26	670	0.15
16(20)	10	4X5.4	0.16	60	3.0
	22	5X5.4	0.16	95	1.8
	33	6.3x5.4	0.16	140	1.0
	47	6.3x5.4	0.16	140	1.0
	100	6.3x5.4	0.16	140	1.0
	220	6.3x7.7	0.16	280	0.34
	330	8x10.2	0.20	450	0.3
	470	8x10.2	0.20	450	0.3
	680	10x10.2	0.20	670	0.15
25(32)	10	5x5.4	0.14	95	1.8

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃ 100KHz)	Impedance (Ω,20℃) (100KHz)
25(32)	22	6.3x5.4	0.14	140	1.0
	33	6.3x5.4	0.14	140	1.0
	47	6.3x5.4	0.14	140	1.0
	68	6.3x7.7	0.14	280	0.3
	100	6.3x7.7	0.14	280	0.3
	220	8x10.2	0.16	450	0.3
	330	8x10.2	0.16	450	0.3
	470	10x0.2	0.16	670	0.15
35(44)	4.7	4x5.4	0.12	60	3.0
	10	5x5.4	0.12	95	1.8
	22	6.3x5.4	0.12	140	1.0
	33	6.3x5.4	0.12	140	1.0
	47	6.3x5.4	0.12	140	1.0
	68	6.3x7.7	0.12	280	0.34
	100	8x10.2	0.14	450	0.3
	220	8x10.2	0.14	450	0.3
	330	10x10.2	0.14	670	0.15
50(63)	1	4x5.4	0.12	30	5.0
	2.2	4x5.4	0.12	30	5.0
	3.3	4x5.4	0.12	30	5.0
	4.7	5x5.4	0.12	50	3.0
	10	6.3x5.4	0.12	70	2.0
	22	6.3x5.4	0.12	70	2.0
	33	6.3x7.7	0.12	170	1.3
	47	6.3x7.7	0.12	170	1.3
	68	8x10.2	0.12	300	0.6
	100	8x10.2	0.12	300	0.6
	220	10x10.2	0.12	500	0.3

TEAPO

Surface Mount Aluminium Electrolytic Capacitors

EV Ultra Low Impedance

■ Endurance:105℃, 2000 hours

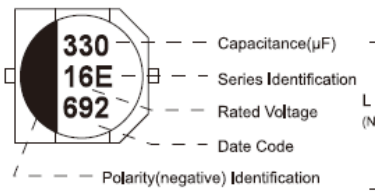
■Recommended Applications: Applying to media (TV, video, audio), monitor /computer, Communication Power industry, car, electricity meter industry, car, electricity meter

■Corresponding product to RoHS

■ Specifications

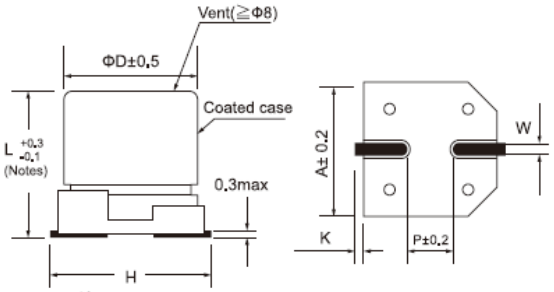
Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	6.3~ 50VDC
Rated Capacitance Range	4.7 ~ 1500 μF
Capacitance Tolerance	± 20 % at 120Hz , 20℃
Leakage Current (20℃)	± 20 % at 120Hz , 20℃ I≦0.01CV or 3 μA ,whichever is greater. (After rated voltage applied for 2 minutes)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) Shown in the table of standard rating
Low Temperature Stability Impedance Ratio (MAX)	<table><tr><td>WV / Z(120HZ)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td></tr><tr><td>Z(-25℃) / Z(20℃)</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Z(-40℃) / Z(20℃)</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td></tr></table>
Endurance	After applying rated voltage for 2000hrs at 105℃,Stay back to 20 ℃ temperature measurement,the capacitors shall meet the following requirements. <table><tr><td>Capacitance Change</td><td>Within ±30% of the initial value</td></tr><tr><td>Dissipation Factor</td><td>Not more than 200% of the specified value</td></tr><tr><td>Leakage Current</td><td>Not more than the specified value</td></tr></table>
Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,Stay back to 20 ℃ temperature measurement, the capacitor shall meet the same requirement as Endurance.

■MARKING

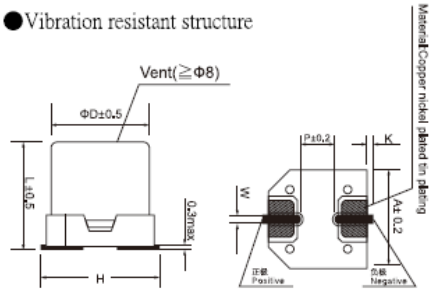


■Dimensions [mm]

●General structure



●Vibration resistant structure



（注）Φ8～Φ10&6.3X7.7=L±0.3

Dimensions	ΦD	L	A	H	W	P	K
B01	4.0	5.4	4.3	5.5 Max	0.65±0.1	1.0	0.35+0.15/-0.2
C01	5.0	5.4	5.3	6.5 Max	0.65±0.1	1.5	0.35+0.15/-0.2
E01	6.3	5.4	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
E04	6.3	7.7	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
G03	8.0	10.2	8.3	10.0 Max	0.90±0.2	3.1	0.70±0.20
G02	8.0	6.2	8.3	9.5 Max	0.65±0.1	2.2	0.35+0.15/-0.2
H03	10.0	10.2	10.3	12.0 Max	0.90±0.2	4.6	0.70±0.20

■ Multiplier for Ripple Current

Frequency (Hz)	120	1K	10K	100K
Coefficient	0.70	0.80	0.90	1.00

Surface Mount Aluminium Electrolytic Capacitors

EV Ultra Low Impedance

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃ 100KHz)	Impedance (Ω,20℃) (100KHz)
6.3(8)	22	4x5.4	0.26	90	1.93
	33	4x5.4	0.26	90	1.93
	47	4x5.4	0.26	90	1.93
		5x5.4	0.26	160	1.00
	100	5x5.4	0.26	160	1.00
		6.3x5.4	0.26	240	0.52
	150	6.3x5.4	0.26	240	0.52
		6.3x7.7	0.26	240	0.30
	220	6.3x5.4	0.26	240	0.52
		6.3x7.7	0.26	240	0.30
		8x6.2	0.26	240	0.30
	330	6.3x7.7	0.26	280	0.34
		8x6.2	0.26	290	0.32
	470	8x10.2	0.26	600	0.16
	680	8x10.2	0.26	600	0.16
	1000	8x10.2	0.26	600	0.16
	1500	10x10.2	0.26	850	0.08
10（13）	22	4x5.4	0.19	90	1.93
	33	4x5.4	0.19	90	1.93
		5x5.4	0.19	160	1.00
	47	6.3x5.4	0.19	190	0.52
	100	6.3x5.4	0.19	190	0.52
	150	6.3x5.4	0.19	200	0.52
		6.3x7.7	0.19	240	0.34
	220	6.3x7.7	0.19	280	0.34
		8x6.2	0.19	280	0.34
	330	8x10.2	0.19	600	0.16
	470	8x10.2	0.19	600	0.16
	680	10x10.2	0.19	600	0.12
	820	10x10.2	0.19	850	0.08
	1000	10x10.2	0.19	850	0.08
	1200	10x10.2	0.19	850	0.08
16（20）	3.3	4x5.4	0.16	60	3.00
	10	4x5.4	0.16	90	1.93
	22	4x5.4	0.16	90	1.93
		5x5.4	0.16	160	1.00
	33	5x5.4	0.16	160	1.00
	47	5x5.4	0.16	160	1.00
		6.3x5.4	0.16	240	0.52
	68	6.3x5.4	0.16	240	0.52
	100	6.3x5.4	0.16	240	0.52
		6.3x7.7	0.16	280	0.34
	150	6.3x7.7	0.16	280	0.34
	220	6.3x7.7	0.16	280	0.34
		8x6.2	0.16	280	0.34

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃ 100KHz)	Impedance (Ω,20℃) (100KHz)
16（20）	220	8x10.2	0.16	370	0.22
	330	8x10.2	0.16	600	0.16
	470	8x10.2	0.16	600	0.16
		10x10.2	0.16	650	0.15
	560	10x10.2	0.16	650	0.12
	680	10x10.2	0.16	850	0.08
25（32）	10	4x5.4	0.14	90	1.93
		5x5.4	0.14	95	1.80
	22	5x5.4	0.14	160	1.00
	33	5x5.4	0.14	160	1.00
		6.3x5.4	0.14	240	0.52
	47	6.3x5.4	0.14	240	0.52
		6.3x7.7	0.14	260	0.45
	68	6.3x5.4	0.14	240	0.34
	100	6.3x7.7	0.14	280	0.16
		8X6.2	0.14	280	0.34
	150	8x10.2	0.14	600	0.16
	220	8x10.2	0.14	600	0.16
	330	8x10.2	0.14	600	0.16
	470	10x10.2	0.14	850	0.08
35（44）	4.7	4x5.4	0.12	90	1.93
	10	4x5.4	0.12	90	1.93
		5x5.4	0.12	160	1.00
	22	5x5.4	0.12	160	1.00
		6.3x5.4	0.12	200	0.80
	33	6.3x5.4	0.12	240	0.52
	47	6.3x5.4	0.12	240	0.52
		6.3x7.7	0.12	280	0.34
	68	6.3x7.7	0.12	280	0.34
	100	6.3x7.7	0.12	280	0.34
		8x10.2	0.12	600	0.16
	150	8x10.2	0.12	600	0.16
	220	8x10.2	0.12	600	0.16
	330	10x10.2	0.12	850	0.08
50（63）	10	5X5.4	0.12	60	2.90
		6.3x5.4	0.12	70	2.60
	22	6.3x5.4	0.12	70	2.00
	33	6.3x7.7	0.12	170	0.80
	47	6.3x7.7	0.12	170	1.30
		8X6.2	0.12	170	1.30
	100	8x10.2	0.12	300	0.40
		10x10.2	0.12	400	0.40
	150	10x10.2	0.12	400	0.35
	220	10x10.2	0.12	500	0.30

TEAPO

Surface Mount Aluminium Electrolytic Capacitors

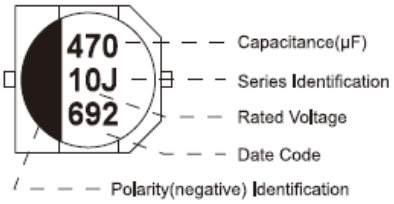
JV Ultra Low Impedance

■ Endurance:105℃, 2000 hours
■Recommended Applications: AV(TV,Video,Audio) ,Monitor/Computer,OA/HA/Communication ,SMPS
■ Corresponding product to RoHS

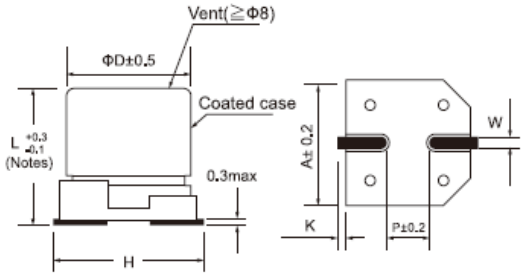
■ Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	6.3~ 50VDC
Rated Capacitance Range	1 ~ 1500 μF
Capacitance Tolerance	± 20 % at 120Hz , 20℃
Leakage Current (20℃)	I≦0.01CV or 3 μA ,whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	Shown in the table of standard rating
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120HZ): 6.3 / 10 / 16 / 25 / 35 Z(-25℃) / Z(20℃): 2 / 2 / 2 / 2 / 2 Z(-40℃) / Z(20℃): 3 / 3 / 3 / 3 / 3
Endurance	After applying rated voltage for 2000hrs at 105℃,Stay back to 20 ℃ temperature measurement,the capacitors shall meet the following requirements. Capacitance Change: Within ±30% of the initial value Dissipation Factor: Not more than 200% of the specified value Leakage Current: Not more than the specified value
Shelf Life	After placed at 105℃without voltage applied for 1000 hours,Stay back to 20 ℃ temperature measurement, the capacitor shall meet the same requirement as Endurance.

■MARKING



■Dimensions [mm]



(Notes) Φ8～Φ10&6.3X7.7=L±0.3

Dimensions	ΦD	L	A	H	W	P	K
B01	4.0	5.4	4.3	5.5 Max	0.65±0.1	1.0	0.35+0.15/-0.2
C01	5.0	5.4	5.3	6.5 Max	0.65±0.1	1.5	0.35+0.15/-0.2
E01	6.3	5.4	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
E04	6.3	7.7	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
G02	8.0	6.2	8.3	9.5 Max	0.65±0.1	2.2	0.35+0.15/-0.2
G03	8.0	10.2	8.3	10.0 Max	0.90±0.2	3.1	0.70±0.20
H03	10.0	10.2	10.3	12.0 Max	0.90±0.2	4.6	0.70±0.20

■ Multiplier for Ripple Current

Frequency (Hz)	120	1K	10K	100K
Coefficient	0.70	0.80	0.90	1.00

JV

Ultra Low Impedance

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃ 100KHz)	Impedance (Ω,20℃) (100KHz)
6.3（8）	47	4x5.4	0.26	90	1.93
	68	4x5.4	0.26	90	1.93
	100	5x5.4	0.26	160	1.00
	150	5x5.4	0.26	160	1.00
		6.3x5.4	0.26	240	0.52
	220	6.3x5.4	0.26	240	0.52
	330	6.3x5.4	0.26	240	0.52
		6.3x7.7	0.26	280	0.34
	470	6.3x7.7	0.26	280	0.34
		8x6.2	0.26	280	0.34
	680	8x10.2	0.26	600	0.16
	1000	8x10.2	0.26	600	0.16
	1200	8x10.2	0.26	600	0.16
		10x10.2	0.26	850	0.08
	1500	10x10.2	0.26	850	0.08
	1800	10x10.2	0.26	850	0.08
10（13）	33	4x5.4	0.19	90	1.93
	47	4x5.4	0.19	90	1.93
		5x5.4	0.19	160	1.00
	68	4x5.4	0.19	90	1.93
		5x5.4	0.19	160	1.00
	100	5x5.4	0.19	160	1.00
		6.3x5.4	0.19	240	0.52
	150	5x5.4	0.19	160	1.00
		6.3x5.4	0.19	240	0.52
	220	6.3x5.4	0.19	240	0.52
		6.3x7.7	0.19	280	0.34
	330	6.3x7.7	0.19	280	0.34
	470	6.3x7.7	0.19	280	0.34
		8x10.2	0.19	600	0.16
	680	8x10.2	0.19	600	0.16
	1000	8x10.2	0.19	600	0.16
		10x10.2	0.19	850	0.08
	1200	10x10.2	0.19	850	0.08
16（20）	22	4x5.4	0.16	90	1.93
	33	4x5.4	0.16	90	1.93
	47	4x5.4	0.16	90	1.93

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃ 100KHz)	Impedance (Ω,20℃) (100KHz)
16（20）	47	5x5.4	0.16	160	1.00
	68	5x5.4	0.16	160	1.00
	100	6.3x5.4	0.16	240	0.52
	150	6.3x5.4	0.16	240	0.52
		6.3x7.7	0.16	280	0.34
	220	6.3x7.7	0.16	280	0.34
	330	6.3x7.7	0.16	280	0.34
		8x10.2	0.16	600	0.16
	470	8x10.2	0.16	600	0.16
	680	8x10.2	0.16	600	0.16
		10x10.2	0.16	850	0.08
	1000	10x10.2	0.16	850	0.08
25（32）	10	4x5.4	0.14	90	1.93
	22	4x5.4	0.14	90	1.93
		5x5.4	0.14	160	1.00
	33	5x5.4	0.14	160	1.00
	47	5x5.4	0.14	160	1.00
		6.3x5.4	0.14	240	0.52
	68	6.3x5.4	0.14	240	0.52
	100	6.3x5.4	0.14	240	0.52
		6.3x7.7	0.14	280	0.34
	150	6.3x7.7	0.14	280	0.34
	220	8x10.2	0.14	600	0.16
	330	8x10.2	0.14	600	0.16
	470	10x10.2	0.14	850	0.08
	560	10x10.2	0.14	850	0.08
35（44）	10	4x5.4	0.12	90	1.93
	22	5x5.4	0.12	160	1.00
	33	5x5.4	0.12	160	1.00
		6.3x5.4	0.12	240	0.52
	47	6.3x5.4	0.12	240	0.52
	68	6.3x5.4	0.12	240	0.52
		6.3x7.7	0.12	280	0.34
	100	6.3x7.7	0.12	280	0.34
	150	8x10.2	0.12	600	0.16
	220	8x10.2	0.12	600	0.16
	330	10x10.2	0.12	850	0.08

TEAPO

Surface Mount Aluminium Electrolytic Capacitors

XV

Ultra Low Impedance & Long Life

■ Endurance:105℃, 3000~5000 hours

■Recommended Applications: Suitable for AV(TV,Video,Audio),Monitor/Computer, Home appliance, OA/HA/Communication,Industrial, Automobile, Meter.

■ Corresponding product to RoHS

■ Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	6.3~ 50VDC
Rated Capacitance Range	1 ~ 1000 μF
Capacitance Tolerance	± 20 % at 120Hz , 20℃
Leakage Current (20℃)	I≦0.01CV or 3 μA ,whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	Shown in the table of standard rating

Low Temperature Stability Impedance Ratio (MAX)

WV / Z(120HZ)	6.3	10	16	25	35	50
Z(-25℃) / Z(20℃)	2	2	2	2	2	2
Z(-40℃) / Z(20℃)	3	3	3	3	3	3

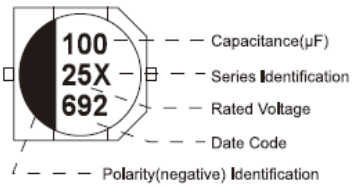
Endurance

After applying rated voltage for 3000~5000hrs at 105℃,Stay back to 20 ℃ temperature measurement,the capacitors shall meet the following requirements.

Capacitance Change	Within ±30% of the initial value	
Dissipation Factor	Not more than 200% of the specified value	
Leakage Current	Not more than the specified value	
DΦ	4x5.4~6.3x7.7	8x10.2~10x10.2
Life	3000hrs	5000hrs

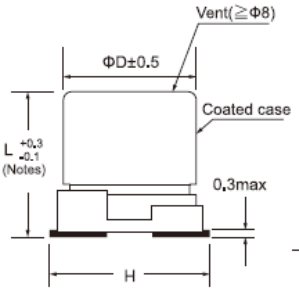
Shelf Life	After placed at 105℃without voltage applied for 1000 hours,Stay back to 20 ℃ temperature measurement, the capacitor shall meet the same requirement as Endurance.

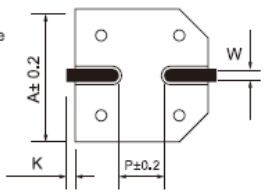
■MARKING



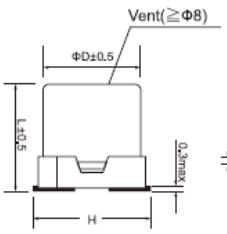
■Dimensions [mm]

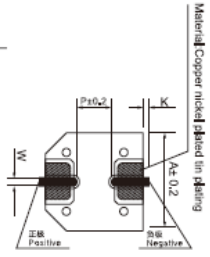
●General structure





●Vibration resistant structure





(Notes) Φ8～Φ10&6.3X7.7=L±0.3

Dimensions	ΦD	L	A	H	W	P	K
B01	4.0	5.4	4.3	5.5 Max	0.65±0.1	1.0	0.35+0.15/-0.2
C01	5.0	5.4	5.3	6.5 Max	0.65±0.1	1.5	0.35+0.15/-0.2
E01	6.3	5.4	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
E04	6.3	7.7	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
G02	8.0	6.2	8.3	9.5 Max	0.65±0.1	2.2	0.35+0.15/-0.2
G03	8.0	10.2	8.3	10.0 Max	0.90±0.2	3.1	0.70±0.20
H03	10.0	10.2	10.3	12.0 Max	0.90±0.2	4.6	0.70±0.20

■ Multiplier for Ripple Current

Frequency (Hz)	120	1K	10K	100K
Coefficient	0.70	0.80	0.90	1.00

Surface Mount Aluminium Electrolytic Capacitors

XV

Ultra Low Impedance & Long Life

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃ 100KHz)	Impedance (Ω,20℃) (100KHz)
6.3（8）	22	4x5.4	0.26	90	1.93
	33	4x5.4	0.26	90	1.93
	47	5x5.4	0.26	160	1.00
	100	6.3x5.4	0.26	240	0.52
	150	6.3x7.7	0.26	240	0.30
	220	6.3x5.4	0.26	240	0.52
		6.3x7.7	0.26	240	0.30
		8x10.2	0.26	600	0.26
	330	8x10.2	0.26	600	0.16
	470	8x10.2	0.26	600	0.16
	680	10x10.2	0.26	850	0.12
	1000	10x10.2	0.26	850	0.12
10（13）	22	4x5.4	0.19	90	1.93
	33	5x5.4	0.19	160	1.00
	47	6.3x5.4	0.19	190	0.52
	100	6.3x5.4	0.19	190	0.52
		6.3x7.7	0.19	190	0.52
	150	6.3x5.4	0.19	190	0.52
		6.3x7.7	0.19	240	0.34
	220	6.3x7.7	0.19	240	0.34
		8x6.2	0.19	240	0.34
		8x10.2	0.19	600	0.16
	330	8x10.2	0.19	600	0.16
	470	8x10.2	0.19	600	0.16
		10x10.2	0.19	850	0.12
	680	10x10.2	0.19	850	0.12
	1000	10x10.2	0.19	850	0.12
16（20）	10	4x5.4	0.16	90	1.93
	22	5x5.4	0.16	160	1.00
	33	6.3x5.4	0.16	240	0.52
	47	5x5.4	0.16	160	1.00
		6.3x5.4	0.16	240	0.52
	100	6.3x5.4	0.16	240	0.52
		6.3x7.7	0.16	280	0.34
		8x10.2	0.16	300	0.29
	150	6.3x7.7	0.16	280	0.34
		8x10.2	0.16	370	0.22
	220	8x10.2	0.16	370	0.22
	330	8x10.2	0.16	600	0.16

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃ 100KHz)	Impedance (Ω,20℃) (100KHz)
16（20）	470	8x10.2	0.16	600	0.16
		10x10.2	0.16	850	0.12
	680	10x10.2	0.16	850	0.12
35（44）	4.7	4x5.4	0.12	90	1.93
	10	5x5.4	0.12	160	1.00
	15	5x5.4	0.12	160	1.00
	22	5x5.4	0.12	160	1.00
	33	6.3x5.4	0.12	240	0.52
	47	6.3x5.4	0.12	240	0.52
		6.3x7.7	0.12	280	0.34
		8x6.2	0.12	300	0.26
		8x10.2	0.12	280	0.34
	68	6.3x7.7	0.12	280	0.34
	100	6.3x7.7	0.12	230	0.40
		8x10.2	0.12	600	0.16
		10x10.2	0.12	670	0.16
	150	8x10.2	0.12	600	0.16
		10x10.2	0.12	850	0.12
	220	8x10.2	0.12	600	0.16
		10x10.2	0.12	850	0.12
	330	10x10.2	0.12	850	0.12
50（63）	1	4x5.4	0.12	60	5.00
	2.2	4x5.4	0.12	60	5.00
	3.3	4x5.4	0.12	60	5.00
	4.7	5x5.4	0.12	95	4.00
	10	6.3x5.4	0.12	140	2.60
	22	6.3x5.4	0.12	70	2.00
		6.3x7.7	0.12	230	1.30
	33	8x10.2	0.12	350	0.50
	47	6.3x7.7	0.12	230	1.30
		8x10.2	0.12	350	0.50
		10x10.2	0.12	670	0.34
	68	8x10.2	0.12	350	0.50
		10x10.2	0.12	670	0.34
	100	8x10.2	0.12	350	0.50
		10x10.2	0.12	670	0.34
	150	10x10.2	0.12	670	0.34
	220	10x10.2	0.12	670	0.34

TEAPO

Surface Mount Aluminium Electrolytic Capacitors

HV 125℃ High temperature

- Endurance:125℃, 1000~2000 hours
- Recommended Applications: Automatic Mounting and Reflow Soldering,Industrial, Automobile, Meter
- Corresponding product to RoHS

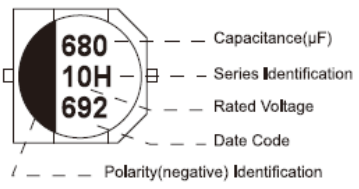
Specifications

Item	Characteristics
Category Temperature Range	-40 ~ +125℃
Rated Voltage Range	10 ~ 50VDC
Rated Capacitance Range	47~ 1000μF
Capacitance Tolerance	± 20 % at 120Hz , 20℃
Leakage Current (20℃)	I≦0.01CV or 3μA ,whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	Shown in the table of standard rating
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120HZ): 10 / 16 / 25 / 35 / 50 Z(-25℃) / Z(20℃): 2 / 2 / 2 / 2 / 2 Z(-40℃) / Z(20℃): 3 / 3 / 3 / 3 / 3
Endurance	After applying rated voltage for 1000~2000hrs at 125℃,Stay back to 20 ℃ temperature measurement,the capacitors shall meet the following requirements.

Capacitance Change	Within ±20% of the initial value	
Dissipation Factor	Not more than 200% of the specified value	
DΦ	6.3x7.7-8x6.2	≧8x10.2
Life	1000hrs	2000hrs
Leakage Current	Not more than the specified value	

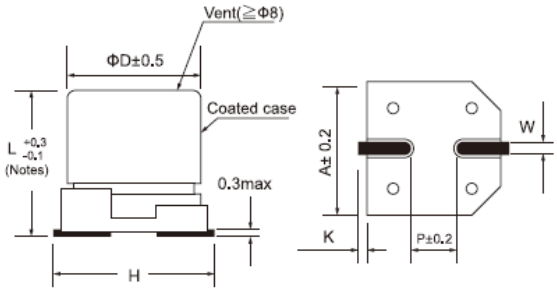
Shelf Life	After placed at 125℃without voltage applied for 1000 hours,Stay back to 20 ℃ temperature measurement, the capacitor shall meet the same requirement as Endurance.

MARKING



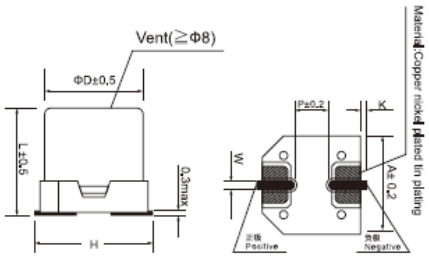
Dimensions [mm]

●General structure



(注) Φ8～Φ10&6.3X7.7=L±0.3

●Vibration resistant structure



(注) ≧Φ12.5=L±1.0

Dimensions	ΦD	L	A	H	W	P	K
E04	6.3	7.7	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2
G02	8.0	6.2	8.3	9.5 Max	0.65±0.1	2.2	0.35+0.15/-0.2
G03	8.0	10.2	8.3	10.0 Max	0.90±0.2	3.1	0.70±0.20
H03	10.0	10.2	10.3	12.0 Max	0.90±0.2	4.6	0.70±0.20

Multiplier for Ripple Current

Frequency (Hz)	120	1K	10K	100K
Coefficient	0.70	0.80	0.90	1.00

HV

125℃ High temperature

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ (%)	Ripple current (mA/rms 125℃) (120Hz)
10(13)	100	8X6.2	0.26	75
	150	6.3x7.7	0.26	70
		8x6.2	0.26	75
	220	8x10.2	0.26	130
	330	8x10.2	0.26	130
	470	8x10.2	0.26	130
		10x10.2	0.26	180
	680	10x10.2	0.26	180
	1000	10x10.2	0.26	180
16(20)	47	6.3x7.7	0.20	70
	100	6.3x7.7	0.20	70
		8x6.2	0.20	75
	150	8x10.2	0.20	130
	220	8x10.2	0.20	130
	330	8x10.2	0.20	180
	470	10x10.2	0.20	180
25(32)	47	6.3x7.7	0.18	70
		8x6.2	0.18	75
	100	6.3x7.7	0.18	70
		8x6.2	0.18	75
		8x10.2	0.18	130
	150	8x10.2	0.18	130
	220	8x10.2	0.18	130
		10x10.2	0.18	180
	330	10x10.2	0.18	180

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ (%)	Ripple current (mA/rms 125℃) (120Hz)
35(44)	10	8x6.2	0.14	40
		8x10.2	0.14	50
	22	6.3x7.7	0.14	70
	33	6.3x7.7	0.14	70
		8x6.2	0.14	75
	47	6.3x7.7	0.14	70
		8X6.2	0.14	75
		8x10.2	0.14	130
	100	8x6.2	0.14	75
		8x10.2	0.14	130
		10x10.2	0.14	180
	120	8x10.2	0.14	130
	150	10x10.2	0.14	180
	220	8x10.2	0.14	130
		10x10.2	0.14	180
50(63)	10	8x6.2	0.12	70
		8x10.2	0.12	75
	22	6.3x7.7	0.12	70
		8x6.2	0.12	75
	33	8x10.2	0.12	130
	47	8x10.2	0.12	130
	82	8x10.2	0.12	130
	100	10x10.2	0.12	180
	150	10x10.2	0.12	180
	220	10x10.2	0.12	180

TEAPO

Surface Mount Aluminium Electrolytic Capacitors

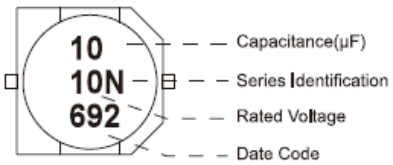
NV Non-polar Series

■ Endurance:105℃ 2000 hours
■Recommended Applications:Non-polarized,Low profile vertical chip, 5.5mm height (≦ Φ6.3)
■ Corresponding product to RoHS

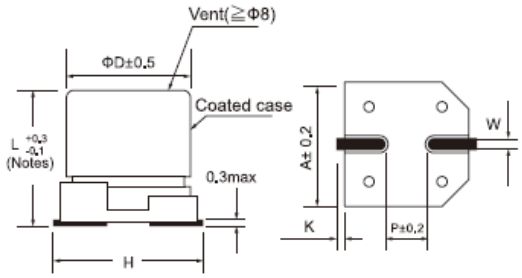
■ Specifications

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	6.3 ~ 50VDC
Rated Capacitance Range	1~ 47 μF
Capacitance Tolerance	± 20 % at 120Hz , 20℃
Leakage Current (20℃)	I≦0.01CV or 3 μA ,whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	Shown in the table of standard rating
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120HZ): 6.3 / 10 / 25 / 35 / 50 Z(-25℃) / Z(20℃): 4 / 3 / 2 / 2 / 2 Z(-40℃) / Z(20℃): 8 / 6 / 4 / 3 / 3
Endurance	After applying rated voltage for 2000Hrs at 105℃,Stay back to 20 ℃ temperature measurement,the capacitors shall meet the following requirements. Capacitance Change: Within ±20% of the initial value Dissipation Factor: Not more than 200% of the specified value Leakage Current: Not more than the specified value
Shelf Life	After placed at 105℃without voltage applied for 1000 hours,Stay back to 20 ℃ temperature measurement, the capacitor shall meet the same requirement as Endurance.

■MARKING



■ Dimensions [mm]



(Notes) Φ8 ~ Φ10&6.3X7.7=L±0.3

Dimensions	ΦD	L	A	H	W	P	K
B01	4.0	5.4	4.3	5.5 Max	0.65±0.1	1.0	0.35+0.15/-0.2
C01	5.0	5.4	5.3	6.5 Max	0.65±0.1	1.5	0.35+0.15/-0.2
E01	6.3	5.4	6.6	7.8 Max	0.65±0.1	1.8	0.35+0.15/-0.2

■ Multiplier for Ripple Current

Frequency (Hz)	60	120	1K	10K
Coefficient	0.85	1.00	1.10	1.20

NV Non-polar Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃) (120Hz)
6.3(8)	22	5x5.4	0.52	29
	33	6.3x5.4	0.52	43
	47	6.3x5.4	0.52	46
10(13)	10	4X5.4	0.40	25
	22	6.3x5.4	0.40	39
	33	6.3x5.4	0.40	43
16(20)	4.7	4X5.4	0.32	20
	10	5x5.4	0.32	25
	22	6.3x5.4	0.32	39
25(32)	3.3	4X5.4	0.28	12

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms 105℃) (120Hz)
25(32)	4.7	5x5.4	0.28	21
	10	6.3x5.4	0.28	28
35(44)	2.2	4X5.4	0.24	12
	3.3	5x5.4	0.24	21
	4.7	5x5.4	0.24	22
	10	6.3x5.4	0.24	30
50(63)	1	4X5.4	0.24	10
	2.2	5x5.4	0.24	16
	3.3	5x5.4	0.24	21
	4.7	6.3x5.4	0.24	31

TEAPO

Radial Type Aluminium Electrolytic Capacitors

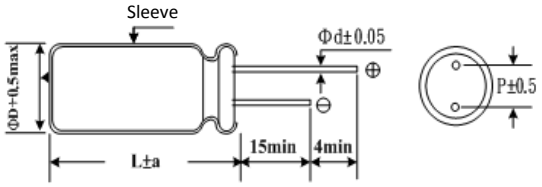
S5 Low Profice Series

- Endurance: 105℃ 1000hours
- Recommended Applications :Applicable for VTR,Camera,Car Audio,Miniaudio and other industrial/commrecial applications
- Corresponding product to RoHS

SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	6.3 ~ 50VDC
Rated Capacitance Range	1 ~ 470 μF
Capacitance Tolerance	± 20 % at 120Hz , 20℃
Leakage Current (20℃)	I=0.01CV or 3(μA) whichever is greater.(After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 6.3 / 10 / 16 / 25 / 35 / 50 tan δ: 0.24 / 0.20 / 0.17 / 0.15 / 0.12 / 0.10
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120Hz): 6.3 / 10 / 16 / 25 / 35 / 50 Z-25℃ / Z+20℃: 4 / 3 / 2 / 2 / 2 / 2 Z-40℃ / Z+20℃: 8 / 6 / 4 / 4 / 3 / 3
Endurance	After apply rated voltage for 1000 hours at 105℃,the capacitors shall meet the following requirements. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: initial specified value or less
Shelf Life	After placed at 105℃ without voltage applied for 500 hours,the capacitors shall meet the sane requirement as Endurance.

Dimensions [mm]



ΦD	4.0	5.0	6.3	8.0
P	1.5	2.0	2.5	3.5
Φd	0.45			
a	1.0			

Notes：8Φhave ven

Multiplier for Ripple Current

Freq. (Hz)	120	300	1K	10K
1~47 μF	1.00	1.20	1.30	1.50
100~330 μF	1.00	1.10	1.15	1.20

S5 Low profice Series

■STANDARD RATINGS

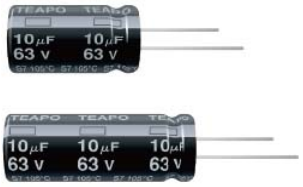
Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
6.3 (8)	10	4x5	0.24	18
	22	4x5	0.24	28
	33	4x5	0.24	33
	47	4x5	0.24	35
		5x5	0.24	45
	100	5x5	0.24	55
		6.3x5	0.24	70
	220	6.3x5	0.24	90
	330	8x5	0.24	115
	470	8x5	0.24	100
10 (13)	10	4x5	0.20	20
	22	5x5	0.20	33
	33	4x5	0.20	34
		5x5	0.20	41
	47	5x5	0.20	46
	68	6.3x5	0.20	54
	100	6.3x5	0.20	80
16 (20)	4.7	4x5	0.17	20
	10	4x5	0.17	23
	22	4x5	0.17	29
	22	5x5	0.17	37
	33	5x5	0.17	44
		6.3x5	0.17	49

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
16 (20)	47	5x5	0.17	54
		6.3x5	0.17	58
	100	6.3x5	0.17	85
25 (32)	4.7	4x5	0.15	16
	10	4x5	0.15	20
		5x5	0.15	27
	22	6.3x5	0.15	42
	33	5x5	0.15	45
		6.3x5	0.15	53
	47	5x5	0.15	55
		6.3x5	0.15	65
	100	8x5	0.15	90
35 (44)	4.7	4x5	0.12	18
	10	5x5	0.12	30
	22	6.3x5	0.12	48
50 (63)	1.0	4x5	0.10	9
	2.2	4x5	0.10	13
	3.3	4x5	0.10	17
	4.7	4x5	0.10	17
		5x5	0.10	20
	10	6.3x5	0.10	33
	22	6.3x5	0.1	55

TEAPO

Radial Type Aluminium Electrolytic Capacitors

S7 Low profice Series

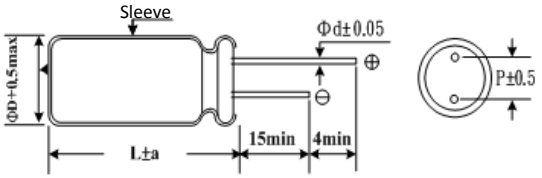


■ Endurance: 105℃ 1000 hours
■ Recommended Applications :For Portable Micro Computer,Disk Driver,
Small Calculator and Audio equipmeng…etc
■ Corresponding product to RoHS

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	6.3 ~ 63VDC
Rated Capacitance Range	1 ~ 470 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.01CV or 3(μA) whichever is greater.(After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 6.3 / 10 / 16 / 25 / 35 / 50 / 63 tan δ: 0.24 / 0.20 / 0.17 / 0.15 / 0.12 / 0.10 / 0.08
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120Hz): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 Z-25℃ / Z+20℃: 4 / 3 / 2 / 2 / 2 / 2 / 2 Z-40℃ / Z+20℃: 8 / 6 / 4 / 4 / 3 / 3 / 3
Endurance	After applying rated voltage for 1000 hours at 105℃,the capacitors shall meet the following requirements. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: initial specified value or less
Shelf Life	After placed at 105℃ without voltage applied for 500 hours,the capacitors shall meet the sane requirement as Endurance.

■ Dimensions [mm]



ΦD	4.0	5.0	6.3	8.0
P	1.5	2.0	2.5	3.5
Φd	0.45			
a	1.0			

Notes：8Φhave ven

■ Multiplier for Ripple Current

Freq. (Hz)	50	120	300	1K	10K
1~47 μF	0.75	1.00	1.20	1.30	1.50
100~330 μF	0.75	1.00	1.10	1.15	1.20

S7 Low profice Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
6.3 (8)	22	4x7	0.24	37
	33	5x7	0.24	42
	47	4x7	0.24	46
		5x7	0.24	55
	100	5x7	0.24	75
		6.3x7	0.24	90
	220	6.3x7	0.24	130
	330	8x7	0.24	140
10 (13)	22	4x7	0.20	31
		5x7	0.20	38
	33	4x7	0.20	39
		5x7	0.20	47
	47	4x7	0.20	50
		5x7	0.20	60
		6.3x7	0.20	60
	100	5x7	0.20	85
		6.3x7	0.20	100
	220	6.3x7	0.20	135
16 (20)	2.2	4x7	0.17	7
	3.3	4x7	0.17	13
	4.7	4x7	0.17	19
	10	4x7	0.17	29
	22	4x7	0.17	36
		5x7	0.17	44
	33	4x7	0.17	50
		5x7	0.17	57
	47	5x7	0.17	75
		6.3x7	0.17	77
	68	5x7	0.17	84
	100	5x7	0.17	94
		6.3x7	0.17	110
	150	6.3x7	0.17	120
	220	8x7	0.17	140
		8x9	0.17	140
	330	8x9	0.17	155
	470	8x9	0.17	165

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
25 (32)	4.7	4x7	0.15	24
	10	4x7	0.15	33
		5x7	0.15	35
		6.3x7	0.15	35
	22	4x7	0.15	43
		5x7	0.15	51
		6.3x7	0.15	53
	33	5x7	0.15	55
		6.3x7	0.15	65
	47	5x7	0.15	67
		6.3x7	0.15	79
	100	6.3x7	0.15	120
		8x7	0.15	120
35 (44)	4.7	4x7	0.12	24
		5x7	0.12	24
	10	4x7	0.12	34
		5x7	0.12	36
	22	5x7	0.12	48
		6.3x7	0.12	57
	33	6.3x7	0.12	70
	47	6.3x7	0.12	81
50 (63)	1.0	4x7	0.10	10
	2.2	4x7	0.10	19
	3.3	4x7	0.10	24
	4.7	4x7	0.10	29
		5x7	0.10	31
	10	4x7	0.10	37
		5x7	0.10	45
		6.3x7	0.10	45
	22	6.3x7	0.10	65
63 (79)	1.0	4x7	0.08	13
	2.2	4x7	0.08	21
	3.3	4x7	0.08	26
	4.7	4x7	0.08	26
		6.3x7	0.08	33
	10	5x7	0.08	42
		6.3x7	0.08	50

TEAPO

Radial Type Aluminium Electrolytic Capacitors

H5 Low profice Series

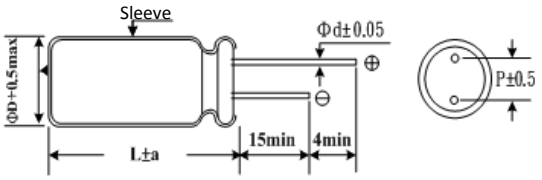
■ Endurance: 105℃ 2000hours
Low proglie/minianure,5mm height
■ Recommended Applications :Monitor/Compurer,AV(TV,Video,Audio),
OA/HA/Communication,Small signal
■ Corresponding product to RoHS

H5 ↑ Long Life
S5

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	6.3~ 50VDC
Rated Capacitance Range	1 ~ 330 μF
Capacitance Tolerance	± 20 % at 120Hz , 20℃
Leakage Current (20℃)	I=0.01CV or 3(μA) whichever is greater.(After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 6.3 / 10 / 16 / 25 / 35 / 50 tan δ: 0.26 / 0.24 / 0.20 / 0.16 / 0.13 / 0.12 Down size tan δ add 3%
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120Hz): 6.3 / 10 / 16 / 25 / 35 / 50 Z-25℃ / Z+20℃: 4 / 3 / 2 / 2 / 2 / 2 Z-40℃ / Z+20℃: 8 / 6 / 4 / 4 / 4 / 4
Endurance	After applying rated voltage for 2000 hours at 105℃,the capacitors shall meet the following requirements. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: initial specified value or less
Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,the capacitors shall meet the sane requirement as Endurance.

■ Dimensions [mm]



ΦD	4.0	5.0	6.3	8.0
P	1.5	2.0	2.5	3.5
Φd	0.45	0.45	0.45	0.45
a	1.0	1.0	1.0	1.0

Notes：8ΦHave ven

■ Multiplier for Ripple Current

Freq. (Hz)	50	120	1K	10K
6.3~16V	0.80	1.00	1.10	1.20
25~50V	0.80	1.00	1.50	1.70

H5

Low profice Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
6.3 (8)	10	4x5	0.26	15
	22	4x5	0.26	25
	33	5x5	0.26	30
	47	5x5	0.26	35
	100	6.3x5	0.26	60
	220	8x5	0.26	95
	330	8x5	0.26	120
10 (13)	10	4x5	0.24	20
	22	5x5	0.24	25
	33	5x5	0.24	35
	47	6.3x5	0.24	45
	100	6.3x5	0.24	70
16 (20)	4.7	4x5	0.20	10
	10	4x5	0.20	20
	22	5x5	0.20	30
	33	5x5	0.20	40

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
16 (20)	47	6.3x5	0.20	55
	100	6.3x5	0.2	90
25 (32)	4.7	4x5	0.16	15
	10	4x5	0.16	25
	22	6.3x5	0.16	40
	33	6.3x5	0.16	50
35 (44)	4.7	4x5	0.13	15
	10	5x5	0.13	30
	22	6.3x5	0.13	45
50 (63)	1.0	4x5	0.12	10
	2.2	4x5	0.12	15
	3.3	4x5	0.12	15
	4.7	5x5	0.12	20
	10	6.3x5	0.12	35
	22	6.3x5	0.12	55

TEAPO

Radial Type Aluminium Electrolytic Capacitors

H7 Low profice Series

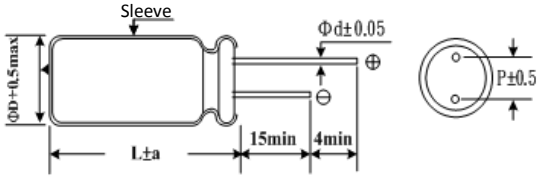
■ Endurance:105℃ 2000 hours
Low profile/miniature,7mm/9mm height
■ Recommended Applications :Monitor/Compurer,AV(TV,Video,Audio),
OA/HA/Communication,Small signal
■ Corresponding product to RoHS

H7 ↑ Long Life
S7

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	6.3 ~ 63VDC
Rated Capacitance Range	1 ~ 470 μF
Capacitance Tolerance	± 20 % at 120Hz , 20℃
Leakage Current (20℃)	I=0.01CV or 3(μA) whichever is greater.(After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 6.3 / 10 / 16 / 25 / 35 / 50 / 63 tan δ: 0.24 / 0.20 / 0.18 / 0.15 / 0.13 / 0.12 / 0.10 Down size tan δ add 3%
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120Hz): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 Z-25℃ / Z+20℃: 4 / 3 / 2 / 2 / 2 / 2 / 2 Z-40℃ / Z+20℃: 8 / 6 / 4 / 4 / 4 / 4 / 4
Endurance	After applying rated voltage for 2000 hours at 105℃,the capacitors shall meet the following requirements. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: initial specified value or less
Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,the capacitors shall meet the sane requirement as Endurance.

■ Dimensions [mm]



ΦD	4.0	5.0	6.3	8.0
P	1.5	2.0	2.5	3.5
Φd	0.45	0.45	0.45	0.5
a	1.0	1.0	1.0	1.0

Notes：8Φhave ven

■ Multiplier for Ripple Current

Freq. (Hz)	50	120	1K	10K
6.3~16V	0.80	1.00	1.1	1.2
25~35V	0.80	1.00	1.5	1.7
50~63V	0.80	1.00	1.6	1.9

H7

Low profice Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
6.3 (8)	33	4x7	0.24	35
	47	5x7	0.24	50
	100	5x7	0.24	70
	220	6.3x7	0.24	110
	330	8x7	0.24	150
	470	8x9	0.24	200
10 (13)	22	4x7	0.20	30
	33	4x7	0.20	40
	47	5x7	0.20	60
	100	6.3x7	0.20	90
	220	6.3x7	0.20	135
	330	8x9	0.20	160
	470	8x9	0.20	210
16 (20)	2.2	4x7	0.18	10
	3.3	4x7	0.18	10
	4.7	4x7	0.18	15
	10	4x7	0.18	25
	22	4x7	0.18	35
	33	5x7	0.18	50
	47	6.3x7	0.18	70
	100	6.3x7	0.18	110
	220	8x9	0.18	180
	330	8x9	0.18	210

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
25 (32)	4.7	4x7	0.15	20
	10	4x7	0.15	30
	22	5x7	0.15	50
	33	6.3x7	0.15	65
	47	6.3x7	0.15	70
	100	8x7	0.15	115
35 (44)	4.7	4x7	0.13	25
	10	4x7	0.13	35
	22	5x7	0.13	60
	33	6.3x7	0.13	70
	47	8x7	0.13	80
	100	8x9	0.13	145
50 (63)	1.0	4x7	0.12	10
	2.2	4x7	0.12	20
	3.3	4x7	0.12	25
	4.7	4x7	0.12	30
	10	5x7	0.12	35
	22	6.3x7	0.12	65
	33	8x7	0.12	80
	47	8x9	0.12	100
63 (79)	1.0	4x7	0.10	10
	2.2	4x7	0.10	20
	3.3	4x7	0.10	25
	4.7	5x7	0.10	35
	10	6.3x7	0.10	50

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SK Standard Series

■ Endurance: 85℃ 2000hours
■ Recommended Applications :For general purpose , decoupling , by pass and filtering circuit in entertainment electronics
■ Corresponding product to RoHS

■ SPECIFICATIONS

Item	Characteristics	
Category Temperature Range	-40~+85℃	-25~+85℃
Rated Voltage Range	6.3 ~ 100VDC	160 ~ 500VDC
Rated Capacitance Range	1 ~ 22000 μF	1 ~ 470 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.01CV or 3 μA whichever is greater.	I=0.03CV+10(μA)
	(After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)	

Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)

WV	6.3	10	16	25	35	50	63	100	160~250	350~500
tan δ	0.24	0.20	0.16	0.14	0.12	0.10	0.10	0.10	0.20	0.24

When nominal capacitance is over 1000 μF,tan δ shall be added 0.02 to the listed value with increase of every 1000 μF.

Low Temperature Stability Impedance Ratio (MAX)

WV / Z(120Hz)	6.3	10	16	25	35~100	160~250	315~350	400~500
Z-25℃ / Z+20℃	8	6	5	3	3	7	10	15
Z-40℃ / Z+20℃	10	8	6	4	3	—	—	—

Endurance

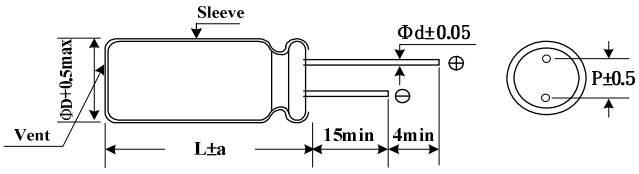
After applying rated voltage for 2000 hours at 85℃,Stay back to 20 ℃ temperature measurement, the capacitors shall meet the following requirements.

Capacitance change	Within ± 20% of initial value
D.F. (tan δ)	Not more than 200% of specified value
Leakage current	initial specified value or less

Shelf Life

The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for1,000 hours at 85℃ without voltage applied.

■ Dimensions [mm]



ΦD	5	6.3	8	10	13	16	18	22
P	2.0	2.5	3.5	5.0		7.5		10.0
Φd	0.5	0.5	0.6	0.6		0.8		0.8
a	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0

■ Multiplier for Ripple Current

Freq. (Hz)	120	300	1K	10~100K
6.3 ~ 100V ≦68 μF	1.00	1.20	1.30	1.50
6.3 ~ 100V 100 ~ 680 μF	1.00	1.10	1.15	1.20
6.3 ~ 100V 1000 ~ 22000 μF	1.00	1.05	1.10	1.15
160 ~ 450V ≦220 μF	1.00	1.25	1.40	1.40
160 ~ 450V >220 μF	1.00	1.10	1.13	1.13
500V all volume(μF)	1.00	1.05	1.10	1.10

SK

Standard Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms85℃) (120Hz)
6.3 (8)	22	5x11	0.24	35
	33	5x11	0.24	55
	47	5x11	0.24	75
	100	5x11	0.24	130
	220	5x11	0.24	200
		6.3x11	0.24	240
	330	6.3x11	0.24	260
	470	6.3x11	0.24	330
	680	8x11	0.24	410
	1000	8x11	0.24	460
		10x12.5	0.24	580
	2200	10x20	0.24	840
	3300	10x20	0.24	1000
	4700	13x20	0.24	1300
	6800	13x25	0.24	1550
	10000	16x25	0.24	1900
	15000	16x36	0.24	2500
	22000	18x40	0.24	3650
10 (13)	10	5x11	0.20	35
	22	5x11	0.20	55
	33	5x11	0.20	80
	47	5x11	0.20	95
	100	5x11	0.20	180
	220	6.3x11	0.20	250
	330	6.3x11	0.20	265
	470	6.3x11	0.20	320
	680	8x11	0.20	410
	1000	10x12.5	0.20	580
	2200	10x20	0.20	880
	3300	13x20	0.20	1250
	4700	13x25	0.20	1500
	6800	16x25	0.20	1900
	10000	16x36	0.20	2225
		18x32	0.20	2225
	15000	18x36	0.20	2950
	22000	22x40	0.20	3700
16 (20)	10	5x11	0.16	40
	22	5x11	0.16	75
	33	5x11	0.16	110
	47	5x11	0.16	130
	68	5x11	0.16	150
	100	5x11	0.16	165
	150	6.3x11	0.16	205
	220	6.3x11	0.16	260
	330	6.3x11	0.16	290
		8x11	0.16	360
	470	8x11	0.16	400
	680	10x12.5	0.16	510
	1000	10x15	0.16	630
	2200	13x20	0.16	1100
	3300	13x25	0.16	1400
	4700	16x25	0.16	1800
	6800	16x32	0.16	1980
	10000	18x36	0.16	2700
	15000	22x40	0.16	3150
	22000	22x40	0.16	3800
25 (32)	10	5x11	0.14	50
	22	5x11	0.14	90
	33	5x11	0.14	115
	47	5x11	0.14	135
	68	5x11	0.14	145
	100	6.3x11	0.14	160

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms85℃) (120Hz)
25 (32)	220	8x11	0.14	290
	330	8x11	0.14	315
	470	8x15	0.14	420
		10x12.5	0.14	460
	680	10x15	0.14	550
	1000	10x20	0.14	760
		13x16	0.14	760
	2200	13x25	0.14	1300
	3300	16x25	0.14	1660
	4700	16x32	0.14	1950
	6800	18x36	0.14	2550
	10000	22x40	0.14	2800
	15000	22x40	0.14	3200
35 (44)	10	5x11	0.12	60
	22	5x11	0.12	95
	33	5x11	0.12	120
	47	5x11	0.12	120
	100	6.3x11	0.12	185
	220	8x11	0.12	290
	330	10x12.5	0.12	420
	470	10x15	0.12	430
	680	10x20	0.12	550
	1000	13x20	0.12	950
	2200	16x25	0.12	1600
	3300	16x36	0.12	1970
		18x32	0.12	2050
	4700	18x36	0.12	2400
	6800	22x40	0.12	2600
50 (63)	10	5x11	0.10	65
	22	5x11	0.10	100
	33	5x11	0.10	105
	47	6.3x11	0.10	140
	100	8x11	0.10	230
	220	10x12.5	0.10	380
	330	10x15	0.10	490
	470	10x20	0.10	610
	1000	13x25	0.10	1100
	2200	16x36	0.10	1850
		18x32	0.10	1850
	3300	18x36	0.10	2170
	4700	22x40	0.10	2500
63 (79)	10	5x11	0.10	70
	22	5x11	0.10	95
		6.3x11	0.10	115
	33	6.3x11	0.10	130
	47	6.3x11	0.10	190
	100	10x12.5	0.10	300
	220	10x15	0.10	410
		10x20	0.10	490
	330	10x20	0.10	540
	470	13x20	0.10	755
	680	13x25	0.10	965
	1000	16x25	0.10	1310
	2200	18x36	0.10	2200
	3300	22x40	0.10	2500
100 (125)	10	5x11	0.10	65
		6.3x11	0.10	75
	22	6.3x11	0.10	105
		8x11	0.10	130
	33	8x11	0.10	140
	47	10x12.5	0.10	190
	68	10x15	0.10	280

SK

Standard Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms85℃) (120Hz)
100 (125)	100	10x20	0.10	400
	150	13x20	0.10	500
	220	13x25	0.10	710
	330	13x25	0.10	720
	470	16x25	0.10	1100
	680	16x36	0.10	1260
	1000	18x40	0.10	1350
160 (200)	1	5x11	0.20	17
		6.3x11	0.20	17
	2.2	6.3x11	0.20	26
	3.3	6.3x11	0.20	30
	4.7	6.3x11	0.20	32
	10	8x11	0.20	50
	22	10x15	0.20	110
	33	10x15	0.20	135
		10x20	0.20	150
	47	10x20	0.20	160
	68	13x20	0.20	200
	100	13x25	0.20	250
	150	16x25	0.20	330
	220	16x32	0.20	450
	330	18x36	0.20	540
	470	18x40	0.20	750
200 (250)	1	5x11	0.20	19
	2.2	6.3x11	0.20	22
	3.3	6.3x11	0.20	30
	4.7	6.3x11	0.20	35
	6.8	8x11	0.20	40
	10	8x11	0.20	45
	22	10x15	0.20	120
	33	10x20	0.20	160
	47	10x20	0.20	170
		13x20	0.20	200
	68	13x25	0.20	230
	100	16x25	0.20	330
	220	16x32	0.20	505
		18x25	0.20	485
	330	16x40	0.20	710
		18x32	0.20	685
	470	18x40	0.20	750
250 (300)	1	5x11	0.20	17
		6.3x11	0.20	19
	2.2	6.3x11	0.20	24
		8x11	0.2	30
	3.3	8x11	0.20	30
	4.7	8x11	0.20	36
	6.8	8x11	0.20	40
	10	10x12.5	0.20	65
	22	10x20	0.20	130

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms85℃) (120Hz)
250 (300)	33	13x20	0.20	140
	47	13x25	0.20	210
	100	16x25	0.20	250
	150	16x32	0.20	330
	220	18x36	0.20	540
350 (400)	1.0	6.3x11	0.24	19
	2.2	8x11	0.24	33
	3.3	8x11	0.24	33
	4.7	10x12.5	0.24	39
	10	10x15	0.24	70
	22	13x20	0.24	130
	33	13x25	0.24	170
	47	16x25	0.24	220
	100	16x36	0.24	320
		18x32	0.24	300
400 (450)	1.0	6.3x11	0.24	16
		8x11	0.24	19
	2.2	6.3x11	0.24	20
		8x11	0.24	26
	3.3	8x11	0.24	35
	4.7	8x11	0.24	38
		10x12.5	0.24	42
	6.8	8x15	0.24	42
		10x12.5	0.24	45
	10	10x15	0.24	50
	22	13x20	0.24	100
	33	13x25	0.24	140
	47	16x25	0.24	180
	68	16x32	0.24	250
		18x25	0.24	220
	100	18x32	0.24	320
	150	18x40	0.24	420
450 (500)	1.0	8x11	0.24	19
	2.2	10x12.5	0.24	33
	3.3	10x12.5	0.24	40
	4.7	10x12.5	0.24	45
	6.8	10x15	0.24	50
	10	10x20	0.24	58
		13x20	0.24	60
	22	13x25	0.24	98
	33	16x25	0.24	145
500(550)	2.2	10x12.5	1.24	33
	3.3	10x15	2.24	43
	6.8	10x20	3.24	70
	10	13x20	4.24	93
	22	16x25	5.24	105
	33	16x25	6.24	200
	47	18x32	7.24	185

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SH Standard Series

■ Endurance: 105℃ 2000hours
■ Recommended Applications :For high quality , reliability application, high CV product
■ Corresponding product to RoHS

SH ↑ High Temperature
SK

■ SPECIFICATIONS

Item	Characteristics		
Category Temperature Range	-40~+105℃	-25~+105℃	-25~+105℃
Rated Voltage Range	6.3 ~ 100VDC	160 ~ 450VDC	500VDC
Rated Capacitance Range	1~ 22000 μF	1 ~ 470 μF	2.2~82 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)	± 20 % (120Hz , 20℃)	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.01CV or 3(μA)whichever is greater.	I=0.03CV+10(μA)	I=0.04CV+100(uA)
	(After rated voltage applied for 2 minutes)I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)		

Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)

WV	6.3	10	16	25	35	50	63~100	160~250	350~450	500
tan δ	0.26	0.22	0.18	0.16	0.14	0.12	0.10	0.15	0.20	0.25

When nominal capacitance is over 1000 μF,tan δ shall be added 0.02 to the listed value with increase of every 1000 μF.

Low Temperature Stability Impedance Ratio (MAX)

WV / Z(120Hz)	6.3	10	16	25	35~100	160~250	350~450	500
Z-25℃ / Z+20℃	4	3	2	2	2	4	4	6
Z-40℃ / Z+20℃	8	6	4	4	3	—	—	—

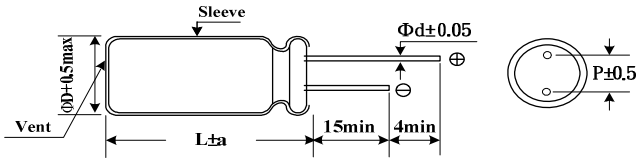
Endurance

After applying rated voltage for 2000 hours at 105℃ the capacitors shall meet the following requirements.

Capacitance change	Within ± 20% of initial value
D.F. (tan δ)	Not more than 200% of specified value
Leakage current	initial specified value or less

Shelf Life: After leaving capacitors under no load at 105℃ for 1000 hours.the capacitors shall meet the same requirement as Endurance.

■ Dimensions [mm]



φD	5	6.3	8	10	13	16	18	22
p	2.0	2.5	3.5	5.0		7.5		10.0
φd	0.5	0.5	0.6	0.6		0.8		0.8
a	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0

■ Multiplier for Ripple Current

Freq. (Hz)	120	300	1K	10K~100K
6.3 ~ 100V ≦68 μF	1.00	1.30	1.57	2.00
6.3 ~ 100V 100 ~ 470 μF	1.00	1.23	1.34	1.50
6.3 ~ 100V 471 ~ 22000 μF	1.00	1.10	1.13	1.15
160 ~ 450V all volume(μF)	1.00	1.25	1.40	1.60
500Vall volume(μF)	1.00	1.05	1.10	1.15

SH

Standard Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
6.3 (8)	100	5x11	0.26	100
	150	5x11	0.26	120
	220	6.3x11	0.26	165
	330	6.3x11	0.26	200
	470	6.3x11	0.26	230
	680	8x11	0.26	350
	1000	8x15	0.26	445
		10x12.5	0.26	470
	1500	10x15	0.26	600
	2200	10x20	0.26	800
	3300	13x20	0.26	1100
	4700	13x20	0.26	1180
	6800	13x25	0.26	1490
	10000	16x32	0.26	1830
	15000	16x36	0.26	2090
	22000	18x40	0.26	2350
10 (13)	47	5x11	0.22	75
	68	5x11	0.22	80
	100	5x11	0.22	110
	150	5x11	0.22	120
	220	6.3x11	0.22	180
	330	6.3x11	0.22	235
		8x11	0.22	255
	470	6.3x11	0.22	250
		8x11	0.22	305
	680	8x11	0.22	365
		10x12.5	0.22	420
	1000	8x15	0.22	480
		10x12.5	0.22	540
	1500	10x20	0.22	800
	2200	10x20	0.22	870
	3300	13x20	0.22	1100
	4700	13x25	0.22	1380
	6800	16x25	0.22	1700
	10000	16x36	0.22	1950
	15000	18x36	0.22	2180
16 (20)	33	5x11	0.18	70
	47	5x11	0.18	85
	68	5x11	0.18	100
	100	5x11	0.18	130
	150	6.3x11	0.18	175
	220	6.3x11	0.18	220
	330	8x11	0.18	280
	470	8x11	0.18	375
	680	8x15	0.18	450
		10x12.5	0.18	480
	1000	10x15	0.18	640
	1500	10x20	0.18	830
	2200	13x20	0.18	1050
	3300	13x25	0.18	1250
	4700	16x25	0.18	1650
	6800	16x32	0.18	1900
	10000	18x36	0.18	2070
25 (32)	22	5x11	0.16	60
	33	5x11	0.16	75
	47	5x11	0.16	90
	68	6.3x11	0.16	125
	100	6.3x11	0.16	145
	150	8x11	0.16	200
	220	8x11	0.16	240
	330	8x11	0.16	300
		10x12.5	0.16	355

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
25 (32)	470	8x15	0.16	420
		10x12.5	0.16	440
	680	10x15	0.16	560
	1000	10x20	0.16	740
	1500	13x20	0.16	920
	2200	13x25	0.16	1230
	3300	16x25	0.16	1500
	4700	16x32	0.16	1800
	6800	18x36	0.16	2050
35 (44)	10	5x11	0.14	44
	15	5x11	0.14	50
	22	5x11	0.14	65
	33	5x11	0.14	85
	47	5x11	0.14	100
	68	6.3x11	0.14	130
	100	6.3x11	0.14	170
	150	8x11	0.14	220
	220	10x12.5	0.14	315
	330	10x12.5	0.14	400
	470	10x15	0.14	480
	680	10x20	0.14	650
	1000	13x20	0.14	900
	1500	13x25	0.14	1050
	2200	16x25	0.14	1370
	3300	16x36	0.14	1680
	4700	18x36	0.14	1920
50 (63)	1	5x11	0.12	12
	2.2	5x11	0.12	18
	3.3	5x11	0.12	25
	4.7	5x11	0.12	30
	6.8	5x11	0.12	30
	10	5x11	0.12	50
	15	5x11	0.12	50
	22	5x11	0.12	75
	33	5x11	0.12	95
	47	6.3x11	0.12	115
	68	8x11	0.12	159
	100	8x11	0.12	200
	150	10x12.5	0.12	289
	220	10x12.5	0.12	360
		10x15	0.12	415
	330	10x20	0.12	535
	470	10x20	0.12	630
		13x20	0.12	730
	680	13x20	0.12	800
	1000	13x25	0.12	1060
	1500	16x25	0.12	1300
	2200	16x36	0.12	1600
	3300	18x36	0.12	1780
63 (79)	10	5x11	0.1	55
	15	5x11	0.1	65
	22	6.3x11	0.1	90
	33	6.3x11	0.1	100
	47	8x11	0.1	155
	68	10x12.5	0.1	198
	100	10x12.5	0.10	260
	150	10x15	0.10	330
	220	10x20	0.10	465
	330	13x20	0.10	650
	470	13x20	0.10	700
	680	16x25	0.10	1000
	1000	16x32	0.10	1200

SH Standard Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
63 (79)	1500	16x36	0.10	1450
	2200	18x36	0.10	1650
100 (125)	10	6.3x11	0.10	65
	15	6.3x11	0.10	75
	22	8x11	0.10	115
	33	8x11	0.10	140
	47	10x12.5	0.10	185
	68	10x15	0.10	240
	100	10x20	0.10	305
	150	13x20	0.10	370
	220	13x25	0.10	520
	330	16x25	0.10	720
	470	16x32	0.10	875
	680	16x36	0.10	1200
160 (200)	1	5x11	0.15	17
	2.2	6.3x11	0.15	25
	3.3	6.3x11	0.15	36
	4.7	6.3x11	0.15	43
	6.8	8x11	0.15	54
	10	8x11	0.15	70
	15	10x12.5	0.15	90
	22	10x15	0.15	115
	33	10x20	0.15	160
	47	10x20	0.15	195
	68	13x20	0.15	255
	100	13x25	0.15	350
	150	16x25	0.15	435
	220	16x32	0.15	550
	330	18x36	0.15	800
	470	18x40	0.15	900
200 (250)	1	6.3x11	0.15	17
	2.2	6.3x11	0.15	25
	3.3	6.3x11	0.15	36
	4.7	8x11	0.15	50
	6.8	8x11	0.15	60
	10	10x12.5	0.15	80
	15	10x15	0.15	110
	22	10x20	0.15	140
	33	13x20	0.15	200
	47	13x20	0.15	220
	68	13x25	0.15	280
	100	16x25	0.15	350
	150	16x32	0.15	480
	220	16x36	0.15	675
		18x32	0.15	685
	330	18x36	0.15	750
250 (300)	1	6.3x11	0.15	17
	2.2	6.3x11	0.15	29
	3.3	8x11	0.15	42
	4.7	8x11	0.15	52
	6.8	8x11	0.15	62
	10	10x12.5	0.15	80
	15	10x15	0.15	110
	22	10x20	0.15	140
	33	13x20	0.15	200
	47	13x25	0.15	240
	68	13x25	0.15	290
	100	16x25	0.15	380
	150	16x32	0.15	420
	220	18x36	0.15	680
350 (400)	1	6.3x11	0.20	16
	2.2	8x11	0.20	31
	3.3	8x11	0.20	35
	4.7	8x11	0.20	45
	10	10x15	0.20	80
	22	13x20	0.20	150
	33	13x25	0.20	200
	47	16x25	0.20	260
	100	18x32	0.20	400
400 (450)	1	6.3x11	0.20	17
	2.2	8x11	0.20	31
	3.3	8x11	0.20	35
	4.7	8x11	0.20	45
		10x12.5	0.20	55
	6.8	8x15	0.20	60
		10x12.5	0.20	65
	10	10x15	0.2	80
	15	10x20	0.2	100
	22	13x20	0.2	150
	33	13x25	0.2	200
	47	16x25	0.2	265
	68	16x32	0.2	410
		18x25	0.2	390
	100	18x32	0.2	500
	120	18x32	0.2	520
		18x36	0.2	550
	150	18x40	0.2	620
420 (470)	1	6.3x11	0.2	17
	2.2	8x11	0.2	29
	3.3	8x11	0.2	34
	4.7	10x12.5	0.2	55
	6.8	10x15	0.2	68
	10	10x20	0.20	98
	15	13x20	0.20	130
	22	13x25	0.20	155
	33	16x25	0.20	205
	47	16x25	0.20	235
	68	16x32	0.20	400
		18x25	0.20	380
	100	18x36	0.20	490
	120	18x40	0.20	530
	150	18x45	0.20	570
450 (500)	1.0	6.3x11	0.20	18
		8x11	0.20	22
	2.2	8x11	0.20	30
		10x12.5	0.20	37
	3.3	8x15	0.20	42
		10x12.5	0.20	40
	4.7	10x12.5	0.20	52
	6.8	10x15	0.20	62
	10	10x20	0.20	85
	15	13x20	0.20	120
	22	13x25	0.20	150
	33	16x25	0.20	210
	47	16x25	0.20	260
	68	18x32	0.20	370
	100	18x36	0.20	495
	120	18x40	0.20	565
	150	18x45	0.20	650
500 (550)	2.2	8x11	0.25	25
	3.3	8x16	0.25	30
	4.7	8x16	0.25	34
		10x12.5	0.25	38
	6.8	10x16	0.25	50

SH

Standard Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
500 (550)	8.2	10x20	0.25	65
	10	10x20	0.25	70
		13x20	0.25	85
	15	13x25	0.25	100
	22	13x25	0.25	115
		16x25	0.25	130

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
500 (550)	33	18x25	0.25	180
	47	16x32	0.25	180
		18x30	0.25	230
	68	18x32	0.25	250
		18x36	0.25	290
	82	18x40	0.25	335

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SZ Ultra low impedance Series

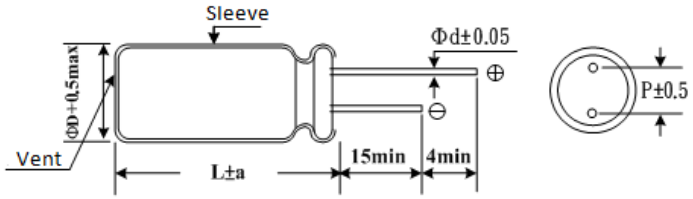
■ Endurance: 105℃ 1000~2000 hours
■ Recommended Applications : Applicable for switching regulator of computer, especially for high frequency
■ Corresponding product to RoHS

SZ
↑ Low Impedance
SC

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	6.3 ~ 16VDC
Rated Capacitance Range	470 ~ 3300 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.03CV ,(After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 6.3 / 10 / 16 tan δ: 0.22 / 0.19 / 0.16 When nominal capacitance is over 1000 μF,tan δ shall be added 0.02 to the listed value with increase of every 1000 μF.
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120Hz): 6.3 / 10 / 16 Z-25℃ / Z+20℃: 4 / 3 / 2 Z-40℃ / Z+20℃: 8 / 6 / 4
Endurance	After applying rated voltage with ripple current for 1000~2000 hours at 105℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 25% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value *If dimension is down size,Endurance will be less 1000 hours than standard.
Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,the capacitors shall meet the same requirement as Endurance.

■ Dimensions [mm]



ΦD	8	10
P	3.5	5
Φd	0.6	0.6
a	1.5	1.5

■ Multiplier for Ripple Current

Freq. (Hz)	120	1K	10K	100K
Factor	0.5	0.8	0.9	1.0

Radial Type Aluminium Electrolytic Capacitors

SZ Ultra low impedance Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (mΩ,20℃) (100KHz)
6.3V (8)	820	8 x 11	1036	43
	1200	8 x 15	1355	34
	1500	8 x 20	1740	25
		10 x 12.5	1400	31
	1800	10 x 16	1818	23
	2200	10 x 20	2318	15
	3300	10 x 25	2364	14
10V (13)	680	8 x 11	1036	43
	1000	8 x 15	1355	34
		10 x 12.5	1400	31
	1500	8 x 20	1700	25

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (mΩ,20℃) (100KHz)
10V (13)	1500	10 x 16	1818	23
	1800	10 x 20	2318	16
	2200	10 x 25	2545	14
16V (20)	470	8 x 11	1036	43
	680	8 x 15	1355	34
		10 x 12.5	1400	31
	1000	8 x 20	1700	25
		10 x 16	1818	23
	1500	10 x 20	2318	16
	1800	10 x 25	2546	14

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SC Low impedance、High Ripple Series

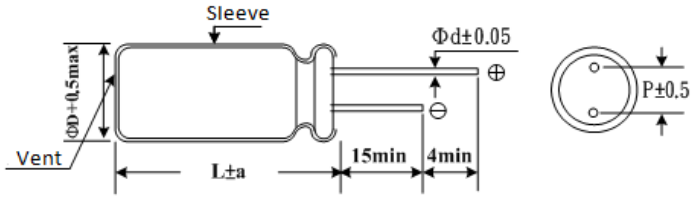
■ Endurance: 105℃ 1000~3000 hours
■ Recommended Applications : Applicable for switching regulator of computer , especially for high frequency
■ Corresponding product to RoHS

SY ↑ Long Life
SC

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	6.3 ~ 100VDC
Rated Capacitance Range	4.7 ~ 15000 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.01CV or 3 μA whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100 tan δ: 0.22 / 0.19 / 0.16 / 0.14 / 0.12 / 0.10 / 0.09 / 0.08 When nominal capacitance is over 1000 μF,tan δ shall be added 0.02 to the listed value with increase of every 1000 μF.
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120Hz): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100 Z-25℃ / Z+20℃: 4 / 3 / 3 / 3 / 3 / 2 / 2 / 2 Z-40℃ / Z+20℃: 8 / 6 / 4 / 4 / 4 / 4 / 4 / 4
Endurance	After applying rated voltage with ripple current for 1000~3000 hours at 105℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value Case size (Φ): 5 x 11 ~ 10 x 12.5 / 10 x 15higher Life time (hours): 2000 / 3000 *If dimension is down size,Endurance will be less 1000hrs than standard.
Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,the capacitors shall meet the same requirement as Endurance.

■ Dimensions [mm]



ΦD	5	6.3	8	10	13	16	18	22
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0
Φd	0.50	0.5	0.6	0.6	0.6	0.8	0.8	0.8
a	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0

■ Multiplier for Ripple Current

Cap (μF) \ Freq. (Hz)	50	120	300	1K	10K	100K
≦ 4.7 μF	0.30	0.40	0.50	0.70	0.80	1.00
5.6 ~ 33 μF	0.40	0.50	0.60	0.80	0.90	1.00
34 ~ 330 μF	0.60	0.70	0.80	0.90	0.95	1.00
331 ~ 1000 μF	0.65	0.90	0.90	0.98	1.00	1.00
1200 μF Above	0.85	0.90	0.95	0.98	1.00	1.00

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SC Low impedance、High Ripple Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
6.3V (8)	150	5x11	200	0.420
	220	6.3x11	250	0.320
	270	6.3x11	250	0.220
	330	6.3x11	250	0.230
		8x11	400	0.180
	470	*6.3x11	440	0.180
		8x11	550	0.140
	680	*8x11	580	0.120
		8x15	700	0.100
	820	8x20	750	0.085
	1000	*8x11	580	0.150
		8x15	700	0.085
		8x20	800	0.069
		10x12.5	690	0.080
	1200	10x16	1000	0.064
	1500	*8x15	980	0.085
		8x20	800	0.051
		*10x16	1070	0.055
		10x20	1250	0.044
	2200	*10x20	1220	0.051
		*10x25	1310	0.048
		13x20	1450	0.043
	3300	*10x25	1400	0.043
		13x25	1700	0.035
	3900	13x25	1750	0.032
	4700	*13x30	1570	0.033
		*13x25	1520	0.032
		16x25	1800	0.028
	6800	16x32	2000	0.024
	8200	16x32	2350	0.019
	10000	16x36	2550	0.019
	15000	18x36	3000	0.019
10V (13)	100	5x11	150	0.420
	120	5x11	200	0.370
	150	6.3x11	250	0.320
	220	6.3x11	300	0.220
	330	8x11	550	0.140
	470	8x11	550	0.120
		8x15	750	0.100
	680	*8x11	640	0.110
		10x12.5	800	0.085
	820	10x16	1050	0.064
	1000	8x20	1080	0.065
		*10x12.5	930	0.075
		10x16	990	0.085
		10x20	1100	0.050
	1200	10x20	1250	0.044
	1500	10x20	1450	0.039
	2200	*10x20	1330	0.047
		*10x25	1450	0.039
		13x20	1600	0.038
	3300	*10x30	1740	0.032
		13x25	2000	0.028
	4700	*13x25	1860	0.028
		16x25	2200	0.024
	6800	16x36	2550	0.019
	8200	18x36	2800	0.019
16V (20)	56	5x11	100	0.630
	68	5x11	150	0.420
	100	5x11	200	0.370
	120	6.3x11	250	0.320
	150	6.3x11	300	0.220

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
16V (20)	220	8x11	550	0.140
	330	8x11	550	0.120
		8x15	750	0.100
		10x12.5	688	0.080
	470	8x15	730	0.093
		10x12.5	800	0.085
	680	10x16	1050	0.064
	820	10x20	1100	0.044
	1000	*10x16	1140	0.043
		10x20	1250	0.039
	1200	*10x25	1310	0.042
		13x20	1450	0.038
	1500	*10x20	1200	0.045
		13x20	1600	0.034
	2200	*10x30	1780	0.032
		*13x20	1720	0.033
		13x25	2000	0.028
	3300	*13x40	2200	0.026
		16x25	2200	0.024
	4700	16x36	2550	0.019
	6800	18x36	2800	0.019
25V (32)	10	5x11	50	0.550
	47	5x11	150	0.450
	56	5x11	150	0.420
	68	6.3x11	200	0.370
	100	6.3x11	250	0.220
	120	8x11	300	0.200
	150	8x11	550	0.140
	220	8x11	550	0.120
		8x15	750	0.100
	330	*8x15	660	0.100
		8x20	800	0.069
		10x16	900	0.086
	470	8x20	800	0.067
		10x12.5	760	0.086
		10x16	1050	0.064
	680	10x20	1100	0.039
	820	10x20	1250	0.039
	1000	*10x20	1160	0.047
		*10x25	1310	0.042
		13x20	1450	0.038
	1200	13x25	1600	0.035
	1500	*13x30	1750	0.032
		16x25	2000	0.028
	2200	*13x30	1810	0.029
		*16x25	1660	0.032
		16x32	2200	0.024
	3300	*16x36	2540	0.019
		18x36	2550	0.019
	4700	18x36	2800	0.019
	6800	18x36	2800	0.019
35V (44)	4.7	5x11	115	1.200
	6.8	5x11	120	1.000
	10	5x11	140	0.900
	15	5x11	170	0.690
	22	5x11	190	0.600
	33	5x11	200	0.580
	47	6.3x11	250	0.390
	68	6.3x11	300	0.220
	100	6.3x11	350	0.180
		8x11	450	0.140
	120	8x11	550	0.130

" * " is down size , Ripple Life is less 1000 hrs than standard

Radial Type Aluminium Electrolytic Capacitors

SC Low impedance、High Ripple Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
35V (44)	150	8x15	650	0.100
	220	8x15	650	0.100
		10x12.5	800	0.069
	330	*10x16	900	0.052
		10x20	1050	0.044
	470	10x20	1300	0.039
	680	13x20	1400	0.038
	820	13x20	1550	0.034
	1000	13x25	1700	0.029
	1200	16x25	1900	0.028
	1500	16x25	2100	0.024
	2200	*16x32	2300	0.021
		16x36	2550	0.019
	3300	18x36	2880	0.019
50V (63)	4.7	5x11	115	2.000
	6.8	5x11	120	1.850
	10	5x11	140	1.700
	15	5x11	180	1.200
	22	5x11	200	0.700
	33	6.3x11	250	0.600
	47	6.3x11	300	0.520
	68	8x11	450	0.350
	100	8x11	450	0.290
		8x15	550	0.250
	120	8x20	650	0.210
	150	10x12.5	800	0.160
	220	*10x16	1050	0.100
		10x25	1050	0.068
	330	10x20	1300	0.072
	470	*10x20	1390	0.075
		13x20	1400	0.060
	680	13x25	1550	0.050
	820	16x25	1700	0.040

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
50V (63)	1000	16x25	1900	0.039
	1200	16x32	2100	0.025
	1500	16x36	2550	0.025
	2200	18x40	2800	0.025
63V (79)	10	5x11	140	1.850
	15	5x11	200	1.700
	22	6.3x11	250	1.200
	33	6.3x11	300	0.900
	47	8x11	450	0.700
	68	8x11	550	0.520
	100	8x20	650	0.350
	120	10x16	800	0.300
	150	10x16	1050	0.200
	220	10x20	1300	0.150
	330	13x20	1400	0.100
	470	13x25	1550	0.064
	680	16x25	1700	0.052
	820	16x32	1900	0.048
	1000	16x32	2100	0.042
	1200	16x36	2550	0.036
	1500	18x36	2800	0.033
100V (125)	10	6.3x11	200	1.500
	15	6.3x11	250	1.200
	22	8x11	300	0.790
	33	8x15	450	0.590
	47	10x16	550	0.350
	68	10x20	650	0.240
	100	13x20	800	0.180
	120	13x25	1050	0.150
	150	13x25	1300	0.110
	220	16x25	1400	0.071
	330	16x32	1550	0.049
	470	18x36	1770	0.038

" ＊ " is down size , Ripple Life is less 1000 hrs than standard

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SJ Low impedance、High Ripple Series

■ Endurance: 105℃, 1000～5000 hours

■ Recommended Applications : Applying to AV(TV, video, audio), monitor /computer, OA/HA /communication, transducer/inverter, adapter, switching power supply

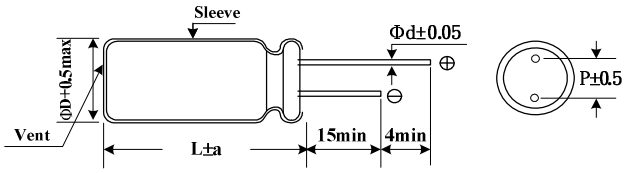
SJ
↑ Low impedance
SC

■ Corresponding product to RoHS

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	6.3 ~ 100VDC
Rated Capacitance Range	5.6 ~ 6800 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I≦0.01CV or 3 μA ,whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100 tan δ: 0.22 / 0.19 / 0.16 / 0.14 / 0.12 / 0.10 / 0.09 / 0.08 When nominal capacitance is over 1000 μF,tan δ shall be added 0.02 to the listed value with increase of every 1000 μF.
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120Hz): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100 Z(-25℃) / Z(20℃): 4 / 3 / 2 / 2 / 2 / 2 / 2 / 2 Z(-40℃) / Z(20℃): 8 / 6 / 4 / 3 / 3 / 3 / 3 / 3
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃ after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for the specified period of time at 105℃. Capacitance change: Within ± 25% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value Case size (Φ) / Life time (hours): L=7: 1000 L≧11: ΦD≦6.3: 2000; ΦD = 8: 3000; ΦD = 10: 4000; ΦD≧13: 5000 *If dimension is down size,Endurance will be less 1000hrs than standard.
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for1,000 hours (L=7mm is 500Hours)at 105℃ without voltage applied.

■ Dimensions [mm]



ΦD	4	5	6.3	8	10	13	16	18
P	1.5	2	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.45	0.5（0.45）	0.5（0.45）	0.6（0.5）	0.6	0.6	0.8	0.8
a	1.0	1.5（1.0）	1.5（1.0）	1.5（1.0）	1.5	2.0	2.0	2.0

( ) : L = 7

■ Multiplier for Ripple Current

Freq. (Hz)	50	120	1K	10K	100K
5.6 ~ 390 μF	0.60	0.70	0.85	0.95	1.00
470 ~ 1000 μF	0.65	0.75	0.90	0.98	1.00
1200 ~ 6800 μF	0.75	0.80	0.95	1.00	1.00

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SJ Low impedance、High Ripple Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
6.3V (8)	39	4x7	130	0.85
	47	5x7	175	0.7
	56	5x7	190	0. 56
	68	5x7	210	0.43
	100	5x11	200	0.43
		6.3x7	240	0.35
	120	5x11	220	0.38
		6.3x7	270	0.29
	150	5x11	250	0.3
		6.3x7	300	0.23
	180	8x7	340	0.18
	220	8x7	380	0.15
	270	6.3x11	370	0.16
	330	6.3x11	410	0.13
	470	8x11	680	0.086
	560	8x11	760	0.072
	680	8x15	900	0.062
	820	8x15	1000	0.056
	1000	10x12.5	1030	0.053
	1200	8x20	1250	0.041
		10x16	1430	0.038
	1500	10x20	1820	0.026
	1800	10x25	1940	0.025
	2200	10x25	2150	0.023
	2700	13x20	2230	0.022
	3300	13x20	2360	0.021
	3900	13x25	2770	0.018
	4700	13x30	3290	0.016
	5600	13x35	3400	0.015
		16x20	3140	0.018
	6800	16x25	3460	0.016
10V (13)	27	4x7	130	0.89
	33	5x7	160	0.75
	39	5x7	175	0.64
	47	5x7	190	0.53
	56	5x7	210	0.44
	68	5x11	210	0.44
	100	5x11	250	0.3
	120	6.3x7	300	0.23
	150	8x7	350	0.18
	180	8x7	380	0.15
	220	6.3x11	410	0.13
	270	8x11	580	0.12
	330	8x11	640	0.1
	470	8x11	760	0.072
	560	8x15	910	0.068
		10x12.5	940	0.064
	680	10x12.5	1030	0.053
	820	8x20	1130	0.05
		10x16	1300	0.046
	1000	8x20	1250	0.041
		10x16	1430	0.038
	1200	10x20	1820	0.026
	1500	10x25	2150	0.023
	1800	13x20	2230	0.022
	2200	13x20	2360	0.021
	2700	13x25	2510	0.02
	3300	13x25	2770	0.018
	3900	13x30	3290	0.016
		16x20	3140	0.018
	4700	13x35	3400	0.015
	5600	16x25	3460	0.016

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
16V (20)	18	4x7	130	0.92
	27	5x7	190	0.61
	33	5x7	210	0.45
	39	5x11	220	0.43
	47	5x11	230	0.36
	56	5x11	250	0.3
	68	6.3x7	300	0.24
	100	6.3x11	370	0.16
		8x7	350	0.18
	120	6.3x11	410	0.13
		8x7	380	0.15
	150	8x11	510	0.12
	180	8x11	560	0.11
	220	8x11	620	0.1
	270	8x11	690	0.088
	330	8x11	760	0.072
	470	8x15	1000	0.056
		10x12.5	1030	0.053
	560	8x20	1140	0.049
		10x16	1300	0.046
	680	8x20	1250	0.041
		10x16	1430	0.038
	820	10x20	1650	0.032
	1000	10x20	1820	0.026
	1200	10x25	2150	0.023
	1500	13x20	2360	0.021
	1800	13x25	2510	0.02
	2200	13x25	2770	0.018
	2700	13x30	3290	0.016
		16x20	3140	0.018
	3300	13x35	3400	0.015
	3900	16x25	3460	0.016
25V (32)	15	4x7	130	0.94
	18	5x7	170	0.69
	27	5x7	210	0.46
	33	5x11	220	0.42
	39	5x11	230	0.36
	47	5x11	250	0.3
	56	6.3x7	300	0.24
	68	6.3x11	340	0.19
		8x7	310	0.22
	100	6.3x11	410	0.13
		8x7	380	0.15
	120	8x11	560	0.12
	150	8x11	630	0.105
	180	8x11	690	0.088
	220	8x11	760	0.072
	270	8x15	900	0.068
		10x12.5	930	0.065
	330	10x12.5	1030	0.053
	470	8x20	1250	0.041
		10x16	1430	0.038
	560	10x20	1650	0.032
	680	10x20	1820	0.026
	820	10x25	2150	0.023
	1000	13x20	2360	0.021
	1200	13x25	2510	0.02
	1500	13x25	2770	0.018
	1800	13x30	3290	0.016
		16x20	3140	0.018
	2200	13x35	3400	0.015
	2700	16x25	3460	0.016

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SJ Low impedance、High Ripple Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
35V (44)	10	4x7	130	0.96
	15	5x7	190	0.57
	18	5x7	210	0.47
	27	5x11	230	0.37
	33	5x11	250	0.30
	39	6.3x7	300	0.25
	47	6.3x11	380	0.15
		8x7	350	0.19
	56	6.3x11	410	0.13
		8x7	380	0.16
	68	8x11	510	0.12
	100	8x11	620	0.105
	120	8x11	680	0.088
	150	8x11	760	0.072
	180	8x15	910	0.068
		10x12.5	930	0.065
	220	10x12.5	1030	0.053
	270	8x20	1250	0.041
	330	10x16	1430	0.038
	470	10x20	1820	0.026
	560	10x25	2150	0.023
	680	13x20	2360	0.023
	820	13x25	2510	0.02
	1000	13x25	2770	0.018
	1200	13x30	3290	0.016
		16x20	3140	0.018
	1500	13x35	3400	0.015
	1800	16x25	3460	0.016
50V (63)	5.6	4x7	130	1
	6.8	5x7	170	0.74
	10	5x7	210	0.5
	15	6.3x7	220	0.38
		5x11	215	0.48
	22	6.3x7	300	0.26
		5x11	240	0.34
	27	8x7	340	0.21
	33	8x7	380	0.17
	39	6.3x11	330	0.16
	47	6.3x11	360	0.15
	56	6.3x11	390	0.14
	68	8x11	600	0.11
	82	8x11	660	0.09
	100	8x11	730	0.074
	120	8x15	950	0.065
	150	10x12.5	980	0.061
	180	8x20	1190	0.046
	220	10x16	1370	0.042
	270	10x20	1580	0.03
	330	10x25	1870	0.028
	390	13x20	1870	0.028
	470	13x20	2050	0.027
	560	13x25	2410	0.023
	680	13x30	2860	0.021
	820	13x35	2960	0.019
		16x20	2730	0.023
	1000	16x32	3350	0.021
63V (79)	15	5x11	136	1.19
	22	6.3x11	176	0.88
	27	6.3x11	192	0.58
	33	6.3x11	216	0.47

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
63V (79)	39	8x11	308	0.42
	47	8x11	336	0.35
	56	8x11	400	0.35
	68	8x15	488	0.26
		10x12.5	500	0.24
	82	8x15	536	0.22
		10x12.5	552	0.20
	100	10x16	640	0.16
	120	8x20	656	0.16
		10x16	760	0.15
	150	10x20	808	0.13
		13x16	832	0.13
	180	10x20	880	0.11
		13x16	912	0.11
	220	10x25	1040	0.099
	270	13x20	1200	0.081
	330	13x25	1480	0.058
	390	13x30	1640	0.063
		16x20	1448	0.073
	470	13x30	1800	0.061
		16x20	1592	0.061
	560	13x35	1960	0.047
		16x25	2040	0.043
	680	13x40	2224	0.039
		18x20	1960	0.051
	820	16x32	2248	0.035
		18x25	2224	0.042
	1000	16x36	2272	0.028
		18x32	2616	0.034
	1200	16x40	2672	0.026
		18x36	2648	0.027
	1500	18x40	2736	0.024
100V (125)	10	6.3x11	170	0.95
	15	6.3x 11	210	0.57
	22	8x11	330	0.44
	27	8x11	360	0.36
	33	8x15	375	0.3
	39	8x15	450	0.25
	47	10x12.5	450	0.24
	56	8x20	570	0.19
	68	10x16	580	0.18
	82	10x20	750	0.13
		13x16	740	0.13
	100	10x25	880	0.12
	120	13x20	1050	0.094
	150	13x25	1100	0.085
	180	13x25	1200	0.071
	220	13x30	1410	0.063
		16x20	1300	0.071
	270	13x35	1560	0.052
		16x25	1600	0.053
		18x20	1470	0.069
	330	13x40	1700	0.046
	390	16x32	1750	0.041
		18x25	1620	0.049
	470	16x36	1890	0.033
		18x32	1780	0.039
	560	16x40	2080	0.03
		18x36	2060	0.031
	680	18x40	2570	0.028

TEAPO

LEAD TYPE ALUMINUM ELECTROLYTIC CAPACITORS

SY Low impedance、Long life Series

■ Features: Low Impedance , high permissible ripple current at high frequency and long life than SC

SY ↑ Long Life

SC

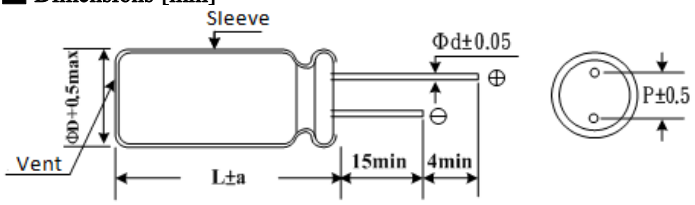
■ Recommended Applications :Used switching requlator applications in computers.
Especially for high frequency.

■ Corresponding product to RoHS

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	6.3 ~ 100VDC
Rated Capacitance Range	15 ~ 15000 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.01CV or 3 μA whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV 6.3 10 16 25 35 50 63 100 tan δ 0.22 0.19 0.16 0.14 0.12 0.10 0.09 0.08 When nominal capacitance is over 1000 μF,tan δ shall be added 0.02 to the listed value with increase of every 1000 μF.
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120Hz): 6.3 10 16 25 35 50 63 100 Z-25℃ / Z+20℃ 4 3 2 2 2 2 2 2 Z-40℃ / Z+20℃ 8 6 4 3 3 3 3 3
Endurance	After applying rated voltage with rated ripple current for 6000 hours at 105℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 25% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value DΦ: 5~6.3Φ	8~10Φx12.5	10x15~12Φ	13~18Φ life(hours): 3000 hrs	4000 hrs	5000 hrs	6000 hrs *If dimension is down size,Endurance will be less 1000 hours than standard.
Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,the capacitors shall meet the same requirement as Endurance.

■ Dimensions [mm]



ΦD	5	6.3	8	10	13	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8
a	1.5	1.5	1.5	1.5	2.0	2.0	2.0

■ Multiplier for Ripple Current

Freq. (Hz)	120	1 K	10 K	100 K
15~ 180 μF	0.40	0.75	0.90	1.00
220 ~ 560 μF	0.50	0.85	0.94	1.00
680 ~1800 μF	0.60	0.87	0.95	1.00
2200 ~ 3900 μF	0.75	0.90	0.95	1.00
≧ 4700 μF	0.85	0.95	0.98	1.00

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SY Low impedance、Long life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
6.3V (8)	150	5x11	210	0.580
	330	6.3x11	340	0.220
	470	6.3x11	510	0.160
	680	8x11	640	0.130
	820	10x12.5	865	0.080
	1000	8x15	840	0.087
	1200	8x20	1050	0.069
		10x16	1210	0.060
	1500	8x20	1050	0.069
		*10x16	1210	0.060
		10x20	1400	0.046
	1800	13x16	1450	0.049
	2200	*10x20	1400	0.046
		10x25	1650	0.042
	2700	10x30	1910	0.031
		16x16	1940	0.042
	3300	10x25	1650	0.042
		13x20	1900	0.035
	3900	13x25	2230	0.027
		18x16	2210	0.043
	4700	13x30	2650	0.024
	5600	13x35	2880	0.020
		16x20	2530	0.027
	6800	13x40	3350	0.017
		16x25	2930	0.021
		18x20	2860	0.026
	8200	16x32	3450	0.017
	10000	16x36	3610	0.015
		18x25	3140	0.017
	12000	18x32	4170	0.015
	15000	18x36	4220	0.014
10V (13)	100	5x11	210	0.580
	220	6.3x11	340	0.220
	470	8x11	640	0.130
	680	8x15	840	0.087
	820	10x12.5	865	0.080
	1000	8x20	1050	0.069
		10x16	1210	0.060
	1200	10x20	1400	0.046
	1500	10x25	1650	0.042
		13x16	1450	0.049
	2200	10x30	1910	0.031
		13x20	1900	0.042
		16x16	1940	0.042
	2700	18x16	2210	0.043
	3300	10x30	1910	0.031
		13x25	2230	0.027
	3900	13x30	2650	0.024
		16x20	2530	0.027
	4700	13x35	2880	0.020
	5600	13x40	3350	0.017
		16x25	2930	0.021
		18x20	2860	0.026
	6800	16x32	3450	0.017
		18x25	3140	0.019
	8200	16x36	3610	0.015
		18x32	4170	0.015
	10000	16x40	4080	0.013
		18x36	4220	0.014
	12000	18x40	4280	0.012
16V (20)	56	5x11	210	0.580
	100	6.3x11	250	0.230

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
16V(20)	120	6.3x11	340.00	0.220
	220	6.3x11	469.00	0.185
		8x11	582.00	0.150
	330	8x11	640.00	0.130
	470	*8x15	840.00	0.087
		8x20	950.00	0.078
		*10x12.5	865.00	0.080
		10x16	1210.00	0.060
	680	8x20	1050.00	0.069
		10x16	1210.00	0.060
	1000	8x20	1050.00	0.069
		*10x16	1210.00	0.060
		10x20	1400.00	0.046
		13x16	1450.00	0.049
	1200	10x25	1650.00	0.042
	1500	10x30	1910.00	0.031
		13x20	1900.00	0.035
		16x16	1940.00	0.042
	2200	13x25	2230.00	0.027
		18x16	2210.00	0.043
	2700	13x30	2650.00	0.024
		16x20	2530.00	0.027
	3300	13x35	2880.00	0.020
	3900	13x40	3350.00	0.017
		16x25	2930.00	0.021
		18x20	2860.00	0.026
	4700	16x32	3450.00	0.017
		18x25	3140.00	0.019
	5600	16x36	3610.00	0.015
		18x32	4170.00	0.015
	6800	16x40	4080.00	0.013
	8200	18x36	4220.00	0.014
	10000	18x40	4280.00	0.012
25V (32)	47	5x11	210.00	0.580
	100	6.3x11	340.00	0.220
	150	8x11	640.00	0.160
	220	8x11	640.00	0.130
	330	8x15	840.00	0.087
		10x12.5	865.00	0.080
	470	8x20	1050.00	0.069
		*10x12.5	1050.00	0.070
		10x16	1210.00	0.060
	680	10x20	1400.00	0.046
		13x16	1450.00	0.049
	820	10x25	1650.00	0.042
	1000	10x30	1910.00	0.031
		13x20	1900.00	0.035
		16x16	1940.00	0.042
	1200	18x16	2210.00	0.043
	1500	*13x20	1900.00	0.035
		13x25	2230.00	0.027
	1800	13x30	2650.00	0.024
		16x20	2530.00	0.027
	2200	13x35	2880.00	0.020
		18x20	2860.00	0.026
	2700	13x40	3350.00	0.017
		16x25	2930.00	0.021
	3300	16x32	3450.00	0.017
		18x25	3140.00	0.019
	3900	18x32	4170.00	0.015
	4700	18x36	4220.00	0.014
	5600	18x40	4280.00	0.012

" ＊ " is down size , Ripple Life is less 1000 hrs than standard

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SY Low impedance、Long life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
35V (44)	33	5x11	210	0.580
	47	6.3x11	275	0.390
	56	6.3x11	340	0.220
	68	6.3x11	500	0.170
	82	6.3x11	540	0.160
	100	8x11	580	0.150
	150	8x11	640	0.130
	220	*8x15	840	0.087
		10x12.5	865	0.080
	270	8x20	1050	0.069
	330	*10x16	1210	0.060
		10x20	1400	0.046
	470	10x20	1400	0.046
		13x16	1450	0.049
	560	10x25	1650	0.042
	680	10x30	1910	0.031
		13x20	1900	0.035
		16x16	1940	0.042
	820	13x20	1900	0.035
	1000	13x25	2230	0.027
		18x16	2210	0.043
	1200	13x30	2650	0.024
		16x20	2530	0.027
	1500	13x35	2880	0.020
	1800	13x40	3350	0.017
		16x25	2930	0.021
		18x20	2860	0.026
	2200	16x32	3450	0.017
		18x25	3140	0.019
	2700	16x36	3610	0.015
		18x32	4170	0.015
	3300	16x40	4080	0.013
		18x36	4220	0.014
	3900	18x40	4280	0.012
50V (63)	22	5x11	180	0.700
	33	6.3x11	245	0.490
	47	6.3x11	300	0.520
	56	6.3x11	295	0.300
	100	8x11	555	0.170
	120	8x15	730	0.120
	150	10x12.5	760	0.120
	180	8x20	910	0.091
	220	10x16	1050	0.084
	270	10x20	1220	0.060
		13x16	1260	0.061
	330	*10x20	1400	0.058
		10x25	1440	0.055
	470	10x30	1690	0.043
		13x20	1660	0.045
		16x16	1690	0.055
	560	13x25	1950	0.034
		18x16	1930	0.054
	680	13x30	2310	0.030
	820	13x35	2510	0.025
		16x20	2210	0.034
	1000	13x40	2920	0.021
		16x25	2555	0.025
		18x20	2490	0.036
	1200	16x32	3010	0.022

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
50V (63)	1200	18x25	2740	0.026
	1500	16x36	3150	0.019
	1800	16x40	3710	0.016
		18x32	3635	0.021
	2200	18x36	3680	0.017
	2700	18x40	3800	0.014
63V (79)	15	5x11	55	2.3
	33	6.3x11	115	1.2
	56	8x12	232	0.63
	82	8x15	300	0.45
		10x12.5	288	0.43
	120	8x20	362	0.33
		10x16	357	0.31
	180	10x20	466	0.21
		13x16	466	0.23
	220	10x25	531	0.2
	270	10x30	663	0.15
		13x20	690	0.16
		16x16	795	0.14
	330	13x25	784	0.12
	390	18x16	920	0.12
	470	13x30	905	0.1
		16x20	1040	0.091
	560	13x35	1050	0.083
		16x25	1250	0.073
	680	13x40	1180	0.071
		18x20	1240	0.08
	820	16x32	1570	0.054
		18x25	1490	0.057
	1000	16x36	1790	0.045
		18x32	1630	0.047
	1200	16x40	2020	0.04
100V (125)	15	6.3x11	115	1.2
	27	8x12	232	0.63
	39	8x15	300	0.45
	47	10x12.5	288	0.43
	56	8x20	362	0.33
	68	10x16	357	0.31
	82	10x20	466	0.21
		13x16	466	0.23
	100	10x25	531	0.2
	120	10x30	663	0.15
		13x20	690	0.16
	150	16x16	795	0.14
	180	13x25	784	0.12
		18x16	920	0.12
	220	13x30	905	0.1
		16x20	1040	0.091
	270	13x35	1050	0.083
		16x25	1250	0.073
	330	13x40	1180	0.071
		18x20	1240	0.08
	390	16x32	1570	0.054
		18x25	1490	0.057
	470	16x36	1790	0.045
		18x32	1630	0.047
	560	16x40	2020	0.04
	680	18x36	1790	0.04
	820	18x40	2330	0.036

" ＊ " is down size , Ripple Life is less 1000 hrs than standard

TEAPO

Radial Type Aluminium Electrolytic Capacitors

TA Low impedance、Long life Series

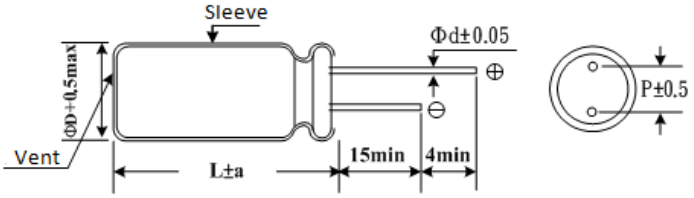
■ Endurance:105℃ 4000~10000hours
■ Recommended Applications： Applicable for SMPS, Adaptor,Charger,Monitor/Computer
■ Corresponding product to RoHS

TA
↑ Long Life
SY

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	6.3~100VDC
Rated Capacitance Range	22 ~ 8200 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.01CV or 3 μA whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100 tan δ: 0.22 / 0.19 / 0.16 / 0.14 / 0.12 / 0.10 / 0.09 / 0.08 When nominal capacitance is over 1000 μF,tan δ shall be added 0.02 to the listed value with increase of every 1000 μF.
Low Temperature Stability Impedance Ratio (MAX)	WV / Z((120HZ): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100 Z-25℃ / Z+20℃: 4 / 3 / 2 / 2 / 2 / 2 / 2 / 2 Z-40℃ / Z+20℃: 8 / 6 / 4 / 3 / 3 / 3 / 3 / 3
Endurance	After applying rated voltage with rated ripple current for 4000~10000hours at 105℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 25% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: initial specified value or less ΦD: 5~6.3Φ / 8~10Φ / 12.5~18Φ 6.3~10(V): 4000hrs / 6000hrs / 8000hrs 16~100(V): 5000hrs / 7000hrs / 10000hrs
Shelf Life	After placed at 105℃without voltage applied for 1000 hours,the capacitors shall meet the same requirement as load life.

■ Dimensions [mm]



ΦD	5	6.3	8	10	13	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8
a	1.5	1.5	1.5	1.5	2.0	2.0	2.0

■ Multiplier for Ripple Current

Freq. (Hz)	120	1K	10K	100K
22 ~ 180	0.40	0.75	0.90	1.00
220 ~ 560	0.50	0.85	0.94	1.00
680 ~1800	0.60	0.87	0.95	1.00
2200 ~ 3900	0.75	0.90	0.95	1.00
4700 μF Higher	0.85	0.95	0.98	1.00

TEAPO

Radial Type Aluminium Electrolytic Capacitors

TA Low impedance、Long life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
6.3V（8）	150	5x11	210	0.58
	330	6.3x11	340	0.22
	680	8x11	640	0.13
	820	10x12.5	865	0.080
	1000	8x15	840	0.087
	1200	8x20	1050	0.069
		10x15	1210	0.060
	1500	10x20	1400	0.046
	1800	13x16	1450	0.049
	2200	10x25	1650	0.042
	2700	10x30	1910	0.031
	3300	13x20	1900	0.035
	3900	13x25	2230	0.027
	4700	13x30	2650	0.024
	5600	13x35	2880	0.020
		16x20	2530	0.027
	6800	13x40	3350	0.017
		16x25	2930	0.021
		18x20	2860	0.026
	8200	16x32	3450	0.017
10V（13）	100	5x11	210	0.58
	220	6.3x11	340	0.220
	470	8x11	640	0.130
	680	8x15	840	0.087
		10x12.5	865	0.080
	1000	8x20	1050	0.069
		10x15	1210	0.060
	1200	10x20	1400	0.046
	1500	10x25	1650	0.042
		13x16	1450	0.049
	2200	10x30	1910	0.031
		13x20	1900	0.035
	3300	13x25	2230	0.027
	3900	13x30	2650	0.024
		16x20	2530	0.027
	4700	13x35	2880	0.020
	5600	13x40	3350	0.017
		16x25	2930	0.021
		18x20	2860	0.026
	6800	16x32	3450	0.017
		18x25	3140	0.019
	8200	16x36	3610	0.015
		18x32	4170	0.015
16V（20）	56	5x11	210	0.58
	120	6.3x11	340	0.22
	330	8x11	640	0.130
	470	8x15	840	0.087
		10x12.5	865	0.080
	680	8x20	1050	0.069
		10x15	1210	0.060
	1000	10x20	1400	0.046
		13x16	1450	0.049
	1200	10x25	1650	0.042
	1500	10x30	1910	0.031
		13x20	1900	0.035
	2200	13x25	2230	0.027
	2700	13x30	2650	0.024
		16x20	2530	0.027
	3300	13x35	2880	0.020
	3900	13x40	3350	0.017
		16x25	2930	0.021
		18x20	2860	0.026

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
16V(20)	4700	16x32	3450	0.017
		18x25	3140	0.019
	5600	16x36	3610	0.015
		18x32	4170	0.015
	6800	16x40	4080	0.013
	8200	18x36	4220	0.014
25V（32）	47	5x11	210	0.580
	100	6.3x11	340	0.220
	220	8x11	640	0.13
	330	8x15	840	0.087
		10x12.5	865	0.080
	470	8x20	1050	0.069
		10x15	1210	0.060
	680	10x20	1400	0.046
		13x16	1450	0.049
	820	10x25	1650	0.042
	1000	10x30	1910	0.031
		13x20	1900	0.035
	1500	13x25	2230	0.027
	1800	13x30	2650	0.024
		16x20	2530	0.027
	2200	13x35	2880	0.020
		18x20	2860	0.026
	2700	13x40	3350	0.017
		16x25	2930	0.021
	3300	16x32	3450	0.017
		18x25	3140	0.019
	3900	16x36	3610	0.015
		18x32	4170	0.015
	4700	16x40	4080	0.013
		18x36	4220	0.014
	5600	18x40	4280	0.012
35V（44）	33	5x11	210	0.580
	56	6.3x11	340	0.220
	150	8x11	640	0.13
	220	8x15	840	0.087
		10x12.5	865	0.080
	270	8x20	1050	0.069
	330	10x15	1210	0.060
	470	10x20	1400	0.046
		13x16	1450	0.049
	560	10x25	1650	0.042
	680	10x30	1910	0.031
		13x20	1900	0.035
	1000	13x25	2230	0.027
	1200	13x30	2650	0.024
		16x20	2530	0.027
	1500	13x35	2880	0.020
	1800	13x40	3350	0.017
		16x25	2930	0.021
		18x20	2860	0.026
	2200	16x32	3450	0.017
		18x25	3140	0.019
	2700	16x36	3610	0.015
		18x32	4170	0.015
	3300	16x40	4080	0.013
		18x36	4220	0.014
	3900	18x40	4280	0.012
50V（63）	22	5x11	180	0.700
	33	6.3x11	245	0.490
	47	6.3x11	300	0.520
	56	6.3x11	295	0.300

Radial Type Aluminium Electrolytic Capacitors

TA Low impedance、Long life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
50V (63)	100	8x11	555	0.170
	120	8x15	730	0.120
	150	10x12.5	760	0.120
	180	8x20	910	0.091
	220	10x16	1050	0.084
	270	10x20	1220	0.060
		13x16	1260	0.061
	330	10x25	1440	0.055
	470	10x30	1690	0.043
		13x20	1660	0.045
		16x16	1690	0.055
	560	13x25	1950	0.034
		18x16	1930	0.054
	680	13x30	2310	0.030
	820	13x35	2510	0.025
		16x20	2210	0.034
	1000	13x40	2920	0.021
		16x25	2555	0.025
		18x20	2490	0.036
	1200	16x32	3010	0.022
		18x25	2740	0.026
	1500	16x36	3150	0.019
	1800	16x40	3710	0.016
		18x32	3635	0.021
	2200	18x36	3680	0.017
	2700	18x40	3800	0.014
63V (79)	15	5x11	55	2.3
	33	6.3x11	115	1.2
	56	8x12	232	0.63
	82	8x15	300	0.45
		10x12.5	288	0.43
	120	8x20	362	0.33
		10x16	357	0.31
	180	10x20	466	0.21
		13x16	466	0.23
	220	10x25	531	0.2
	270	10x30	663	0.15
		13x20	690	0.16
		16x16	795	0.14

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
63V (79)	330	13x25	784	0.12
		18x16	920	0.12
	470	13x30	905	0.1
		16x20	1040	0.091
	560	13x35	1050	0.083
		16x25	1250	0.073
	680	13x40	1180	0.071
		18x20	1240	0.08
	820	16x32	1570	0.054
		18x25	1490	0.057
	1000	16x36	1790	0.045
		18x32	1630	0.047
	1200	16x40	2020	0.04
100V (125)	15	6.3x11	115	1.2
	27	8x12	232	0.63
	39	8x15	300	0.45
	47	10x12.5	288	0.43
	56	8x20	362	0.33
	68	10x16	357	0.31
	82	10x20	466	0.21
		13x16	466	0.23
	100	10x25	531	0.2
	120	10x30	663	0.15
		13x20	690	0.16
	150	16x16	795	0.14
	180	13x25	784	0.12
		18x16	920	0.12
	220	13x30	905	0.1
		16x20	1040	0.091
	270	13x35	1050	0.083
		16x25	1250	0.073
	330	13x40	1180	0.071
		18x20	1240	0.08
	390	16x32	1570	0.054
		18x25	1490	0.057
	470	16x36	1790	0.045
		18x32	1630	0.047
	560	16x40	2020	0.04
	680	18x36	1790	0.04
	820	18x40	2330	0.036

TEAPO

Radial Type Aluminium Electrolytic Capacitors

ST Low impedance、Long life Series

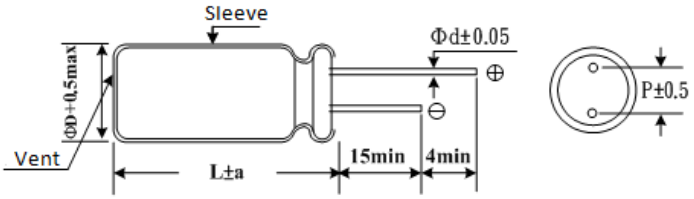
■ Endurance:105℃ 4000~10000hours
■ Recommended Applications : Applicable for SMPS, Adaptor,Charger,Monitor/Computer
■ Corresponding product to RoHS

ST
↑ Long Life
SY

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-55 ~ +105℃
Rated Voltage Range	6.3~100VDC
Rated Capacitance Range	10 ~ 15000 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.01CV or 3 μA whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100 tan δ: 0.22 / 0.19 / 0.16 / 0.14 / 0.12 / 0.14 / 0.14 / 0.14 When nominal capacitance is over 1000 μF,tan δ shall be added 0.02 to the listed value with increase of every 1000 μF. Down size tan δ add 3%.
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120Hz): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 100 Z-25℃ / Z+20℃: 4 / 3 / 2 / 2 / 2 / 2 / 2 / 2 Z-40℃ / Z+20℃: 8 / 6 / 4 / 3 / 3 / 3 / 3 / 3
Endurance	After applying rated voltage with rated ripple current for 4000~10000hours at 105℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 25% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: initial specified value or less ΦD / 5~6.3Φ / 8~10Φ / 12.5~18Φ 6.3~10(V): 4000hrs / 6000hrs / 8000hrs 16~100(V): 5000hrs / 7000hrs / 10000hrs
Shelf Life	After placed at 105℃without voltage applied for 1000 hours,the capacitors shall meet the same requirement as load life.

■ Dimensions [mm]



ΦD	5	6.3	8	10	13	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8
a	1.5	1.5	1.5	1.5	2.0	2.0	2.0

■ Multiplier for Ripple Current

Freq. (Hz)	120	1K	10K	100K
10~180	0.4	0.75	0.90	1.00
220~560	0.5	0.85	0.94	1.00
680~1800	0.6	0.87	0.95	1.00
2200~3900	0.75	0.90	0.95	1.00
4700 μF Higher	0.85	0.95	0.98	1.00

TEAPO

Radial Type Aluminium Electrolytic Capacitors

ST

Low impedance、Long life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,25℃) (100KHz)
6.3	150	5x11	210	0.720
	330	6.3x11	340	0.380
	680	8x11	640	0.200
	820	8x15	840	0.160
	1000	10x12	865	0.120
	1500	8x20	1050	0.110
		10x15	1210	0.084
	2200	10x20	1400	0.062
	2700	10x25	1650	0.052
	3300	13x20	1900	0.046
	3900	13x25	2230	0.034
	4700	13x30	2650	0.030
	5600	13x35	2880	0.027
	6800	13x40	3350	0.024
		16x25	2930	0.028
	8200	16x32	3450	0.025
	10000	16x36	3610	0.018
	12000	18x32	4170	0.015
	15000	18x36	4220	0.014
10	100	5x11	210	0.72
	220	6.3x11	340	0.38
	470	8x11	640	0.200
	680	8x15	840	0.160
	1000	10x15	1210	0.084
	1500	10x20	1400	0.062
	2200	10x25	1650	0.052
	2700	13x20	1900	0.046
	3300	13x25	2230	0.034
	3900	13x30	2650	0.030
	4700	13x35	2880	0.027
	5600	13x40	3350	0.024
		16x25	2930	0.028
	6800	16x32	3450	0.025
	8200	16x36	3610	0.018
	10000	18x36	4220	0.014
16	56	5x11	210	0.720
	100	6.3x11	340	0.380
	220	8x11	640	0.200
	330	8x15	701	0.160
	470	8x15	840	0.160
	680	10x15	1210	0.084
	1000	10x20	1400	0.062
	1500	10x25	1650	0.052
	2200	13x25	2230	0.034
	2700	13x30	2650	0.030
	3300	13x35	2880	0.027
	3900	13x40	3350	0.024
	4700	16x32	3450	0.028
	5600	16x36	3610	0.018
		18x32	4170	0.015
	6800	18x36	4220	0.014
25	47	5x11	210	0.720
	100	6.3x11	340	0.380
	150	8x11	640	0.200
	220	8x11	640	0.200
	330	8x15	840	0.160
	470	10x15	1210	0.084
	680	10x20	1400	0.062
	820	10x25	1650	0.052
	1000	13x20	1900	0.046
	1500	13x25	2230	0.034
	2200	13x35	2880	0.027

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,25℃) (100KHz)
25	2700	16x25	2930	0.028
	3300	16x32	3450	0.025
	3900	18x32	4170	0.015
	4700	18x36	4280	0.014
35	33	5x11	210	0.720
	47	6.3x11	340	0.380
	150	8x11	640	0.200
	220	8x15	840	0.160
	330	10x20	1400	0.062
	470	10x25	1650	0.052
	680	10x30	1910	0.044
		13x20	1900	0.046
	820	13x25	2230	0.045
	1000	13x25	2230	0.045
	1200	13x30	2650	0.030
	1500	13x35	2880	0.027
	1800	13x40	3350	0.024
	2200	16x32	3450	0.025
	2700	16x36	3610	0.022
	3300	18x36	4220	0.020
50	10	5x11	120	3.50
	22	5x11	210	2.300
	33	6.3x11	340	1.200
	47	6.3x11	340	1.200
	100	8x11	555	0.630
	120	8x15	730	0.450
	150	8x20	910	0.330
	220	10x16	1050	0.310
	330	10x20	1400	0.210
	470	10x30	1690	0.150
		13x20	1660	0.160
	560	13x25	1950	0.120
	680	13x30	2310	0.100
	820	13x35	2510	0.083
	1000	16x25	2555	0.073
	1200	16x32	3010	0.054
	1500	16x36	3150	0.045
	1800	18x32	3635	0.047
	2200	18x36	3680	0.040
	2700	18x40	3800	0.036
63	10	5x11	55	2.300
	33	6.3x11	115	1.200
	56	8x11	232	0.630
	120	10x16	357	0.310
	180	10x20	466	0.210
	220	10x25	531	0.200
	270	10x30	663	0.150
		13x20	690	0.160
	330	13x25	784	0.120
	470	13x30	905	0.100
	560	13x35	1050	0.083
	680	13x40	1180	0.071
	820	16x32	1570	0.054
	1000	16x36	1790	0.045
	1200	16x40	2020	0.040
100	10	6.3x11	55	5.000
	15	6.3x11	70	5.000
	22	8x11	85	2.700
	33	8x11	95	2.500
	47	8x15	150	1.800
	56	8x20	200	1.500
	68	10x15	230	1.300

Radial Type Aluminium Electrolytic Capacitors

ST

Low impedance、Long life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,25℃) (100KHz)
100	82	10x20	250	1.200
	100	10x20	330	0.950
	120	10x25	400	0.800
	150	13x20	460	0.900
	220	13x25	640	0.600
	330	16x25	720	0.570

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,25℃) (100KHz)
100	470	16x32	770	0.550
		18x25	840	0.500
	680	18x36	1400	0.180
	820	18x40	1850	0.130
	1000	18x40	1850	0.130

TEAPO

Radial Type Aluminium Electrolytic Capacitors

TT Low impedance、Long life、Miniaturization Series

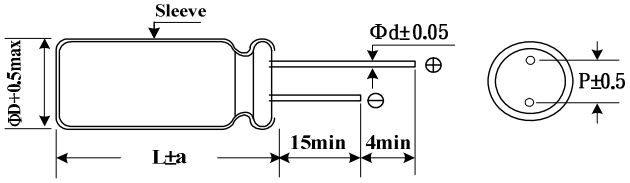
New

■ Endurance: 105℃ 5000hrs
■ Recommended Applications : Apply to the requirement of long life, low impedance, high reliability, etc.
■ Corresponding product to RoHS

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	6.3 ~ 50VDC
Rated Capacitance Range	1~270 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.03CV or 3 μA whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 6.3 / 10 / 16 / 25 / 35 / 50 tan δ: 0.5 / 0.4 / 0.35 / 0.3 / 0.25 / 0.25
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120Hz): 6.3 / 10 / 16 / 25 / 35 / 50 Z-25℃ / Z+20℃: 4 / 3 / 2 / 2 / 2 / 2 Z-40℃ / Z+20℃: 8 / 6 / 4 / 3 / 3 / 3
Endurance	After applying rated voltage with rated ripple current for 5000hours at 105℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 30% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: initial specified value or less
Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,the capacitors shall meet the same requirement as load life. Capacitance change: Within ± 25% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value

■ Dimensions [mm]



Vent only for 8Φ

ΦD	4	5	6.3	8
P	1.5	2.0	2.5	3.5
Φd	0.45	0.45	0.45	0.5
a	1.0	1.0	1.0	1.0

■ Multiplier for Ripple Current

Freq. (Hz)	120	1 K	10 K	100 K
1~3.3 μF	0.20	0.66	0.90	1.00
4.7~6.8 μF	0.35	0.70	0.90	1.00
10~150 μF	0.40	0.75	0.90	1.00
220~270 μF	0.50	0.85	0.94	1.00

TEAPO

Radial Type Aluminium Electrolytic Capacitors

TT Low impedance、Long life、Miniaturization Series

New

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
6.3V (8)	33	4x5	37	5.4
	47	4x7	44	4.5
	56	5x5	57	3.1
	82	5x7	70	2.5
	100	6.3x5	82	1.7
	150	6.3x7	116	1.3
	220	8x5	110	1.5
	270	8x7	162	0.9
10V (13)	22	4x5	37	5.4
	33	4x7	44	4.5
	33	5x5	57	3.1
	47	5x7	70	2.5
	68	6.3x5	82	1.7
	100	6.3x7	116	1.3
	150	8x5	110	1.5
	220	8x7	162	0.9
16V (20)	15	4x5	37	5.4
	22	4x7	44	4.5
	22	5x5	57	3.1
	33	5x7	70	2.5
	47	6.3x5	82	1.7
	68	6.3x7	116	1.3
	100	8x5	110	1.5
	150	8x7	162	0.9
25V (32)	10	4x5	37	5.4

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
25V (32)	15	4x7	44	4.5
	15	5x5	57	3.1
	22	5x7	70	2.5
	33	6.3x5	82	1.7
	56	6.3x7	116	1.3
	68	8x5	110	1.5
	100	8x7	162	0.9
35V (44)	4.7	4x5	37	5.4
	6.8	4x7	44	4.5
	10	5x5	57	3.1
	10	5x7	70	2.5
	22	6.3x5	82	1.7
	22	6.3x7	116	1.3
	33	8x5	110	1.5
	47	8x7	162	0.9
50V (63)	1.0	4x5	18	19
	2.2	4x5	22	14
	3.3	4x5	26	11
	4.7	4x7	30	9
	4.7	5x5	40	6
	6.8	5x7	50	4.8
	10	6.3x5	63	2.9
	15	6.3x7	90	2.2
	22	8x5	84	2.6
	22	8x7	120	1.6

TEAPO

Radial Type Aluminium Electrolytic Capacitors

TB Low impedance、High Ripple Series

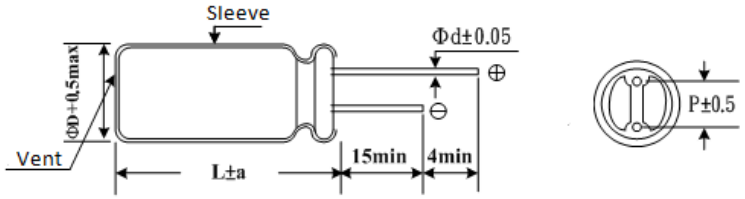
■ Endurance:105℃ 5000~6000hours
■ Recommended Applications :AV(TV, Video, Audio), Monitor/Computer,
OA/HA/Communication,Converter/Inverter,Adapter, SMPS
■ Corresponding product to RoHS

TB
↑ Long Life
SJ

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	6.3~35VDC
Rated Capacitance Range	47~ 8200 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.01CV or3 μA whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 6.3 / 10 / 16 / 25 / 35 tan δ: 0.22 / 0.19 / 0.16 / 0.14 / 0.12 When nominal capacitance is over 1000 μF,tan δ shall be added 0.02 to the listed value with increase of every 1000 μF.
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120Hz): 6.3 / 10 / 16 / 25 / 35 Z-25℃ / Z+20℃: 2 / 2 / 2 / 2 / 2 Z-40℃ / Z+20℃: 3 / 3 / 3 / 3 / 3
Endurance	After applying rated voltage with rated ripple current for 5000~6000hours at 105℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 25% of initial value(6.3、10V：± 30%) D.F. (tan δ): Not more than 200% of specified value Leakage current: initial specified value or less DΦ: 5~6.3Φ / 8~16Φ life(hours): 5000hrs / 6000hrs *If dimension is down size,Endurance will be less 1000 hours than standard.
Shelf Life	After placed at 105℃without voltage applied for 500 hours,the capacitors shall meet the same requirement as Endurance.

■ Dimensions [mm]



ΦD	5	6	8	10	13	16
P	2.0	2.5	3.5	5.0	5.0	7.5
Φd	0.5	0.5	0.6	0.6	0.6	0.8
a	1.5	1.5	1.5	1.5	2.0	2.0

■ Multiplier for Ripple Current

Freq. (Hz)	120	1K	10K	100K
47~150 μF	0.40	0.75	0.90	1.00
220 ~ 560 μF	0.50	0.85	0.94	1.00
680 ~ 1800 μF	0.60	0.87	0.95	1.00
2200 ~ 3900 μF	0.75	0.90	0.95	1.00
4700 ~8200 μF	0.85	0.95	0.98	1.00

TB

Low impedance、High Ripple Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
6.3V (8)	220	5x11	330	0.24
	470	6.3x11	500	0.11
	820	8x12	900	0.062
	1200	8x15	1210	0.048
		10x12.5	1240	0.053
	1500	8x20	1410	0.041
	1800	10x16	1650	0.038
	2200	10x20	1960	0.026
	2700	10x25	2250	0.023
	3900	13x20	2480	0.023
	4700	13x25	2900	0.020
	5600	13x30	3450	0.017
	6800	13x35	3570	0.016
		16x20	3250	0.018
	8200	16x25	3630	0.017
10V (13)	150	5x11	330	0.24
	330	6.3x11	500	0.11
	680	8x12	900	0.062
	1000	8x15	1210	0.048
		10x12.5	1240	0.053
	1500	8x20	1410	0.041
		10x16	1650	0.038
	1800	10x20	1960	0.026
	2200	10x25	2250	0.023
	3300	13x20	2480	0.023
	3900	13x25	2900	0.020
	4700	13x30	3450	0.017
		16x20	3250	0.018
	5600	13x35	3570	0.016
	6800	16x25	3630	0.017
16V (20)	100	5x11	330	0.24
	220	6.3x11	500	0.11
	470	8x12	900	0.062
	680	8x15	1210	0.048
		10x12.5	1240	0.053
	1000	8x20	1410	0.041
		10x16	1650	0.038
	1500	10x20	1960	0.026

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
16V (20)	1800	10x25	2250	0.023
	2200	13x20	2480	0.023
	2700	13x25	2900	0.020
	3300	13x30	3450	0.017
		16x20	3250	0.018
	3900	13x35	3570	0.016
	4700	16x25	3630	0.017
25V (32)	68	5x11	330	0.24
	150	6.3x11	500	0.11
	330	8x12	900	0.062
	390	8x15	1210	0.048
	470	10x12.5	1240	0.053
	560	8x20	1410	0.041
	680	10x16	1650	0.038
	820	10x20	1960	0.026
	1000	10x25	2250	0.023
	1500	13x20	2480	0.023
	1800	13x25	2900	0.020
	2200	13x30	3450	0.017
		16x20	3250	0.018
	2700	13x35	3570	0.016
	3300	16x25	3630	0.017
35V (44)	47	5x11	330	0.24
	100	6.3*11	500	0.11
	220	8x12	900	0.062
	270	8x15	1210	0.048
	330	10x12.5	1240	0.053
	390	8x20	1410	0.041
	470	10x16	1650	0.038
	560	10x20	1960	0.026
	680	10x25	2250	0.023
	1000	13x20	2480	0.023
	1200	13x25	2900	0.020
	1500	13x30	3450	0.017
		16x20	3250	0.018
	1800	13x35	3570	0.016
	2200	16x25	3630	0.017

TEAPO

Radial Type Aluminium Electrolytic Capacitors

TC Low impedance、Long life Series

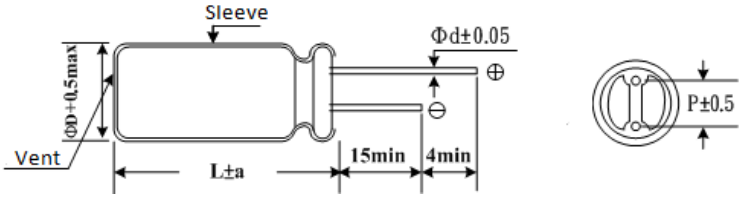
■ Endurance:105℃6000~10000hours
■ Recommended Applications :Applicable forAV(TV,Viodeo,Audio),
OA/HA/Communication, SMPS, Adapter,Monitor/Computer,Converter/Inverter
■ Corresponding product to RoHS

TC
↑ Long Life
TB

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	6.3~100VDC
Rated Capacitance Range	8.2 ~ 8200 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.01CV or 3 μA whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 80 / 100 tan δ: 0.22 / 0.19 / 0.16 / 0.14 / 0.12 / 0.10 / 0.09 / 0.08 / 0.08 When nominal capacitance is over 1000 μF,tan δ shall be added 0.02 to the listed value with increase of every 1000 μF.
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120Hz): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 80 / 100 Z-25℃ / Z+20℃: 4 / 3 / 2 / 2 / 2 / 2 / 2 / 2 / 2 Z-40℃ / Z+20℃: 8 / 6 / 4 / 3 / 3 / 3 / 3 / 3 / 3
Endurance	After applying rated voltage with rated ripple current for 6000~10000hours at 105℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 25% of initial value(6.3、10V：± 30%) D.F. (tan δ): Not more than 200% of specified value Leakage current: initial specified value or less DΦ: 5-6.3Φ / 8Φ / 10~18Φ Life: 6000hrs / 8000hrs / 10000hrs
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for1,000 hours at 105℃ without voltage applied.

■ Dimensions [mm]



ΦD	5	6.3	8	10	13	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8
a	1.5	1.5	1.5	1.5	2.0	2.0	2.0

■ Multiplier for Ripple Current

Freq. (Hz)	120	1K	10K	100K
8.2 ~ 33	0.42	0.70	0.90	1.00
47 ~ 270	0.50	0.73	0.92	1.00
330 ~680	0.55	0.77	0.94	1.00
820 ~ 1800	0.60	0.80	0.96	1.00
2200 ~8200	0.70	0.85	0.98	1.00

TEAPO

Radial Type Aluminium Electrolytic Capacitors

TC Low impedance、Long life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
6.3V (8)	220	5x11	345	0.242
	470	6.3x11	540	0.103
	820	8x12	945	0.062
	1200	8x16	1250	0.050
		10x12.5	1330	0.043
	1500	8x20	1500	0.032
	1800	10x16	1760	0.031
	2200	10x20	1960	0.022
	2700	10x25	2250	0.020
	3900	13x20	2480	0.019
	4700	13x25	2900	0.017
	5600	13x30	3450	0.014
	6800	16x20	3250	0.017
		13x35	3570	0.013
	8200	16x25	3630	0.014
10V (13)	150	5x11	345	0.242
	330	6.3x11	540	0.103
	680	8x12	945	0.062
	1000	8x16	1250	0.050
		10x12.5	1330	0.043
	1500	8x20	1500	0.032
		10x16	1760	0.031
	1800	10x20	1960	0.022
	2200	10x25	2250	0.020
	3300	13x20	2480	0.019
	3900	13x25	2900	0.017
	4700	13x30	3450	0.014
		16x20	3250	0.017
	5600	13x35	3570	0.013
	6800	16x25	3630	0.014
16V (20)	100	5x11	345	0.242
	220	6.3x11	540	0.103
	470	8x12	945	0.062
	680	8x16	1250	0.050
		10x12.5	1330	0.043
	1000	8x20	1500	0.032
		10x16	1760	0.031
	1500	10x20	1960	0.022
	1800	10x25	2250	0.020
	2200	13x20	2480	0.019
	2700	13x25	2900	0.017
	3300	13x30	3450	0.014
		16x20	3250	0.017
	3900	13x35	3570	0.013
	4700	16x25	3630	0.014
25V (32)	68	5x11	345	0.242
	150	6.3x11	540	0.103
	330	8x12	945	0.062
	390	8x16	1250	0.050
	470	10x12.5	1330	0.043
	560	8x20	1500	0.032
	680	10x16	1760	0.031
	820	10x20	1960	0.022
	1000	10x25	2250	0.020
	1500	13x20	2480	0.019
	1800	13x25	2900	0.017
	2200	13x30	3450	0.014
		16x20	3250	0.017
	2700	13x35	3570	0.013
	3300	16x25	3630	0.014
35V (44)	47	5x11	345	0.2200
	100	6.3x11	540	0.094

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
35V (44)	220	8x12	945	0.056
	270	8x16	1250	0.050
	330	10x12.5	1330	0.041
	390	8x20	1500	0.032
	470	10x16	1760	0.030
	560	10x20	1960	0.025
	680	10x25	2250	0.023
	1000	13x20	2480	0.025
	1200	13x25	2900	0.022
	1500	13x30	3450	0.018
		16x20	3250	0.020
	1800	13x35	3570	0.018
	2200	16x25	3630	0.015
50V (63)	27	5x11	238	0.3400
	56	6.3x11	385	0.1400
	100	8x12	724	0.074
	120	8x16	950	0.061
	150	10x12.5	979	0.061
	180	8x20	1190	0.046
	220	10x16	1370	0.042
	270	10x20	1580	0.030
	330	10x25	1870	0.028
	470	13x20	2050	0.027
	560	13x25	2410	0.023
	680	13x30	2860	0.021
	820	13x35	2960	0.019
		16x20	2730	0.023
	1000	16x25	3010	0.021
63V (79)	18	5x11	173	1.000
	47	6.3x11	278	0.560
	82	8x12	525	0.264
	100	8x16	688	0.192
	120	10x12.5	725	0.180
	150	8x20	861	0.144
	180	10x16	998	0.132
	270	10x20	1200	0.094
		13x16	1200	0.098
	330	10x25	1410	0.083
	390	13x20	1570	0.072
	470	13x25	1990	0.052
	560	13x30	2410	0.042
		16x20	2100	0.052
	680	13x35	2620	0.040
	820	13x40	2940	0.032
		16x25	2730	0.038
		18x20	2500	0.046
	1200	16x32	2990	0.029
		18x25	2800	0.037
	1500	16x36	3040	0.025
		18x32	3300	0.030
	1800	16x40	3570	0.023
		18x36	3570	0.024
	2200	18x40	3670	0.022
80V (100)	12	5x11	163	1.400
	33	6.3x11	267	0.570
	56	8x12	462	0.360
	68	8x16	585	0.250
	82	10x12.5	624	0.230
	100	8x20	735	0.190
	120	10x16	780	0.170
	180	10x20	1040	0.120
		13x16	975	0.130

TC

Low impedance、Long life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
80V (100)	220	10x25	1170	0.110
	270	13x20	1430	0.085
	330	13x25	1620	0.060
	390	13x30	1950	0.051
		16x20	1750	0.058
	470	13x35	2140	0.043
	560	13x40	2340	0.036
		16x25	2210	0.044
		18x20	1950	0.054
	680	16x32	2400	0.033
	820	16x36	2600	0.029
		18x25	2270	0.038
	1000	16x40	2860	0.027
		18x32	2470	0.031
	1200	18x36	2860	0.027
	1500	18x40	3510	0.026
100V (125)	8.2	5x11	163	1.400
	18	6.3x11	267	0.570
	33	8x12	462	0.360
	47	8x16	585	0.250
	56	10x12.5	624	0.230

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
100V (125)	68	8x20	735	0.190
	82	10x16	780	0.170
	100	10x20	1040	0.120
		13x16	975	0.130
	120	10x25	1170	0.110
	150	13x20	1430	0.085
	220	13x25	1620	0.060
	270	13x30	1950	0.051
		16x20	1750	0.058
	330	13x35	2140	0.043
	390	13x40	2340	0.036
		16x25	2210	0.044
		18x20	1950	0.054
	470	16x32	2400	0.033
		18x25	2270	0.038
	560	16x36	2600	0.029
		18x32	2470	0.031
	680	16x40	2860	0.027
		18x36	2860	0.027
	820	18x40	3510	0.026

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SQ High Ripple Series

■ Endurance: 105℃ 2000 hours

■ Recommended Applications : AV(TV, Video, Audio); Monitor/Computer; OA/HA/ Communication; Converter/Inverter; Energy saving lamp; PFC circuit;SMPS; Ballast; Adapter

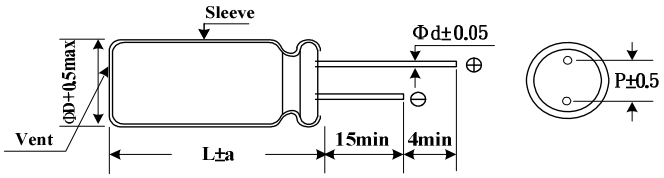
■ Corresponding product to RoHS

SQ
↑
SH High Ripple

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40~+105℃
Rated Voltage Range	160 ~ 450VDC
Rated Capacitance Range	2.2 ~ 220 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.03CV +10 μA (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 160 / 200 / 250 / 350 / 400 / 420~450 tan δ: 0.15 / 0.15 / 0.15 / 0.24 / 0.24 / 0.24
Low Temperature Stability Impedance Ratio (MAX)	Z (120Hz) \ WV: 160 / 200 / 250 / 350 / 400 / 420~450 Z(-25℃) / Z(20℃): 3 / 3 / 3 / 5 / 5 / 6 Z(-40℃) / Z(20℃): 6 / 6 / 6 / 6 / 6 / 8
Endurance	After applying rated voltage with rated ripple current for2000 hours at 105℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value
Shelf Life	After leaving capacitors under no load at 105℃ for 1000 hours,the capacitors shall meet the same requirement as Endurance.

■ Dimensions [mm]



ΦD	8	10	12.5	13	16	18
P	3.5	5	5.0	5	7.5	7.5
Φd	0.6	0.6	0.6	0.6	0.8	0.8
a	1.5(2.0)	1.5(2.0)	2.0(2.5)	2.0	2.0	2.0

Notes：( ):L≧30mm

■ Multiplier for Ripple Current

Freq. (Hz)		50	120	1K	10K	100K
Coefficient	＜33 μF	0.80	1.00	1.36	1.54	1.80
	≧33 μF	0.85	1.00	1.28	1.35	1.40

Radial Type Aluminium Electrolytic Capacitors

SQ High Ripple Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (120Hz)	Ripple current (mA/rms105℃) (100KHz)
160(200)	22	10x20	195	350
	33	13x20	315	450
	47	13x25	420	600
	68	13x25	420	600
	100	16x25	665	950
	220	18x36	980	1400
200(250)	22	10x20	195	350
	33	13x20	365	520
	47	13x25	420	600
	68	16x25	665	950
	100	16x32	840	1200
250(300)	10	10x20	120	220
	22	8x30	200	360
		13x25	165	300
	27	8x35	215	380
	33	8x35	240	336
		13x25	280	400
	39	8x40	260	360
		10x30	275	500
	47	8x45	310	558
		16x25	505	720
	56	10x40	350	490
	68	10x40	400	560
		16x32	570	810
	82	10x45	450	630
	100	10x50	525	940
		18x36	735	1050
	150	12.5x45	725	1015
350(400)	2.2	10x16	30	50
	3.3	10x16	35	60
	4.7	10x20	45	78
	10	13x20	75	130
	15	8x30	140	250
	22	8x35	180	324
		16x25	115	205
	27	8x40	210	380
	33	8x42	240	336
		16x32	180	255
	39	10x40	280	390
	47	10x45	325	455
		18x32	225	320
	56	10x50	380	530
	68	12.5x40	430	602
	82	12.5x45	500	700
	100	12.5x50	630	880
		18x45	370	530
400(450)	2.2	10x16	80	140
	3.3	10x20	110	195
	4.7	10x25	120	220
	15	8x35	170	306
	10	10x16	135	243
		13x25	200	360
	22	8x40	220	395
		13x20	240	432
		13x25	265	477
		16x25	315	570
	27	8x45	250	350
		10x35	250	350
	33	8x50	295	410
		10x40	295	410
		16x32	490	700

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (120Hz)	Ripple current (mA/rms105℃) (100KHz)
400(450)	39	8x52	320	448
		10x40	320	448
	47	10x45	355	500
		12.5x40	365	510
		16x25	350	490
		18x32	600	860
	56	10x50	405	566
		12.5x40	405	566
	68	10x55	460	640
		12.5x45	460	640
		16x30	510	714
		16x32	550	770
	82	12.5x50	525	735
		12.5x55	620	868
		18x32	680	952
	120	18x32	750	1050
	150	18x36	800	1120
420(470)	15	8x35	150	270
	22	8x40	195	350
	27	8x45	220	396
		10x35	220	396
	33	8x50	285	400
		10x40	285	400
	39	10x42	310	430
		12.5x35	320	448
	47	10x45	350	490
		12.5x40	350	490
	56	10x52	390	545
		12.5x42	390	545
	68	12.5x45	450	630
	82	12.5x52	535	750
450(500)	2.2	10x16	60	110
	3.3	10x20	75	135
	4.7	13x20	105	190
	10	13x25	140	250
	12	8x30	115	210
	15	8x35	135	240
	22	8x42	190	340
		10x30	190	340
		13x20	180	324
		13x25	200	360
		16x32	265	480
	27	8x45	210	378
		10x35	210	378
	33	8x52	290	406
		10x42	290	406
		16x25	350	500
		18x36	455	650
	39	10x45	320	448
		12.5x40	330	460
	47	10x50	360	500
		12.5x42	370	666
		16x25	380	532
	56	12.5x45	415	580
	68	12.5*50	475	665
		18x25	470	658
	82	12.5x55	535	750
		18x36	520	720
	100	18x40	620	860
	120	18x40	650	910
		18x45	720	1000

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SG High Ripple、Long life Series

■ Endurance: 105℃ ，5000hours
■ Recommended Applications : High ripple current for Electronic Ballast , Power Supply…etc
■ Corresponding product to RoHS

SG ↑ Long Life
SQ

■ SPECIFICATIONS

Item	Characteristics	
Category Temperature Range	-40~+105℃	-25~+105℃
Rated Voltage Range	160 ~ 450VDC	500VDC
Rated Capacitance Range	3.3 ~ 330 μF	4.7~ 150 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.06CV + 10(μA) (After rated voltage applied for 2	I=0.04CV + 100(μA) (After rated voltage applied for 2 minutes)
	I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)	

Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)

WV	160	200	250	350	400	420~450	500
tan δ	0.15	0.15	0.15	0.20	0.24	0.24	0.24

Low Temperature Stability Impedance Ratio (MAX)

WV / Z (120Hz)	160	200	250	350	400	420~450	500
Z-25℃ / Z+20℃	3	3	3	5	5	6	6
Z-40℃ / Z+20℃	6	6	6	6	6	8	—

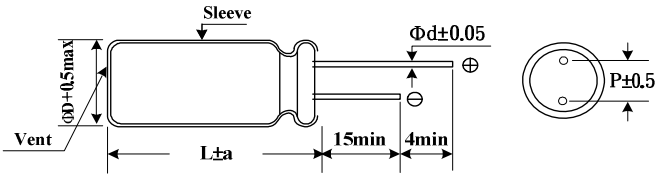
Endurance

After applying rated voltage with rated ripple current for 5000 hours at 105℃ ,
the capacitors shall meet the following requirements.

Capacitance change	Within ± 20% of initial value
D.F. (tan δ)	Not more than 200% of specified value
Leakage current	initial specified value or less

Shelf Life: After placed at 105℃ without voltage applied for 1000 hours,the capacitors shall meet the same requirement as Endurance.

■ Dimensions [mm]



ΦD	8.0	10	12.5	13	16	18	22
P	3.5	5.0	5.0	5.0	7.5	7.5	10.0
Φd	0.6	0.6	0.6	0.6	0.8	0.8	0.8
a	1.5(2.0)	1.5(2.0)	2.0(2.5)	2.0	2.0	2.0	2.0

Notes：( ):L≧30mm

■ Multiplier for Ripple Current

Freq. (Hz)	50,60	120	300	1K	10K~100K
160~450V	0.80	1.00	1.20	1.40	1.60
500V	0.75	1.00	1.20	1.35	1.50

SG

High Ripple、Long life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
160 (200)	22	10x20	0.15	160
	33	10x20	0.15	210
	47	13x20	0.15	260
	68	13x25	0.15	360
		16x20	0.15	430
	100	16x25	0.15	475
		18x20	0.15	465
	150	16x32	0.15	650
		18x25	0.15	625
	220	16x32	0.15	750
		18x25	0.15	725
	330	18x32	0.15	960
200 (250)	10	※10x16	0.15	80
	15	※10x16	0.15	100
	22	10x20	0.15	160
	33	※10x20	0.15	160
		13x20	0.15	210
	47	13x20	0.15	260
	68	13x25	0.15	360
		16x20	0.15	430
	100	16x25	0.15	475
		18x20	0.15	465
	150	18x25	0.15	650
	220	18x32	0.15	780
250 (300)	10	※10x16	0.15	85
		10x20	0.15	100
	22	8x30	0.15	130
		※10x25	0.15	145
		13x20	0.15	160
	27	8x32	0.15	150
	33	8x35	0.15	170
		13x20	0.15	210
	39	8x42	0.15	200
	47	8x45	0.15	220
		13x25	0.15	270
		16x20	0.15	275
	56	10x42	0.15	300
	68	10x45	0.15	330
		16x25	0.15	380
		18x20	0.15	375
	82	10x50	0.15	390
	100	12.5x42	0.15	440
		16x32	0.15	520
		18x25	0.15	500
	120	12.5x45	0.15	490
	150	12.5x50	0.15	560
		18x32	0.15	650
	220	18x40	0.15	820
350 (400)	10	10x20	0.20	100
	15	8x35	0.20	120
	22	8x40	0.20	150
		13x20	0.20	160
	27	8x45	0.20	170
	33	8x50	0.20	200
		13x25	0.20	230
		16x20	0.20	250
	39	10x45	0.20	235
	47	10x50	0.20	270
		16x25	0.20	300
		18x20	0.20	315
	56	12.5x40	0.20	300
	68	12.5x45	0.20	350

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
350 (400)	68	16x32	0.2	400
		18x25	0.2	380
	82	12.5x50	0.2	400
	100	12.5x55	0.2	460
		18x32	0.2	530
400 (450)	4.7	※10x16	0.24	60
	6.8	※10x16	0.24	72
	10	※10x16	0.24	85
		10x20	0.24	100
	15	8x35	0.24	110
	22	8x40	0.24	140
		13x20	0.24	145
		13x25	0.24	170
		16x20	0.24	200
	27	8x45	0.24	165
		10x35	0.24	165
	33	8x50	0.24	190
		10x40	0.24	190
		16x25	0.24	230
		18x20	0.24	250
	39	10x45	0.24	220
	47	10x50	0.24	255
		12.5x40	0.24	255
		16x25	0.24	255
		16x32	0.24	300
		18x25	0.24	325
	56	12.5x45	0.24	300
	68	12.5x50	0.24	350
		16x30	0.24	340
		16x32	0.24	350
		18x36	0.24	420
	82	12.5x55	0.24	400
	100	18x32	0.24	465
		18x40	0.24	545
	150	18x40	0.24	525
		22x40	0.24	650
420 (470)	15	8x35	0.24	105
	22	8x40	0.24	135
	27	8x45	0.24	155
		10x35	0.24	155
	33	8x50	0.24	185
		10x40	0.24	185
	39	10x45	0.24	215
		12.5x35	0.24	215
	47	10x50	0.24	245
		12.5x40	0.24	245
	56	12.5x45	0.24	290
	68	12.5x50	0.24	335
	82	12.5x55	0.24	385
450 (500)	3.3	10x20	0.24	60
	4.7	13x20	0.24	80
	6.8	※10x20	0.24	90
	10	13x20	0.24	110
		13x25	0.24	110
	12	8x35	0.24	110
	15	8x40	0.24	130
	22	8x45	0.24	165
		10x35	0.24	165
		13x20	0.24	145
		16x25	0.24	190
		18x20	0.24	200
	27	8x52	0.24	195

※Down Size：3000Hrs

SG

High Ripple、Long life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
450 (500)	27	10x40	0.24	195
	33	10x45	0.24	230
		12.5x35	0.24	230
		16x25	0.24	235
		16x32	0.24	275
		18x25	0.24	280
	39	10x50	0.24	265
		12.5x40	0.24	265
	47	10x52	0.24	295
		12.5x45	0.24	310
		16x26	0.24	270
		18x32	0.24	340
	56	12.5x50	0.24	355
	68	12.5x55	0.24	410
		18x25	0.24	335
		18x32	0.24	395
		18x40	0.24	460

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
450 (500)	100	22x40	0.24	580
500 (550)	4.7	10x20	0.24	70
	6.8	13x20	0.24	100
	10	12.5x25	0.24	130
	22	16x25	0.24	225
		18x20	0.24	220
	33	16x32	0.24	305
		18x25	0.24	295
	47	16x36	0.24	430
		18x32	0.24	435
	68	18x32	0.24	530
		18x36	0.24	555
	82	18x40	0.24	640
		22x35	0.24	675
	100	22x35	0.24	745
	120	22x40	0.24	865
	150	22x45	0.24	1020

※Down Size：3000Hrs

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SP

High Ripple、Long life Series

Upgrade

500V LINEUP

■ Endurance: 105℃ ， 8000~10000hours
■ Recommended Applications : Applicable for Electronic Ballast
■ Corresponding product to RoHS

SP
↑ Long Life
SG

■ SPECIFICATIONS

Item	Characteristics	
Category Temperature Range	-40~+105℃	-25~+105℃
Rated Voltage Range	160 ~ 450VDC	500VDC
Rated Capacitance Range	3.3 ~ 330 μF	10~ 68 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.04CV + 100(μA) ,(After rated voltage applied for2 minutes)	I=0.04CV + 100(μA) (After rated voltage applied for 2 minutes)
	I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)	

Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)

WV	160	200	400	420~450	500
tan δ	0.20	0.20	0.24	0.24	0.24

Low Temperature Stability Impedance Ratio (MAX)

WV / Z(120Hz)	160	200	400	420~450	500
Z-25℃ / Z+20℃	3	3	5	6	6
Z-40℃ / Z+20℃	6	6	6	8	-

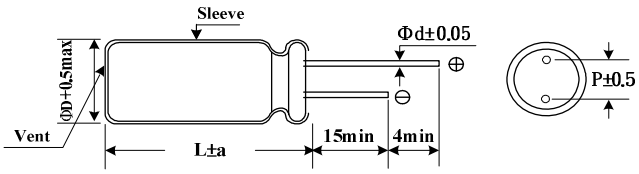
Endurance

The follwing sprcifications shall be satisfied when the capacitors are restored to 20℃ after subjected to DC voltage with the max ripple current is applies for 10000 hours (8000 hours for φ10) at 105℃.

Capacitance change	Within ± 20% of initial value
D.F. (tan δ)	Not more than 200% of specified value
Leakage current	initial specified value or less

Shelf Life: After placed at 105℃ without voltage applied for 1000 hours,the capacitors shall meet the same requirement as Endurance.

■ Dimensions [mm]



ΦD	10	12.5	13	16	18
P	5.0	5.0		7.5	7.5
Φd	0.6	0.6		0.8	0.8
a	1.5(2.0)	2(2.5)		2.0	2.0

Notes：( ):L≧30mm

■ Multiplier for Ripple Current

Freq. (Hz)	120	1K	10K	100K
Coefficient	1.0	1.6	1.8	2.0

SP

High Ripple、Long life Series

Upgrade

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (120Hz)	Ripple current (mA/rms105℃) (100KHz)
160 (200)	33	10x20	250	500
	47	10x20	290	580
		12.5x20	330	660
	68	13x25	360	720
		16x20	380	760
	100	13x25	485	970
		16x20	560	1120
		16x25	560	1120
		18x20	560	1120
	150	10x45	410	820
		16x25	600	1200
		16x32	650	1300
		18x25	650	1300
	180	10x50	470	940
	220	12.5x45	550	1100
		16x32	650	1300
		18x25	650	1300
	270	12.5x50	640	1280
	330	12.5x55	740	1480
		18x36	690	1380
200 (250)	22	10x20	220	440
	33	10x20	260	520
		12.5x20	290	580
	47	13x20	330	660
	68	13x25	360	720
		16x20	380	760
	100	16x25	560	1120
		10x45	330	660
	120	10x50	430	860
	150	12.5x45	510	1020
		16x32	640	1280
	180	12.5x50	590	1180
	220	12.5x52	650	1300
	270	12.5x55	750	1500
250(300)	82	10x52	390	780
	100	12.5x42	470	940
	120	12.5x45	480	960
	150	12.5x50	540	1080
	180	12.5x55	650	1300
400 (450)	6.8	10x20	75	150
	10	10x20	90	180
	22	16x20	150	300
	33	16x25	260	520
	39	10x45	260	520
	47	12.5x40	310	620
		16x32	350	700
	56	10x52	340	680

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms105℃) (120Hz)	Ripple current (mA/rms105℃) (100KHz)
400 (450)	56	12.5x45	360	720
	68	12.5x50	400	800
		18x32	435	870
	82	12.5x55	460	920
420(470)	27	10x40	200	400
	33	10x45	235	470
	39	10x50	270	340
	47	12.5x42	310	620
	56	12.5x45	330	660
	68	12.5x50	390	780
	82	12.5x55	450	900
450 (500)	3.3	10x16	50	100
	4.7	10x20	70	140
	6.8	10x20	75	150
		12.5x20	90	180
	10	12.5x20	155	310
	22	10x40	250	500
		16x25	280	560
		18x20	275	550
	27	10x42	270	540
	33	10*45	300	600
		16x32	310	620
		18x25	295	590
	39	10x50	340	680
		12.5x40	350	700
	47	12.5x45	420	840
		16x36	440	880
		18x32	440	880
	56	12.5x50	480	560
	68	12.5x55	530	1060
500(550)	10	12.5x20	130	260
	15	12.5x25	165	330
		16x20	170	340
	18	12.5x30	195	390
		16x20	185	370
	22	12.5x35	230	460
		16x25	230	460
		18x20	225	450
	27	12.5x40	270	540
		16x25	250	500
	33	16x30	300	600
		18x25	295	590
	39	16x36	355	710
	47	16x40	410	820
		18x30	385	770
	56	18x36	455	910
	68	18x40	515	1030

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SU High Ripple、Long life Series

■ Endurance：105℃ 10000~12000hours
■ Recommended Applications : Electronic lighting and power
■ Corresponding product to RoHS

SU
↑ Long Life
SP

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	160~450VDC
Rated Capacitance Range	6.8 ~ 330μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.04CV +100μA . (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)

Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)

WV	160	200	250	350	400	450
tan δ	0.15	0.15	0.15	0.20	0.20	0.20

Low Temperature Stability Impedance Ratio (MAX)

Z(120Hz) \ WV	160	200	250	350	400	450
Z-25℃ / Z+20℃	3	3	3	5	5	6
Z-40℃ / Z+20℃	6	6	6	6	6	8

Endurance

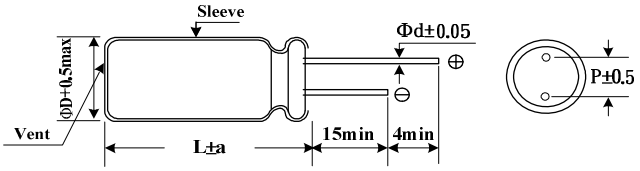
After applying rated voltage with rated ripple current for 10000~12000hours at 105℃, the capacitors shall meet the following requirements.

Capacitance change	Within ± 20% of initial value
D.F. (tan δ)	Not more than 200% of specified value
Leakage current	initial specified value or less

ΦDxL	Life time (hours)
10Φ	10000
≧13Φ	12000

Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,the capacitors shall meet the same requirement as load life.

■ Dimensions [mm]



ΦD	10.0	13.0	16.0	18.0
P	5.0	5.0	7.5	7.5
Φd	0.6	0.6	0.8	0.8
a	1.5	2.0	2.0	2.0

■ Multiplier for Ripple Current

■ Multiplier for Ripple Current	120	1K	10K	100K
coefficient	0.5	0.8	0.9	1.0

SU

High Ripple、Long life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (100KHz)
160	33	10x16	0.15	500
	47	10x20	0.15	580
	68	13x20	0.15	720
	100	13x25	0.15	970
	150	16x25	0.15	1120
	220	16x32	0.15	1300
	330	18x36	0.15	1380
	560	18x50	0.15	2086
200	22	10x16	0.15	500
	33	10x20	0.15	520
	47	13x20	0.15	660
	68	13x25	0.15	720
	100	16x25	0.15	1120
	150	16x32	0.15	1620
	220	18x32	0.15	2080
	390	18x50	0.15	3380
250	10	10x16	0.15	320
	22	10x20	0.15	500
	33	13x20	0.15	800
	47	13x20	0.15	980
	100	16x25	0.15	1530
	150	18x25	0.15	1940

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (100KHz)
250	220	18x36	0.15	2753
	330	18x50	0.15	3912
350	6.8	10x16	0.20	280
	10	10x20	0.20	350
	22	13x20	0.20	650
	33	13x25	0.20	900
	47	16x25	0.20	1000
	68	16x32	0.20	1100
400	6.8	10x16	0.20	140
	10	10x20	0.20	180
	22	13x20	0.20	430
	33	16x25	0.20	520
	47	16x32	0.20	700
	68	18x32	0.20	870
	100	18x50	0.20	1290
450	10	10x20	0.20	180
	15	13x20	0.20	380
	22	13x25	0.20	500
	33	16x25	0.20	560
	47	16x36	0.20	880
	68	16x36	0.20	1110
	100	18x50	0.20	1560

TEAPO

Radial Type Aluminium Electrolytic Capacitors

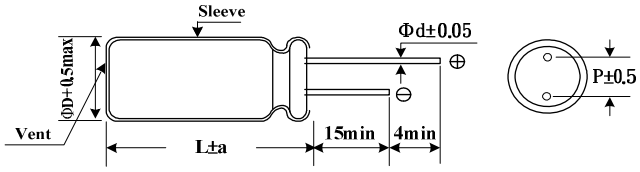
RN Non-polar Standard Series

- Endurance: 85℃,1000hours, Non-polarized/Polarity reversing
- Recommended Applications :Small crossover network, Reversed polarity circuit, Coupling
- Corresponding product to RoHS

SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +85℃ -25~+85℃
Rated Voltage Range	6.3~ 100VDC 160~250VDC
Rated Capacitance Range	1 ~ 4700 μF 1~100 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I≦0.03CV+4 μA ; L=7mm,I≦0.05CV or 10 μA whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 6.3 / 10 / 16 / 25 / 35 / 50 / 63~100 / 160~250 tan δ: 0.24 / 0.2 / 0.17 / 0.15 / 0.15 / 0.15 / 0.10 / 0.20 When nominal capacitance is over 1000 μF,tan δ shall be added 0.02 to the listed value with increase of every 1000 μF.
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120Hz): 6.3 / 10 / 16 / 25 / 35 / 50 / 63~100 / 160~250 Z(-25℃) / Z(+20℃): 4 / 3 / 2 / 2 / 2 / 2 / 2 / 6 Z(-40℃) / Z(+20℃): 8 / 6 / 4 / 4 / 3 / 3 / 3 / -
Endurance	After applying rated voltage for 1000 hours at 85℃,the capacitors shall meet the following requirements. (The polarity shall be reversed every 250 hours) Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value
Shelf Life	After placed at 85℃ without voltage applied for 500 hours,the capacitors shall meet the same requirements as load life.

Dimensions [mm]



ΦD	4	5	6.3	8	10	13	16	18
P	1.5	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.45	0.5(0.45)	0.5(0.45)	0.6	0.6	0.6	0.8	0.8
a	1.0	1.5(1.0)	1.5(1.0)	1.5	1.5	2.0	2.0	2.0

( ) : L = 7

Multiplier for Ripple Current

Freq. (Hz) / WV(VDC)	50	120	1K	10K
6.3 ~ 16V	0.8	1.0	1.1	1.2
25 ~35V	0.8	1.0	1.5	1.7
50 ~ 100V	0.8	1.0	1.6	1.9
160 ~ 250V	0.8	1.0	1.5	1.6

Radial Type Aluminium Electrolytic Capacitors

RN Non-polar Standard Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms85℃) (120Hz)
6.3(8)	22	5x7	0.24	35
	33	5x7	0.24	40
		5x11	0.24	60
	47	5x11	0.24	70
		6.3x7	0.24	50
	100	6.3x11	0.24	115
	220	8x11	0.24	205
	330	8x11	0.24	265
	470	10x12.5	0.24	370
	1000	10x20	0.24	650
	2200	13x25	0.24	1160
	3300	16x25	0.24	1570
	4700	16x32	0.24	2020
	6800	18x36	0.24	2600
10(13)	10	4x7	0.2	25
	22	5x7	0.2	40
		5x11	0.2	50
	33	5x11	0.2	65
		6.3x7	0.2	50
	47	5x11	0.2	75
		6.3x7	0.2	60
	100	6.3x11	0.2	125
	220	8x11	0.2	215
	330	10x16	0.2	345
	470	10x16	0.2	410
	1000	13x20	0.2	720
	2200	16x25	0.2	1280
	3300	16x32	0.2	1690
	4700	18x36	0.2	2160
16 (20)	4.7	4x7	0.17	20
	10	5x7	0.17	30
		5x11	0.17	40
	22	5x11	0.17	55
		6.3x7	0.17	45
	33	5x11	0.17	70
		6.3x7	0.17	60
	47	6.3x7	0.17	70
		6.3x11	0.17	95
	100	8x11	0.17	160
	220	10x12.5	0.17	275
	330	10x16	0.17	375
	470	10x20	0.17	485
	1000	13x25	0.17	855
	2200	16x32	0.17	1510
	3300	18x36	0.17	1980
25 (32)	3.3	4x7	0.15	15
	4.7	5x7	0.15	20
	10	5x11	0.15	40
		6.3x7	0.15	35
	22	6.3x7	0.15	50
		6.3x11	0.15	65
	33	6.3x7	0.15	65
		6.3x11	0.15	80
	47	6.3x11	0.15	95
	100	8x11	0.15	160
	220	10x16	0.15	305
	330	13x20	0.15	450
	470	13x20	0.15	540
	1000	16x25	0.15	950
	2200	18x36	0.15	1620
35 (44)	2.2	4x7	0.15	15
	3.3	5x7	0.15	20

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms85℃) (120Hz)
35 (44)	4.7	5x7	0.15	25
		5x11	0.15	30
	10	5x11	0.15	40
		6.3x7	0.15	40
	22	6.3x11	0.15	70
	33	8x11	0.15	100
	47	8x11	0.15	120
	100	10x16	0.15	230
	220	13x20	0.15	410
	330	13x20	0.15	505
	470	13x25	0.15	655
	1000	16x32	0.15	1140
50 (63)	1	4x7	0.15	10
		5x11	0.15	10
	2.2	4x7	0.15	20
		5x11	0.15	20
	3.3	5x7	0.15	25
		5x11	0.15	30
	4.7	6.3x7	0.15	30
		5x11	0.15	30
	10	6.3x11	0.15	45
	22	8x11	0.15	80
	33	8x11	0.15	105
	47	8x15	0.15	140
	100	10x20	0.15	265
	220	13x25	0.15	480
	330	16x25	0.15	650
	470	16x32	0.15	835
63 (79)	10	6.3x11	0.10	55
	22	8x11	0.10	90
	33	10x12.5	0.10	135
	47	10x16	0.10	180
	100	13x20	0.10	320
	220	16x25	0.10	575
	330	16x32	0.10	750
	470	18x36	0.10	965
80 (100)	10	8x11	0.10	65
	22	10x16	0.10	105
	33	10x16	0.10	160
	47	10x20	0.10	215
	100	13x25	0.10	385
	220	16x32	0.10	690
	330	18x36	0.10	860
100 (125)	10	8x11	0.10	70
	22	10x16	0.10	135
	33	13x20	0.10	220
	47	13x20	0.10	240
	100	16x25	0.10	425
	220	18x36	0.10	720
160 (200)	1	6.3x11	0.20	15
	2.2	8x11	0.20	20
	3.3	10x12.5	0.20	30
	4.7	10x12.5	0.20	35
	10	10x16	0.20	55
	22	13x25	0.20	105
	33	16x25	0.20	165
	47	16x26	0.20	200
	100	18x36	0.20	360
200 (250)	1	6.3x11	0.20	15
	2.2	8x11	0.20	20
	3.3	10x12.5	0.20	30
	4.7	10x16	0.20	40

RN

Non-polar Standard Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μ F)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms85℃) (120Hz)
200 (250)	10	13x20	0.20	70
	22	13x25	0.20	120
	33	16x25	0.20	165
	47	16x32	0.20	220
250 (300)	1	8x11	0.20	15
	2.2	10x12.5	0.20	25

Rated Voltage (SurageVoltage) (V)	Cap (μ F)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms85℃) (120Hz)
250 (300)	3.3	10x12.5	0.20	30
	4.7	10x16	0.20	40
	10	13x20	0.20	70
	22	16x25	0.20	135
	33	16x32	0.20	180
	47	16x36	0.20	230

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SN Non-polar Standard Series

■ Endurance: 105℃ 1000 hours

■ Recommended Applications : Non-polar miniature type for used in reversing polarity DC voltage circuits

■ Corresponding product to RoHS

SN ↑ Higher temperature RN

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃ -25~+105℃
Rated Voltage Range	6.3 ~ 100VDC 160~250VDC
Rated Capacitance Range	1 ~ 2200 μF 1~100 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.03CV+ 3 μA; L=7mm, I=0.06CV+ 10 μA(After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)

Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)

WV	6.3	10	16	25	35	50	63	80	100	160~250
tan δ	0.24	0.20	0.17	0.15	0.15	0.15	0.10	0.10	0.10	0.20

When nominal capacitance is over 1000uF，
tan δ shall be added 0.02 to the listed value with increase of every 1000uF;L=7mm, tan δ shall be added 0.03

Low Temperature Stability Impedance Ratio (MAX)

WV / Z(120Hz)	6.3	10	16	25	35	50	63~100	160-250
Z-25℃ / Z+20℃	4	3	2	2	2	2	2	6
Z-40℃ / Z+20℃	10	8	6	4	3	3	3	—

Endurance

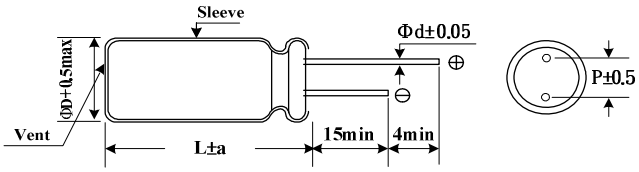
After applying rated voltage for 1000 hours at 105℃,(The polarity shall be reversed every 250 hrs.)

Capacitance change	Within ± 20% of initial value
D.F. (tan δ)	Not more than 200% of specified value
Leakage current	Not more than the specified value

Shelf Life

After placed at 105℃ without voltage applied for 500 hours,the capacitors shall meet the same requirement as Endurance.

■ Dimensions [mm]



ΦD	4.0	5.0	6.3	8.0	10.0	13.0	16.0	18.0
P	1.5	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.45	0.5	0.5	0.6	0.6	0.6	0.8	0.8
a	1.0	1.5	1.5	1.5	1.5	2.0	2.0	2.0

■ Multiplier for Ripple Current

Freq. (Hz)	60	120	300	1K	10K
Factor	0.75	1.00	1.20	1.32	1.65

Radial Type Aluminium Electrolytic Capacitors

SN Non-polar Standard Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	R.C (mA/rms105℃) (120Hz)
6.3(8)	33	5x11	0.24	63
	47	6.3x11	0.24	84
	100	8x11	0.24	140
	220	10x12.5	0.24	235
	330	10x16	0.24	310
	470	10x20	0.24	400
	1000	13x25	0.24	690
	2200	16x32	0.24	1250
10(13)	22	5x11	0.20	57
	33	6.3x11	0.20	77
	47	6.3x11	0.20	93
	100	8x11	0.20	193
	220	10x16	0.20	255
	330	10x20	0.20	380
	470	13x20	0.20	470
	1000	16x25	0.20	885
	2200	16x36	0.20	1450
16(20)	10	6.3x11	0.17	45
	22	5x11	0.17	59
		6.3x11	0.17	69
	33	8x11	0.17	98
	47	8x11	0.17	115
	100	8x11	0.17	140
		10x12.5	0.17	175
		10x16	0.17	205
	220	10x20	0.17	330
	330	13x20	0.17	445
	470	13x25	0.17	570
	1000	16x32	0.17	1020
25(32)	10	5x11	0.15	42
		6.3x11	0.15	50
	22	6.3x11	0.15	69
		8x11	0.15	86
	33	8x11	0.15	105
	47	10x12.5	0.15	140
	100	10x20	0.15	240
	220	13x20	0.15	390
	330	16x25	0.15	580
	470	16x25	0.15	690
35(44)	4.7	5x11	0.15	34
	10	6.3x11	0.15	54
	22	8x11	0.15	94
	33	10x12.5	0.15	125
	47	10x16	0.15	165
	100	13x20	0.15	285
	220	16x25	0.15	520
	330	16x25	0.15	630
	470	16x32	0.15	820
50(63)	2.2	5x11	0.15	25
	3.3	6.3x11	0.15	31
	4.7	5x11	0.15	34
		6.3x11	0.15	41
	10	6.3x11	0.15	56
		8x11	0.15	70

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	R.C (mA/rms105℃) (120Hz)
50(63)	22	6.3x11	0.15	75
		8x11	0.15	97
		10x12.5	0.15	115
	33	8x11	0.15	110
		10x16	0.15	150
	47	8x11	0.15	130
		10x20	0.15	190
	100	13x20	0.15	310
	220	16x25	0.15	570
	330	16x36	0.15	790
63(79)	10	8x11	0.10	74
	22	8x11	0.10	95
		10x16	0.10	130
	33	8x11	0.10	115
		10x20	0.10	175
	47	13x20	0.10	230
	100	16x25	0.10	410
	220	16x32	0.10	660
80(100)	10	10x12.5	0.10	88
	22	10x20	0.10	150
	33	13x20	0.10	205
	47	13x20	0.10	245
	100	16x25	0.10	435
100(125)	10	8x11	0.10	80
		10x12.5	0.10	100
	22	13x20	0.10	180
	33	13x20	0.10	220
	47	13x25	0.10	285
	100	16x32	0.10	510
160(200)	1	6.3x11	0.20	21
	2.2	8x11	0.20	34
	3.3	10x12.5	0.20	49
	4.7	10x12.5	0.20	58
	10	10x17	0.20	80
	22	13x25	0.20	180
	33	16x26	0.20	220
	47	16x26	0.20	285
	100	18x36	0.20	510
200(250)	1	6.3x11	0.20	21
	2.2	8x11	0.20	34
	3.3	10x12.5	0.20	49
	4.7	10x15	0.20	62
	10	13x20	0.20	100
	22	13x25	0.20	180
	33	16x26	0.20	220
	47	16x32	0.20	315
250(300)	1	8*11	0.20	25
	2.2	10x12.5	0.20	38
	3.3	10x12.5	0.20	49
	4.7	10x17	0.20	66
	10	13x20	0.20	100
	22	16x26	0.20	200
	33	16x32	0.20	250
	47	16x36	0.20	330

TEAPO

Radial Type Aluminium Electrolytic Capacitors

SB Low leakage current Series

■ Endurance：105℃ 1000 hours

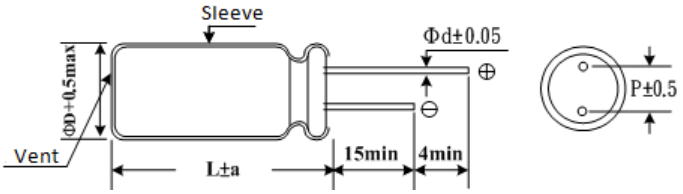
■ Recommended Applications :in where low leakage current is essential as in coupling of pre-amplifies
Remaining of very low leakage current even after prolonged storage

■ Corresponding product to RoHS

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	6.3 ~ 100VDC
Rated Capacitance Range	1 ~ 15000 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I≦0.002CVor 0.4 μA whichever is greater. (After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 80 / 100 tan δ: 0.28 / 0.24 / 0.20 / 0.16 / 0.14 / 0.12 / 0.10 / 0.10 / 0.10 When nominal capacitance is over 1000 μF,tan δ shall be added 0.02 to the listed value with increase of every 1000 μF.
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120Hz): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 80 / 100 Z(-25℃)/ Z(+20℃): 4 / 3 / 2 / 2 / 2 / 2 / 2 / 1.5 / 1.5 Z(-40℃)/ Z(+20℃): 8 / 6 / 4 / 4 / 3 / 3 / 3 / 2 / 2
Endurance	After applying rated voltage for 1000 hours at 105℃,the capacitors shall meet the following requirements. Capacitance change: Within ± 25% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value
Shelf Life	After 500 hrs at 105℃ without applying rated voltage the capacitors shall meet the following requirements. Capacitance change: Within ± 25% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than 200% of specified value

■ Dimensions [mm]



φD	5	6.3	8	10	13	16	18	22
P	2	2.5	3.5	5	5	7.5	7.5	10
φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8	0.8
a	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0

■ Multiplier for Ripple Current

Freq. (Hz)	50	120	300	1K	10K
6.3 ~ 25 V	0.85	1.00	1.04	1.08	1.19
35~ 50 V	0.80	1.00	1.30	1.40	1.43
63 ~ 100 V	0.77	1.00	1.34	1.43	1.48

SB

Low leakage current Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
6.3V (8)	33	5x11	0.28	55
	47	5x11	0.28	65
	100	5x11	0.28	95
	220	6.3x11	0.28	165
	330	6.3x11	0.28	195
	470	8x11	0.28	270
	1000	10x12.5	0.28	465
	2200	13x20	0.30	925
	3300	13x20	0.32	1100
	4700	16x26	0.34	1600
	6800	16x26	0.38	1810
	10000	16x32	0.46	2210
	15000	18x36	0.56	2760
10V (13)	22	5x11	0.24	50
	33	5x11	0.24	60
	47	5x11	0.24	75
	100	5x11	0.24	110
	220	6.3x11	0.24	180
	330	8x11	0.24	250
	470	8x11	0.24	300
	1000	10x17	0.24	600
	2200	13x20	0.26	1000
	3300	13x25	0.28	1300
	4700	16x26	0.30	1700
	6800	16x32	0.34	2100
	10000	18x36	0.42	2630
16V (20)	10	5x11	0.20	40
	22	5x11	0.20	55
	33	5x11	0.20	70
	47	5x11	0.20	85
	100	6.3x11	0.20	140
	220	8x11	0.20	230
	330	8x11	0.20	280
	470	10x12.5	0.20	400
	1000	10x17	0.20	660
	2200	13x25	0.22	1210
	3300	16x26	0.24	1610
	4700	16x32	0.26	2020
	6800	18x36	0.30	2520
	10000	18x40	0.38	2910
25V (32)	10	5x11	0.16	40
	22	5x11	0.16	60
	33	5x11	0.16	75
	47	5x11	0.16	90
	100	6.3x11	0.16	140
	220	8x11	0.16	250
	330	10x12.5	0.16	360
	470	10x17	0.16	490
	1000	13x20	0.16	880
	2200	16x26	0.18	1550
	3300	16x32	0.20	1860

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
25V (32)	4700	18x36	0.22	2380
	6800	18x40	0.24	2770
35V (44)	10	5x11	0.14	45
	22	5x11	0.14	65
	33	5x11	0.14	80
	47	6.3x11	0.14	110
	100	8x11	0.14	180
	220	10x12.5	0.14	320
	330	10x17	0.14	450
	470	10x20	0.14	570
	1000	13x25	0.14	1060
	2200	16x32	0.16	1700
	3300	18x36	0.18	2200
	4700	18x40	0.20	2610
50V (63)	10	5x11	0.12	55
	22	5x11	0.12	75
	33	6.3x11	0.12	100
	47	6.3x11	0.12	120
	100	8x11	0.12	200
	220	10x17	0.12	400
	330	10x20	0.12	520
	470	13x20	0.12	730
	1000	16x26	0.12	1330
	2200	18x36	0.14	2100
63V (79)	10	5x11	0.10	50
	22	6.3x11	0.10	80
	33	6.3x11	0.10	100
	47	8x11	0.10	140
	100	10x12.5	0.10	230
	220	10x20	0.10	430
	330	13x20	0.10	610
	470	13x25	0.10	800
	1000	16x32	0.10	1460
80V (100)	10	6.3x11	0.10	60
	22	8x11	0.10	110
	33	8x11	0.10	130
	47	10x12.5	0.10	180
	100	10x17	0.10	310
	220	13x20	0.10	560
	330	13x25	0.10	750
	470	16x26	0.10	1020
	1000	18x36	0.10	1830
100V (125)	10	6.3x11	0.10	65
	22	8x11	0.10	115
	33	10x12.5	0.10	160
	47	10x17	0.10	230
	100	13x20	0.10	410
	220	16x26	0.10	750
	330	16x26	0.10	920
	470	16x32	0.10	1200

TEAPO

Radial Type Aluminium Electrolytic Capacitors

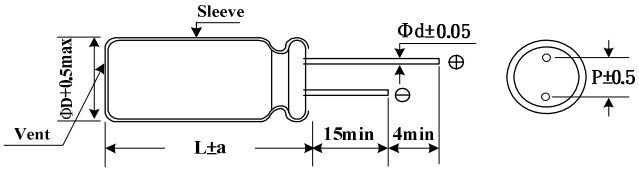
TE LED Lighting、Ultra Long Life Series

- Endurance：105℃ 12000~20000hrs
- Recommended Applications : For LED Lightingr
- Corresponding product to RoHS

SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	160~400VDC
Rated Capacitance Range	1.0 ~ 33 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	CV≦1000: I=0.1CV +40 μA (1 minute); CV>1000: I=0.04CV +100 μA (1minute); I=0.03CV +15 μA (5 minute; I=0.02CV +25 μA (5minute) — I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 160 / 200 / 400; tan δ: 0.24 / 0.24 / 0.24
Low Temperature Stability Impedance Ratio (MAX)	WV / Z((120HZ: 160 / 200 / 400; Z-25℃ / Z+20℃: 3 / 3 / 6; Z-40℃ / Z+20℃: 8 / 8 / 10
Endurance	After applying rated voltage with rated ripple current for 12000~20000hours at 105℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 30% of initial value; D.F. (tan δ): Not more than 300% of specified value; Leakage current: initial specified value or less. ΦD×L / Life time (hours): 6.3x11,8x9,10x9 / 12000; 8x11,10x12.5 / 15000; 10x16 / 20000
Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,the capacitors shall meet the same requirement as load life.

Dimensions [mm]



ΦD	6.3	8.0	10.0
P	2.5	3.5	5.0
Φd	0.5	0.6	0.6
a	2.0	2.0	2.0

Multiplier for Ripple Current

Freq. (Hz)		120	1K	10K	100K
coefficient	1~5.6 μF	1.0	1.6	1.8	2.0
	6.8~18 μF	1.0	1.5	1.7	1.9
	22~33 μF	1.0	1.4	1.6	1.8

TE

LED Lighting、Ultra Long Life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
160	5.6	6.3x11	0.24	52
	10	8x9	0.24	70
	15	8x11	0.24	92
		10x9	0.24	95
	22	10x12.5	0.24	121
	33	10x16	0.24	158
200	2.2	6.3x11	0.24	36
	3.3	6.3x11	0.24	42
	4.7	6.3x11	0.24	49
	5.6	8x9	0.24	56
	6.8	8x9	0.24	62
	8.2	8x9	0.24	66
	10	8x11	0.24	80
	12	10x9	0.24	88

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms105℃) (120Hz)
200	18	10x12.5	0.24	113
	27	10x16	0.24	149
400	1.0	6.3x11	0.24	24
	1.2	8x9	0.24	28
	1.5	8x9	0.24	30
	1.8	8x9	0.24	33
	2.2	8x9	0.24	36
		8x11	0.24	40
	2.7	8x11	0.24	43
	3.3	8x11	0.24	47
		10x9	0.24	48
	3.9	10x12.5	0.24	57
	4.7	10x12.5	0.24	61
	6.8	10x16	0.24	85

TEAPO

Radial Type Aluminium Electrolytic Capacitors

AK High Temperature、 Long Life Series

- Endurance: 125℃ 2000~5000hrs
- Recommended Applications :Applicable for Electronic Ballast,Lighting Ballast
- Corresponding product to RoHS

SPECIFICATIONS

Item	Characteristics	
Category Temperature Range	-40 ~ +125℃	-25 ~ +125℃
Rated Voltage Range	10~63VDC	160~450VDC
Rated Capacitance Range	47~ 4700μF	1~150μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)	
Leakage Current (20℃)	I=0.01CV or 3(μA)whichever is greater.	I=0.1CV+40 uA (CV≦1000) I=0.04CV+100 uA (CV>1000)
	(After rated voltage applied for 2 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)	

Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)

WV	10	16	25	35	50	63	160~250	350~450
tan δ	0.19	0.16	0.14	0.12	0.14	0.14	0.20	0.24

When nominal capacitance is over 1000uF,tan δ shall be added 0.02 to the listed value with increase of every 1000uF.
Down Size tan δ added 0.03.

Low Temperature Stability Impedance Ratio (MAX)

WV / Z(120Hz)	10	16	25	35	50	63	160~250	350~450
Z-25℃ / Z+20℃	3	2	2	2	2	2	3	6
Z-40℃ / Z+20℃	6	4	4	4	4	3	—	—

Endurance

After applying rated voltage for 2000~5000hours at 125℃,the capacitors shall meet the following requirements.

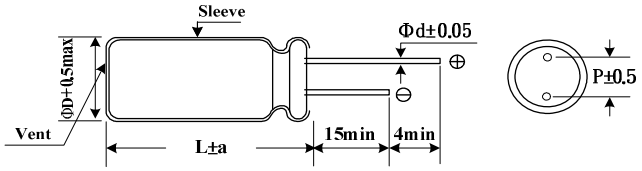
Rated Voltage Range	10~63VDC			160~450VDC
Capacitance Change	Within ± 30 % of initial value			Within ± 20 % of initial value
Dissipation Factor	≦300% of initial specified value			≦ 200% of the initial specified value
Leakage Current	≦initial specified value or less			≦ initial specified value
Φ	8Φ	10Φ	≧13Φ	2000Hrs
Life	2000Hrs	3000Hrs	5000Hrs	

Shelf Life

After leaving capacitors under no load at 125℃ for 1000 hours.

Rated Voltage Range	10~63VDC	160~450VDC
Capacitance Change	Within ± 30 % of initial value	Within ± 20 % of initial value
Dissipation Factor	≦300% of initial specified value	≦ 200% of the initial specified value
Leakage Current	≦500% of initial specified value	≦ 500% of the initial specified value

Dimensions [mm]



ΦD	8	10	13	16	18
P	3.5	5.0	5.0	7.5	7.5
Φd	0.6	0.6	0.6	0.8	0.8
a	1.5	1.5	2.0	2.0	2.0

Multiplier for Ripple Current

Freq. (Hz)		120	1K	10K	50K~100K
10~63WV	CAP≦10	0.40	0.75	0.90	1.00
	10<CAP≦100	0.50	0.85	0.95	1.00
	100<CAP≦1000	0.60	0.88	0.96	1.00
	1000<CAP	0.75	0.90	0.98	1.00
160~450WV	CAP≦33	1.00	1.50	1.75	1.80
	CAP≧47	1.00	1.30	1.40	1.50

Radial Type Aluminium Electrolytic Capacitors

AK

High Temperature、Long Life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms125℃) (100KHz)
10(13)	220	8x11	0.19	340
	330	10x12.5	0.19	500
	470	10x16	0.19	630
	1000	10x20	0.19	770
	2200	13x25	0.21	1250
	3300	16x25	0.23	1380
	4700	16x32	0.26	1450
16(20)	220	8x11	0.16	340
	330	10x12.5	0.16	500
	470	10x20	0.16	770
	1000	13x20	0.16	920
	2200	16x25	0.19	1380
	3300	16x32	0.21	1450
	4700	16x32	0.23	1720
25(32)	100	8x11	0.14	340
	220	10x12.5	0.14	500
	330	10x16	0.14	630
	470	10x20	0.14	770

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms125℃) (100KHz)
25(32)	1000	13x25	0.14	1250
	2200	16x32	0.16	1450
35(44)	100	10x12.5	0.12	340
	220	10x16	0.12	500
	330	10x20	0.12	770
	470	13x20	0.12	920
	1000	16x25	0.12	1380
50(63)	47	8x11	0.14	245
	100	10x12.5	0.14	415
	220	10x20	0.14	491
	330	13x20	0.14	665
	470	13x25	0.14	995
	1000	16x32	0.14	1280
63(79)	47	8x11	0.14	245
	100	10x15	0.14	455
	220	13x20	0.14	665
	330	13x25	0.14	995
	470	16x25	0.14	1000

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms125℃) (120Hz)
160(200)	3.3	8x11	0.20	28
	4.7	10x12.5	0.20	40
	10	10x16	0.20	60
	22	10 x 20	0.20	115
	33	10 x 25	0.20	154
	47	13 x 20	0.20	187
	68	13 x 25	0.20	245
	100	16 x 25	0.20	329
	150	16 x 32	0.20	434
200(250)	3.3	8x11	0.20	28
	4.7	10x12.5	0.20	40
	10	10 x 20	0.20	78
	22	10 x 25	0.20	126
	33	13 x 20	0.20	157
	47	13 x 25	0.20	204
	68	16 x 20	0.20	250
	100	16 x 25	0.20	329
250(300)	2.2	8x11	0.20	28
	3.3	10x12.5	0.20	32
	4.7	10x16	0.20	45
	10	10 x 20	0.20	78
	22	13 x 20	0.20	128
	33	13 x 25	0.20	171
	47	16 x 25	0.20	225
	68	16 x 32	0.20	292

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (mA/rms125℃) (120Hz)
350(400)	1.0	8x11	0.24	25
	2.2	10x12.5	0.24	32
	3.3	10x16	0.24	45
	4.7	10 x 20	0.24	53
	10	10 x 25	0.24	85
	22	13 x 25	0.24	139
	33	16 x 25	0.24	189
	47	16 x 32	0.24	243
400(450)	1.0	10x12.5	0.24	28
	2.2	10x16	0.24	35
	3.3	10x16	0.24	42
	4.7	10 x 20	0.24	53
	10	10 x 25	0.24	86
	22	13 x 30	0.24	142
	33	16 x 25	0.24	189
	47	16 x 32	0.24	243
450(500)	1.0	8x16	0.24	25
	2.2	10x16	0.24	32
	3.3	10x20	0.24	40
	4.7	10 x 25	0.24	58
	10	13 x 20	0.24	86
	22	16 x 25	0.24	154
	33	16 x 32	0.24	203

TEAPO

Radial Type Aluminium Electrolytic Capacitors

AR

High Temperature、Low impedance、Long Life Series

New

■ Endurance: 125℃ 3000~5000hrs

■ Recommended Applications： Applicable for Electronic Ballast,Lighting Ballast

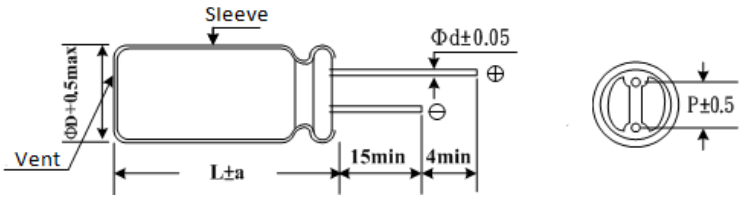
■ Corresponding product to RoHS

AR ↑ AK Downsized

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +125℃
Rated Voltage Range	25~63VDC
Rated Capacitance Range	470~ 6800μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I=0.03CV or 4(μA)whichever is greater. (After rated voltage applied for 1 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 25 / 35 / 50 / 63 tan δ: 0.14 / 0.12 / 0.14 / 0.14 When nominal capacitance is over 1000μF,tan δ shall be added 0.02 to the listed value with increase of every 1000μF.
Low Temperature Stability Impedance Ratio (MAX)	WV / Z(120Hz): 25 / 35 / 50 / 63 Z-25℃ / Z+20℃: 2 / 2 / 2 / 2 Z-40℃ / Z+20℃: 4 / 4 / 4 / 4
Endurance	After applying rated voltage with rated ripple current for 3000~5000 hours at 125℃, the capacitors shall meet the following requirements. Rated Voltage Range: 25~63VDC Capacitance change: Within ±30% of initial value D.F. (tan δ): Not more than300% of specified value Leakage current: initial specified value or less L(height): L≦20mm / L≧25mm Life: 3000Hrs / 5000Hrs
Shelf Life	After placed at 125℃ without voltage applied for 1000 hours,the capacitors shall meet the same requirement as Endurance. Rated Voltage Range: 25~63VDC Capacitance change: Within ±30% of initial value D.F. (tan δ): Not more than300% of specified value Leakage current: initial specified value or less

■ Dimensions [mm]



ΦD	13	16	18
P	5.0	7.5	7.5
Φd	0.6	0.8	0.8
a	2.0	2.0	2.0

■ Multiplier for Ripple Current

Freq. (Hz)		120	1K	10K	100K
25~63WV	CAP:470~560μF	0.50	0.85	0.94	1.00
	CAP:620~1800μF	0.60	0.87	0.95	1.00
	CAP:2200~3900μF	0.75	0.90	0.95	1.00
	CAP:4700~6800μF	0.85	0.95	0.98	1.00

Radial Type Aluminium Electrolytic Capacitors

AR

High Temperature、Low impedance、Long Life Series

New

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms125℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
25(32)	1200	13x20	1820	0.046
	1800	13x25	2280	0.040
		16x20	2280	0.036
	2200	13x30	2560	0.031
	2700	13x35	2970	0.027
		16x25	2860	0.028
		18x20	2490	0.036
	3300	13x40	3340	0.023
		16x30	3160	0.025
	3900	16x36	3590	0.022
		18x25	3010	0.026
	4700	18x30	3390	0.022
	5600	16x40	3970	0.018
		18x36	3840	0.020
	6800	18x40	4230	0.017
35(44)	680	13x20	1820	0.046
	1000	13x25	2280	0.040
	1200	13x30	2560	0.031
		16x20	2280	0.036
	1500	13x35	2970	0.027
		18x20	2490	0.036
	1800	13x40	3340	0.023
		16x25	2860	0.028
	2200	16x30	3160	0.025
		18x25	3010	0.026
	2700	16x36	3590	0.022
		18x30	3390	0.022
	3300	16x40	3970	0.018

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (mA/rms125℃) (100KHz)	Impedance (Ω,20℃) (100KHz)
35(44)	3300	18x36	3840	0.020
	4700	18x40	4230	0.017
50(63)	470	13x20	1500	0.095
	680	13x25	1900	0.078
		16x20	2040	0.073
	820	13x30	2150	0.071
	1000	13x35	2510	0.064
		16x25	2620	0.061
		18x20	2240	0.069
	1200	13x40	2870	0.058
		16x30	2940	0.057
		18x25	2750	0.059
	1500	16x36	3300	0.053
	1800	18x30	3140	0.056
	2200	16x40	3720	0.050
		18x36	3510	0.052
	2700	18x40	3940	0.048
63(79)	470	16x20	1790	0.105
	680	16x25	2030	0.085
		18x20	1910	0.095
	820	16x30	2330	0.073
	1000	16x36	2580	0.064
		18x25	2280	0.069
	1200	16x40	2900	0.056
		18x30	2580	0.061
	1500	18x36	2890	0.055
	1800	18x40	3210	0.050

TEAPO

Snap-in Type Aluminium Electrolytic Capacitors

LH Standard Series

- Endurance: 85℃ 2000hours
- Recommended Applications : Applying to switching power supply and other industry/ commercial field
- Corresponding product to RoHS

SPECIFICATIONS

Item	Characteristics	
Category Temperature Range	-40~+85℃	-25~+85℃
Rated Voltage Range	6.3 ~ 100VDC	160 ~ 500VDC
Rated Capacitance Range	820 ~ 120000 μF	47 ~ 2700 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)	
Leakage Current (20℃)	$I = 3\sqrt{CV}$. (After rated voltage applied for 5minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)	

Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)

WV	6.3	10	16	25	35	50	63~100	160~400	420~500
tan δ	0.60	0.55	0.55	0.45	0.35	0.30	0.25	0.15	0.20

Low Temperature Stability Impedance Ratio (MAX)

Measurement frequency : 120Hz

WV	6.3~16	25	35	50~63	80~100	160~400	420-500
Z-25℃ / Z+20℃	3	3	3	2	2	4	8
Z-40℃ / Z+20℃	12	10	8	6	5	—	—

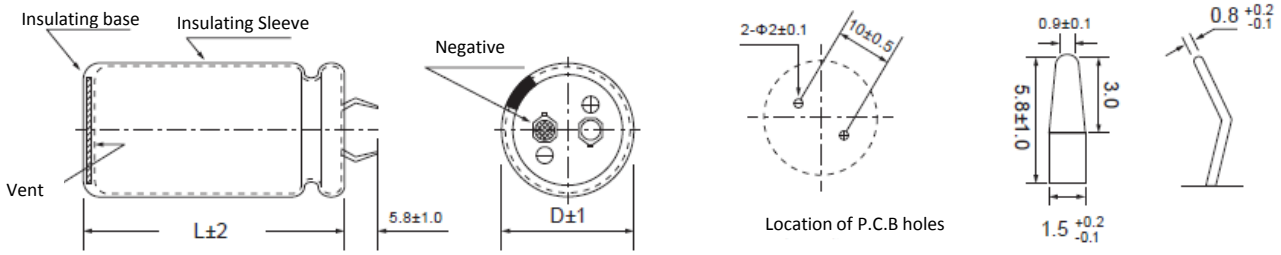
Endurance

After applying rated voltage with rated Ripple current for 2000hrs at 85℃,
the capacitor shall meet the following requirements.

Capacitance change	Within ± 20% of initial value
D.F. (tan δ)	Not more than 200% of specified value
Leakage current	initial specified value or less

Shelf Life: After placed at 85℃ without voltage applied for 1000 hours,the capacitor shall meet the same requirement as Endurance.

Dimensions [mm]



Multiplier for Ripple Current

Freq. (Hz)	50	60	120	1K	10K~100K
6.3~100V	0.88	0.90	1.00	1.15	1.16
160~250V	0.75	0.78	1.00	1.30	1.50
350~450V	0.74	0.76	1.00	1.35	1.45
500V	0.72	0.74	1.00	1.20	1.30

Snap-in Type Aluminium Electrolytic Capacitors

LH Standard Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms85℃) (120KHz)
6.3 (8)	15000	22x25	0.60	2.44
	18000	22x30	0.60	2.60
		25x25	0.60	2.62
	22000	22x30	0.60	3.06
		25x25	0.60	3.07
	27000	22x35	0.60	3.49
		25x30	0.60	3.52
		30x25	0.60	3.57
	33000	22x40	0.60	3.97
		25x35	0.60	4.02
		30x30	0.60	4.05
		35x25	0.60	4.10
	39000	22x50	0.60	4.56
		25x40	0.60	4.50
		30x30	0.60	4.46
		35x25	0.60	4.51
	47000	25x45	0.60	5.09
		30x35	0.60	5.06
		35x30	0.60	5.03
	56000	25x50	0.60	5.71
		30x40	0.60	5.70
		35x30	0.60	5.75
	68000	30x45	0.60	6.48
		35x35	0.60	6.42
	82000	30x50	0.60	7.32
		35x40	0.60	7.29
	100000	35x45	0.60	8.31
	120000	35x50	0.60	8.60
10 (13)	12000	22x25	0.55	2.40
	15000	22x30	0.55	2.75
		25x25	0.55	2.75
	18000	22x35	0.55	3.15
		25x25	0.55	3.05
	22000	22x40	0.55	3.55
		25x30	0.55	3.50
		30x25	0.55	3.55
	27000	22x45	0.55	4.05
		25x35	0.55	4.00
		30x30	0.55	4.05
	33000	22x50	0.55	4.60
		25x40	0.55	4.55
		30x30	0.55	4.50
		35x25	0.55	4.50
	39000	25x45	0.55	5.10
		30x35	0.55	5.05
		35x30	0.55	5.05
	47000	25x50	0.55	5.75
		30x40	0.55	5.70
		35x30	0.55	5.65
	56000	30x45	0.55	6.45
		35x35	0.55	6.40
	68000	30x50	0.55	7.05
		35x40	0.55	7.10
	82000	35x50	0.55	7.50
16 (20)	8200	22x25	0.55	2.60
	10000	22x30	0.55	2.70
		25x25	0.55	2.75
	12000	22x30	0.55	2.90
		25x25	0.55	2.95
	15000	22x35	0.55	3.30
		25x30	0.55	3.45
		30x25	0.55	3.50

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms85℃) (120KHz)
16 (20)	18000	22x40	0.55	3.70
		25x35	0.55	3.75
		30x30	0.55	3.80
	22000	22x50	0.55	4.35
		25x40	0.55	4.30
		30x30	0.55	4.25
		35x25	0.55	4.20
	27000	25x45	0.55	4.70
		30x35	0.55	4.65
		35x30	0.55	4.65
	33000	30x40	0.55	5.35
		35x30	0.55	5.40
	39000	30x45	0.55	6.00
		35x35	0.55	5.95
	47000	30x50	0.55	6.80
		35x40	0.55	6.75
	56000	35x45	0.55	7.60
	68000	35x50	0.55	8.00
	82000	35x60	0.55	8.50
25 (32)	5600	22x25	0.45	2.20
	6800	22x30	0.45	2.40
		25x25	0.45	2.45
	8200	22x35	0.45	2.70
		25x25	0.45	2.75
	10000	22x40	0.45	3.10
		25x30	0.45	3.15
		30x25	0.45	3.20
	12000	22x45	0.45	3.50
		25x35	0.45	3.45
		30x30	0.45	3.50
		35x25	0.45	3.55
	15000	22x50	0.45	4.00
		25x40	0.45	3.95
		30x35	0.45	4.00
		35x30	0.45	4.05
	18000	25x45	0.45	4.45
		30x35	0.45	4.45
		35x30	0.45	4.60
	22000	30x40	0.45	5.20
		35x35	0.45	5.15
		30x45	0.45	5.95
		35x40	0.45	5.90
	27000	30x50	0.45	6.70
		35x45	0.45	6.75
	33000	35x50	0.45	7.55
	39000	35x45	0.45	7.56
	47000	35x50	0.45	8.30
35 (44)	3900	22x25	0.35	2.20
	4700	22x30	0.35	2.40
		25x25	0.35	2.40
	5600	22x35	0.35	2.75
		25x25	0.35	2.75
	6800	22x40	0.35	2.85
		25x30	0.35	2.85
		30x25	0.35	2.90
	8200	22x45	0.35	3.15
		25x35	0.35	3.10
		30x30	0.35	3.15
	10000	22x50	0.35	3.55
		25x40	0.35	3.50
		30x30	0.35	3.45
		35x25	0.35	3.40

Snap-in Type Aluminium Electrolytic Capacitors

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Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms85℃) (120KHz)
35(44)	12000	25x45	0.35	3.95
		30x35	0.35	4.00
		35x30	0.35	4.05
	15000	25x50	0.35	4.95
		30x40	0.35	4.95
		35x35	0.35	5.00
	18000	30x45	0.35	5.50
		35x40	0.35	5.55
	22000	30x50	0.35	6.00
		35x45	0.35	6.05
	27000	35x50	0.35	6.90
50 (63)	2200	22x25	0.30	1.90
	2700	22x30	0.30	2.10
		25x25	0.30	2.20
	3300	22x30	0.30	2.35
		25x25	0.30	2.35
	3900	22x35	0.30	2.65
		25x30	0.30	2.65
		30x25	0.30	2.65
	4700	22x40	0.30	3.00
		25x35	0.30	3.00
		30x25	0.30	2.95
	5600	22x45	0.30	3.35
		25x40	0.30	3.35
		30x30	0.30	3.35
		35x25	0.30	3.40
	6800	22x50	0.30	3.80
		25x40	0.30	3.80
		30x30	0.30	3.80
		30x35	0.30	3.85
		35x30	0.30	3.85
	8200	25x50	0.30	4.35
		30x40	0.30	4.35
		35x30	0.30	4.40
	10000	30x45	0.30	5.00
		35x35	0.30	4.95
	12000	30x50	0.30	5.60
		35x40	0.30	5.55
	15000	35x45	0.30	6.45
	18000	35x50	0.30	6.70
63 (79)	1800	22x25	0.25	1.85
	2200	22x30	0.25	2.30
		25x25	0.25	2.30
	2700	22x35	0.25	2.45
		25x30	0.25	2.45
		30x25	0.25	2.50
	3300	22x40	0.25	2.60
		25x30	0.25	2.65
		30x25	0.25	2.70
	3900	22x45	0.25	2.95
		25x35	0.25	2.95
		30x30	0.25	3.00
	4700	22x50	0.25	3.40
		25x40	0.25	3.35
		30x30	0.25	3.35
		35x25	0.25	3.40
	5600	25x45	0.25	3.70
		30x35	0.25	3.75
		35x30	0.25	3.75
	6800	30x40	0.25	4.25
		35x30	0.25	4.20
	8200	30x45	0.25	4.80

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms85℃) (120KHz)
63(79)	8200	35x35	0.25	4.80
	10000	30x50	0.25	5.50
		35x40	0.25	5.45
	12000	35x45	0.25	6.20
80 (100)	1200	22x25	0.25	1.65
	1500	22x30	0.25	1.90
		25x25	0.25	1.90
	1800	22x35	0.25	2.20
		25x30	0.25	2.20
		30x25	0.25	2.20
	2200	22x40	0.25	2.45
		25x30	0.25	2.45
		30x25	0.25	2.50
	2700	22x45	0.25	2.80
		25x35	0.25	2.80
		30x30	0.25	2.85
		35x25	0.25	2.85
	3300	22x50	0.25	3.15
		25x40	0.25	3.20
		30x30	0.25	3.20
		35x25	0.25	3.20
	3900	25x45	0.25	3.60
		30x35	0.25	3.60
		35x30	0.25	3.60
	4700	25x50	0.25	4.05
		30x40	0.25	4.05
		35x35	0.25	4.10
	5600	30x45	0.25	4.55
		35x35	0.25	4.50
	6800	30x50	0.25	5.15
		35x40	0.25	5.15
	8200	35x45	0.25	5.85
	10000	35x50	0.25	6.60
100 (125)	820	22x25	0.25	1.85
	1000	22x30	0.25	2.10
		25x25	0.25	2.10
	1200	22x35	0.25	2.40
		25x30	0.25	2.45
	1500	22x40	0.25	2.70
		25x30	0.25	2.75
		30x25	0.25	2.75
	1800	22x45	0.25	3.10
		25x35	0.25	3.15
		30x30	0.25	3.15
		35x25	0.25	3.15
	2200	22x50	0.25	3.50
		25x40	0.25	3.55
		30x30	0.25	3.55
		35x25	0.25	3.60
	2700	25x45	0.25	4.10
		30x35	0.25	4.05
		35x30	0.25	4.05
	3300	25x50	0.25	4.50
		30x40	0.25	4.55
		35x30	0.25	4.50
	3900	30x45	0.25	5.15
		35x35	0.25	5.10
	4700	35x40	0.25	5.75
	5600	35x50	0.25	6.20
160 (200)	270	22x25	0.15	1.15
	330	22x25	0.15	1.40
		25x20	0.15	1.35

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Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms85℃) (120KHz)
160(200)	390	22x30	0.15	1.55
		25x25	0.15	1.55
		30x25	0.15	1.50
	470	22x30	0.15	1.75
		25x25	0.15	1.75
		30x25	0.15	1.70
	560	22x30	0.15	1.95
		25x30	0.15	1.95
		30x25	0.15	1.90
	680	22x40	0.15	2.20
		25x30	0.15	2.20
		30x25	0.15	2.15
	820	22x45	0.15	2.50
		25x35	0.15	2.55
		30x30	0.15	2.50
		35x25	0.15	2.50
	1000	22x50	0.15	2.85
		25x40	0.15	2.80
		30x35	0.15	2.80
		35x25	0.15	2.80
	1200	25x45	0.15	3.15
		30x35	0.15	3.15
		35x30	0.15	3.20
	1500	30x45	0.15	3.75
		35x30	0.15	3.70
		35x35	0.15	3.70
	1800	30x50	0.15	4.20
		35x40	0.15	4.20
	2200	35x40	0.15	4.60
		35x45	0.15	4.80
	2700	35x50	0.15	5.45
180 (225)	180	22x20	0.15	1.00
	220	22x25	0.15	1.10
	270	22x25	0.15	1.25
		25x20	0.15	1.25
	330	22x25	0.15	1.40
		22x30	0.15	1.40
		25x25	0.15	1.40
	390	22x30	0.15	1.60
		25x25	0.15	1.60
	470	22x35	0.15	1.80
		25x30	0.15	1.80
		30x25	0.15	1.80
	560	22x35	0.15	2.00
		22x40	0.15	2.00
		25x30	0.15	1.95
		30x25	0.15	2.00
	680	22x45	0.15	2.25
		25x35	0.15	2.20
		30x30	0.15	2.20
		35x25	0.15	2.20
	820	22x50	0.15	2.55
		25x40	0.15	2.55
		30x30	0.15	2.60
		30x35	0.15	2.60
		35x25	0.15	2.60
	1000	25x45	0.15	2.85
		30x35	0.15	2.85
		35x30	0.15	2.90
	1200	30x40	0.15	3.25
		35x30	0.15	3.30
		35x35	0.15	3.30

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms85℃) (120KHz)
180 (225)	1500	30x45	0.15	3.85
		35x35	0.15	3.80
		35x40	0.15	3.80
	1800	35x40	0.15	4.30
		35x45	0.15	4.30
	2200	35x45	0.15	4.90
		35x50	0.15	4.90
200 (250)	180	22x25	0.15	0.95
	220	22x25	0.15	1.10
	270	22x25	0.15	1.25
		22x30	0.15	1.25
		25x25	0.15	1.25
	330	22x25	0.15	1.45
		22x30	0.15	1.45
		25x25	0.15	1.45
	390	22x30	0.15	1.60
		25x25	0.15	1.55
	470	22x35	0.15	1.80
		25x30	0.15	1.80
		30x25	0.15	1.80
	560	22x40	0.15	2.00
		25x35	0.15	2.00
		30x25	0.15	2.00
	680	22x45	0.15	2.35
		25x35	0.15	2.30
		30x30	0.15	2.30
		35x25	0.15	2.30
	820	25x40	0.15	2.60
		25x45	0.15	2.60
		30x30	0.15	2.60
		30x35	0.15	2.60
		35x30	0.15	2.60
	1000	25x45	0.15	3.00
		25x50	0.15	3.00
		30x35	0.15	3.05
		30x40	0.15	3.05
		35x30	0.15	3.00
	1200	25x50	0.15	3.30
		30x40	0.15	3.30
		30x45	0.15	3.30
		35x30	0.15	3.30
		35x35	0.15	3.30
	1500	30x45	0.15	3.80
		30x50	0.15	3.80
		35x35	0.15	3.80
		35x40	0.15	3.80
	1800	35x40	0.15	4.35
		35x45	0.15	4.35
	2200	35x45	0.15	4.95
		35x50	0.15	4.95
250 (300)	120	22x20	0.15	0.78
	150	22x25	0.15	0.90
	180	22x25	0.15	1.05
		25x20	0.15	1.00
	220	22x30	0.15	1.15
		22x35	0.15	1.15
		25x25	0.15	1.15
	270	22x30	0.15	1.30
		25x25	0.15	1.30
	330	22x30	0.15	1.50
		25x25	0.15	1.50
		30x25	0.15	1.50

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Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms85℃) (120KHz)
250 (300)	390	22x35	0.15	1.65
		25x35	0.15	1.65
		30x25	0.15	1.65
	470	22x40	0.15	1.85
		25x35	0.15	1.85
		30x30	0.15	1.90
		35x25	0.15	1.90
	560	22x45	0.15	2.10
		25x40	0.15	2.10
		30x30	0.15	2.10
		35x25	0.15	2.10
	680	25x45	0.15	2.45
		30x35	0.15	2.45
		35x25	0.15	2.45
	820	30x45	0.15	2.75
		35x30	0.15	2.75
	1000	30x45	0.15	3.30
		35x35	0.15	3.30
	1200	35x40	0.15	3.55
	1500	35x45	0.15	4.05
350 (400)	68	22x20	0.15	0.55
	82	22x25	0.15	0.65
		25x20	0.15	0.65
	100	22x30	0.15	0.90
		25x20	0.15	0.90
	120	22x30	0.15	1.00
		25x25	0.15	1.00
	150	22x35	0.15	1.15
		25x30	0.15	1.15
		30x25	0.15	1.15
	180	22x40	0.15	1.30
		25x30	0.15	1.25
		30x25	0.15	1.25
	220	22x45	0.15	1.45
		25x35	0.15	1.45
		30x30	0.15	1.45
		35x25	0.15	1.45
	270	25x40	0.15	1.65
		30x35	0.15	1.65
		35x25	0.15	1.65
	330	25x50	0.15	1.80
		30x40	0.15	1.80
		35x30	0.15	1.80
	390	30x40	0.15	2.00
		35x30	0.15	2.00
	470	30x45	0.15	2.25
		35x35	0.15	2.25
	560	35x40	0.15	2.50
	680	35x45	0.15	2.90
400 (450)	56	22x20	0.15	0.55
	68	22x25	0.15	0.60
		25x20	0.15	0.60
	82	22x25	0.15	0.80
		25x20	0.15	0.80
	100	22x25	0.15	0.85
		22x30	0.15	0.90
		25x25	0.15	0.90
	120	22x30	0.15	0.95
		22x35	0.15	1.05
		25x25	0.15	1.05
	150	22x35	0.15	1.15
		25x30	0.15	1.15

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms85℃) (120KHz)
400 (450)	150	30x25	0.15	1.15
	180	22x40	0.15	1.20
		22x45	0.15	1.30
		25x35	0.15	1.30
		30x30	0.15	1.35
	220	22x50	0.15	1.50
		25x40	0.15	1.50
		30x30	0.15	1.50
		35x25	0.15	1.50
	270	22x50	0.15	1.60
		25x40	0.15	1.65
		30x35	0.15	1.65
		35x30	0.15	1.65
	330	25x45	0.15	1.75
		25x50	0.15	1.90
		30x40	0.15	1.90
		35x30	0.15	1.85
	390	30x40	0.15	1.95
		30x45	0.15	2.15
		35x35	0.15	2.10
	470	30x45	0.15	2.20
		30x50	0.15	2.40
		35x40	0.15	2.40
	560	30x50	0.15	2.45
		35x45	0.15	2.70
	680	35x50	0.15	2.90
420（470）	120	22x30	0.20	0.95
	150	22x35	0.20	1.05
		25x30	0.20	1.05
		30x25	0.20	1.05
	180	22x40	0.20	1.35
	220	22x45	0.20	1.40
		22x50	0.20	1.55
		25x40	0.20	1.50
		25x45	0.20	1.60
	270	25x40	0.20	1.50
		30x40	0.20	1.60
	330	25x45	0.20	1.75
		25x50	0.20	1.85
		30x40	0.20	1.75
		30x45	0.20	1.90
	390	30x45	0.20	1.90
	470	30x45	0.20	2.10
		30x50	0.20	2.20
	560	30x50	0.20	2.30
		35x45	0.20	2.30
450 (500)	47	22x25	0.20	0.50
	56	22x25	0.20	0.65
	68	22x25	0.20	0.67
		22x30	0.20	0.70
		25x25	0.20	0.70
	82	22x30	0.20	0.80
		25x25	0.20	0.80
	100	22x30	0.20	0.85
		22x35	0.20	0.95
		25x30	0.20	0.95
		30x25	0.20	0.95
	120	22x30	0.20	0.95
		22x40	0.20	1.05
		25x30	0.20	1.05
		30x25	0.20	1.05
	150	22x35	0.20	1.05

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Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms85℃) (120KHz)
450 (500)	150	22x45	0.20	1.20
		25x35	0.20	1.20
		30x30	0.20	1.20
	180	25x40	0.20	1.35
		30x35	0.20	1.35
		35x25	0.20	1.35
	220	22x45	0.20	1.40
		25x50	0.20	1.55
		30x40	0.20	1.55
		35x30	0.20	1.55
	270	25x50	0.20	1.55
		30x45	0.20	1.75
		35x35	0.20	1.70
	330	30x40	0.20	1.75
		30x50	0.20	2.00
		35x40	0.20	2.00
	390	30x45	0.20	2.00
		35x45	0.20	2.25

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms85℃) (120KHz)
450 (500)	470	30x50	0.20	2.30
		35x50	0.20	2.50
	560	35x50	0.20	2.70
	680	35x60	0.20	2.90
500(550)	100	22x40	0.20	1.00
		30x25	0.20	0.90
	120	30x30	0.20	1.00
		35x25	0.20	1.00
	150	22x50	0.20	1.40
		30x35	0.20	1.20
	180	30x40	0.20	1.40
		35x30	0.20	1.30
	220	30x45	0.20	1.60
		35x35	0.20	1.50
	270	30x50	0.20	1.80
		35x40	0.20	1.70
	330	35x45	0.20	2.00
	390	35x50	0.20	2.30

TEAPO

Snap-in Type Aluminium Electrolytic Capacitors

LG Standard Series

- Endurance: 105℃ 2000 hours
- Recommended Applications : Applying to switching power supply and other industry/ commercial field
- Corresponding product to RoHS

LG ↑ High temperature
LH

SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃ -25 ~ +105℃
Rated Voltage Range	6.3 ~ 100VDC 160 ~ 500VDC
Rated Capacitance Range	560 ~ 82000 μF 47 ~ 2200 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I =3√CV. (After rated voltage applied for 5minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)

Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)

Rated voltage(V)	6.3	10	16	25	35	50	63~100	160~400	420~450
tan δ	0.60	0.55	0.55	0.45	0.35	0.30	0.25	0.15	0.20

Low Temperature Stability Impedance Ratio (MAX)

Measurement frequency : 120Hz

Rated voltage(V)	6.3~16	25	35	50~63	80~100	160~400	420~450	500
Z-25℃ / Z+20℃	4	3	3	2	2	4	8	8
Z-40℃ / Z+20℃	15	10	8	6	5	—	—	—

Endurance

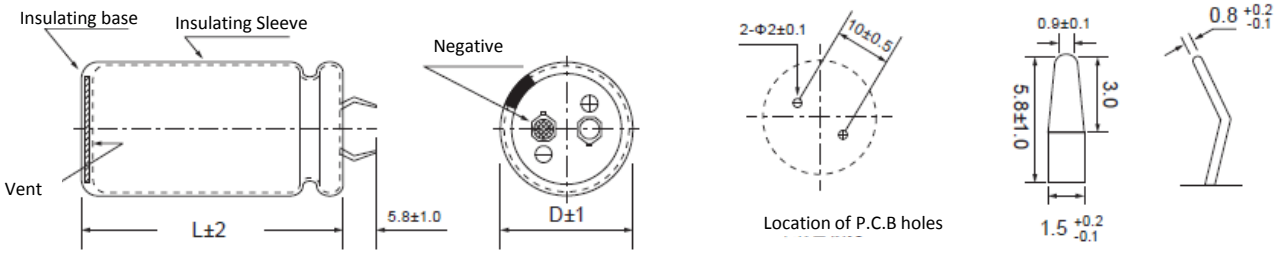
After applying rated voltage with rated Ripple current for 2000hrs at 105℃,
the capacitor shall meet the following requirements.

Capacitance change	Within ± 20% of initial value
D.F. (tan δ)	Not more than 200% of specified value
Leakage current	initial specified value or less

Shelf Life

After placed at 105℃ without voltage applied for 1000 hours,the capacitor shall meet the same requirement as Endurance.

Dimensions [mm]



Multiplier for Ripple Current

Freq. (Hz)	50	60	120	1K	10K~100K
6.3~100V	0.88	0.90	1.00	1.15	1.16
160~250V	0.85	0.88	1.00	1.30	1.50
315~450V	0.88	0.90	1.00	1.35	1.45
500V	0.70	0.72	1.00	1.30	1.41

Snap-in Type Aluminium Electrolytic Capacitors

LG Standard Series

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Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120KHz)
6.3 (8)	12000	22x25	0.60	1.55
	15000	22x30	0.60	1.70
		25x25	0.60	1.70
	18000	22x30	0.60	1.95
		25x25	0.60	1.95
	22000	22x35	0.60	2.25
		25x30	0.60	2.25
		30x25	0.60	2.25
	27000	22x40	0.60	2.55
		25x35	0.60	2.55
		30x30	0.60	2.55
		35x25	0.60	2.55
	33000	22x45	0.60	2.90
		25x40	0.60	2.95
		30x30	0.60	2.90
		35x25	0.60	2.95
	39000	25x50	0.60	3.25
		30x35	0.60	3.25
		35x30	0.60	3.30
	47000	25x50	0.60	3.70
		30x40	0.60	3.70
	56000	30x45	0.60	4.15
		35x35	0.60	4.10
	68000	30x50	0.60	4.70
		35x40	0.60	4.70
	82000	35x45	0.60	5.30
10 (13)	10000	25x25	0.55	1.55
	12000	22x30	0.55	1.75
	15000	22x30	0.55	1.90
		25x25	0.55	1.90
	18000	22x35	0.55	2.20
		25x30	0.55	2.25
	22000	22x40	0.55	2.50
		25x35	0.55	2.55
		30x25	0.55	2.45
	27000	22x50	0.55	2.95
		25x40	0.55	2.90
		30x30	0.55	2.85
		35x25	0.55	2.80
	33000	25x45	0.55	3.30
		30x35	0.55	3.30
		35x30	0.55	3.30
	39000	25x50	0.55	3.70
		30x40	0.55	3.7
		35x30	0.55	3.65
	47000	30x45	0.55	4.20
		35x35	0.55	3.80
	56000	30x50	0.55	4.65
		35x40	0.55	4.65
	68000	35x50	0.55	5.50
16 (20)	6800	22x25	0.55	1.55
	8200	22x30	0.55	1.70
		25x25	0.55	1.70
	10000	22x30	0.55	1.95
		25x25	0.55	1.95
	12000	22x35	0.55	2.20
		25x30	0.55	2.25
		30x25	0.55	2.30
	15000	22x40	0.55	2.55
		25x35	0.55	2.60
		30x30	0.55	2.60
		35x25	0.55	2.65

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120KHz)
16 (20)	18000	22x45	0.55	2.90
		25x40	0.55	2.90
		30x30	0.55	2.90
		35x25	0.55	2.95
	22000	25x45	0.55	3.30
		30x35	0.55	3.30
		35x30	0.55	3.30
	27000	25x50	0.55	3.80
		30x40	0.55	3.75
		35x30	0.55	3.75
	33000	30x45	0.55	4.30
		35x35	0.55	4.25
	39000	30x50	0.55	4.80
		35x40	0.55	4.80
	47000	35x45	0.55	5.45
	56000	35x45	0.55	5.65
	68000	35x50	0.55	6.20
25 (32)	4700	22x25	0.45	1.50
	5600	22x30	0.45	1.65
		25x25	0.45	1.65
	6800	22x30	0.45	1.85
		25x25	0.45	1.85
	8200	22x35	0.45	2.10
		25x30	0.45	2.10
		30x25	0.45	2.15
	10000	22x40	0.45	2.40
		25x35	0.45	2.40
		30x30	0.45	2.40
		35x25	0.45	2.40
	12000	22x45	0.45	2.70
		25x40	0.45	2.75
		30x30	0.45	2.70
		35x25	0.45	2.75
	15000	25x45	0.45	3.15
		30x35	0.45	3.15
		35x30	0.45	3.25
	18000	25x50	0.45	3.55
		30x40	0.45	3.55
		35x35	0.45	3.55
	22000	30x45	0.45	4.05
		35x35	0.45	3.80
	27000	35x45	0.45	4.70
	33000	35x50	0.45	5.40
	39000	35x45	0.45	5.50
	47000	35x50	0.45	6.00
35 (44)	3300	22x25	0.35	1.40
	3900	22x30	0.35	1.55
		25x25	0.35	1.55
	4700	22x35	0.35	1.80
		25x25	0.35	1.80
	5600	22x35	0.35	1.95
		25x30	0.35	1.95
		30x25	0.35	2.00
	6800	22x40	0.35	2.20
		25x35	0.35	2.25
		30x30	0.35	2.30
		35x25	0.35	2.35
	8200	22x50	0.35	2.55
		25x40	0.35	2.50
		30x30	0.35	2.75
		35x25	0.35	2.75
	10000	25x45	0.35	2.85

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Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120KHz)
35 (44)	10000	30x35	0.35	2.90
		35x30	0.35	2.95
	12000	25x50	0.35	3.25
		30x40	0.35	3.25
		35x30	0.35	3.15
	15000	30x45	0.35	3.70
		35x35	0.35	3.65
	18000	35x40	0.35	4.35
	22000	35x50	0.35	4.90
50 (63)	1800	22x25	0.30	1.30
	2200	22x30	0.30	1.55
		25x25	0.30	1.55
	2700	22x30	0.30	1.70
		25x25	0.30	1.70
	3300	22x35	0.30	1.95
		25x30	0.30	1.85
	3900	22x40	0.30	2.15
		25x35	0.30	2.20
		30x25	0.30	1.95
	4700	22x45	0.30	2.45
		25x40	0.30	2.45
		30x30	0.30	2.45
		35x25	0.30	2.50
	5600	22x50	0.30	2.75
		25x40	0.30	2.70
		30x35	0.30	2.75
		35x30	0.30	2.75
	6800	25x50	0.30	3.30
		30x40	0.30	3.30
		35x30	0.30	3.25
	8200	30x45	0.30	3.60
		35x35	0.30	3.55
	10000	30x50	0.30	4.05
		35x40	0.30	4.00
	12000	35x45	0.30	4.55
63 (79)	1200	22x25	0.25	1.20
	1500	22x30	0.25	1.30
		25x25	0.25	1.30
	1800	22x30	0.25	1.50
		25x25	0.25	1.50
	2200	22x35	0.25	1.70
		25x30	0.25	1.75
		30x25	0.25	1.80
	2700	22x40	0.25	2.00
		25x35	0.25	2.00
		30x25	0.25	1.95
	3300	22x50	0.25	2.30
		25x40	0.25	2.30
		30x30	0.25	2.25
		35x25	0.25	2.10
	3900	25x45	0.25	2.55
		30x35	0.25	2.55
		35x30	0.25	2.55
	4700	25x50	0.25	2.85
		30x40	0.25	2.85
		35x30	0.25	2.80
	5600	30x45	0.25	3.20
		35x35	0.25	3.20
	6800	30x50	0.25	3.65
		35x40	0.25	3.65
	8200	35x45	0.25	3.90
	10000	35x50	0.25	4.40
80 (100)	820	22x25	0.25	1.10
80 (100)	1000	22x30	0.25	1.20
		25x25	0.25	1.20
	1200	22x30	0.25	1.40
		25x25	0.25	1.40
	1500	22x35	0.25	1.60
		25x30	0.25	1.60
		30x25	0.25	1.65
	1800	22x40	0.25	1.80
		25x35	0.25	1.85
		30x25	0.25	1.80
	2200	22x45	0.25	2.05
		25x35	0.25	2.00
		30x30	0.25	2.05
		35x25	0.25	2.05
	2700	25x45	0.25	2.35
		30x35	0.25	2.35
		35x30	0.25	2.35
	3300	25x50	0.25	2.70
		30x40	0.25	2.70
		35x30	0.25	2.55
	3900	30x45	0.25	3.00
		35x35	0.25	3.00
	4700	30x50	0.25	3.40
		35x40	0.25	3.40
	5600	35x45	0.25	3.80
	6800	35x50	0.25	3.90
100 (125)	560	22x25	0.25	1.05
	680	22x25	0.25	1.20
	820	22x30	0.25	1.30
		25x25	0.25	1.33
	1000	22x35	0.25	1.50
		25x30	0.25	1.50
	1200	22x40	0.25	1.70
		25x35	0.25	1.70
		30x25	0.25	1.70
	1500	22x45	0.25	1.95
		25x40	0.25	2.00
		30x30	0.25	1.95
		35x25	0.25	2.00
	1800	25x45	0.25	2.20
		30x35	0.25	2.50
		35x30	0.25	2.45
	2200	25x50	0.25	2.55
		30x40	0.25	2.70
		35x30	0.25	2.55
	2700	30x45	0.25	2.90
		35x35	0.25	2.85
	3300	30x50	0.25	3.25
		35x40	0.25	3.25
	3900	35x45	0.25	3.70
	4700	35x50	0.25	3.80
160 (200)	220	22x20	0.15	0.80
	270	22x25	0.15	1.00
	330	22x25	0.15	1.20
		25x20	0.15	1.15
	390	22x30	0.15	1.30
		25x25	0.15	1.30
	470	22x30	0.15	1.30
		22x35	0.15	1.40
		25x25	0.15	1.40
	560	22x40	0.15	1.50
		25x30	0.15	1.50
		30x25	0.15	1.50

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160 (200)	680	22x45	0.15	1.70
		25x35	0.15	1.70
	820	22x50	0.15	1.95
		25x40	0.15	2.00
		30x30	0.15	2.00
		35x25	0.15	1.90
	1000	25x45	0.15	2.20
		30x35	0.15	2.20
		35x30	0.15	2.20
	1200	25x50	0.15	2.45
		30x40	0.15	2.45
		35x30	0.15	2.45
	1500	30x45	0.15	2.80
		35x35	0.15	2.80
	1800	30x50	0.15	3.30
		35x45	0.15	3.30
	2200	35x50	0.15	3.75
180 (225)	180	22x20	0.15	0.75
	220	22x25	0.15	0.85
	270	22x25	0.15	0.95
		25x20	0.15	0.90
	330	22x25	0.15	1.20
		22x30	0.15	1.10
		25x25	0.15	1.10
	390	22x30	0.15	1.30
		25x25	0.15	1.30
	470	22x30	0.15	1.30
		22x35	0.15	1.35
		25x30	0.15	1.40
		30x25	0.15	1.40
	560	22x40	0.15	1.50
		25x35	0.15	1.55
		30x25	0.15	1.50
	680	22x45	0.15	1.70
		22x50	0.15	1.70
		25x35	0.15	1.70
		25x40	0.15	1.75
		30x30	0.15	1.70
		35x25	0.15	1.70
	820	22x50	0.15	1.95
		25x40	0.15	2.00
		25x45	0.15	2.00
		30x35	0.15	2.00
		35x25	0.15	1.90
	1000	25x45	0.15	2.20
		25x50	0.15	2.20
		30x35	0.15	2.25
		30x40	0.15	2.25
		35x30	0.15	2.25
	1200	25x50	0.15	2.45
		30x40	0.15	2.45
		30x45	0.15	2.50
		35x35	0.15	2.50
	1500	30x45	0.15	2.80
		30x50	0.15	2.90
		35x40	0.15	2.90
	1800	30x50	0.15	3.30
		35x50	0.15	3.30
	2200	35x50	0.15	3.60
200 (250)	150	22x20	0.15	0.65
	180	22x20	0.15	0.70
	220	22x25	0.15	0.80
		25x20	0.15	0.80

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120KHz)
200 (250)	270	22x25	0.15	0.85
		25x25	0.15	0.85
	330	22x30	0.15	1.20
		25x25	0.15	1.20
	390	22x30	0.15	1.30
		22x35	0.15	1.30
		25x30	0.15	1.30
		30x25	0.15	1.30
	470	22x35	0.15	1.40
		22x40	0.15	1.40
		25x30	0.15	1.40
		30x25	0.15	1.50
	560	22x45	0.15	1.55
		25x35	0.15	1.55
		30x30	0.15	1.55
	680	22x50	0.15	1.75
		25x40	0.15	1.75
		30x30	0.15	1.75
		35x25	0.15	1.70
	820	25x50	0.15	2.05
		30x35	0.15	2.00
		35x30	0.15	2.05
	1000	30x40	0.15	2.30
		30x45	0.15	2.30
		35x30	0.15	2.30
		35x35	0.15	2.30
	1200	30x50	0.15	2.60
		35x40	0.15	2.65
	1500	35x45	0.15	3.10
	1800	35x50	0.15	3.15
250 (300)	120	22x20	0.15	0.60
	150	22x25	0.15	0.65
	180	22x25	0.15	0.80
		25x20	0.15	0.75
	220	22x30	0.15	0.95
		25x25	0.15	0.95
	270	22x35	0.15	1.15
		25x30	0.15	1.15
		30x25	0.15	1.15
	330	22x40	0.15	1.25
		25x30	0.15	1.20
		30x25	0.15	1.25
	390	22x45	0.15	1.5
		25x35	0.15	1.50
		30x30	0.15	1.50
	470	22x50	0.15	1.55
		25x40	0.15	1.55
		30x30	0.15	1.55
		35x25	0.15	1.55
	560	25x45	0.15	1.80
		30x35	0.15	1.80
		35x30	0.15	1.80
	680	25x50	0.15	1.95
		30x40	0.15	2.00
		35x35	0.15	2.00
	820	30x45	0.15	2.15
		35x35	0.15	2.10
	1000	35x40	0.15	2.30
	1500	35x50	0.15	3.63
350 (400)	56	22x20	0.15	0.40
	68	22x25	0.15	0.45
	82	22x25	0.15	0.55
		25x20	0.15	0.50

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350 (400)	100	22x30	0.15	0.70
		25x25	0.15	0.70
	120	22x35	0.15	0.75
		25x30	0.15	0.75
		30x25	0.15	0.75
	150	22x40	0.15	0.80
		25x30	0.15	0.80
		30x25	0.15	0.85
	180	22x45	0.15	0.90
		25x35	0.15	0.90
		30x30	0.15	0.90
	220	22x50	0.15	1.05
		25x40	0.15	1.05
		30x30	0.15	1.00
		35x25	0.15	1.05
	270	25x45	0.15	1.20
		30x35	0.15	1.20
		35x30	0.15	1.20
	330	30x40	0.15	1.35
		35x35	0.15	1.35
	390	30x45	0.15	1.50
		35x35	0.15	1.50
	470	35x40	0.15	1.70
	560	35x45	0.15	1.90
400 (450)	47	22x20	0.15	0.35
	56	22x20	0.15	0.40
	68	22x25	0.15	0.50
		25x20	0.15	0.50
	82	22x25	0.15	0.52
		22x30	0.15	0.60
		25x25	0.15	0.65
	100	22x30	0.15	0.60
		22x35	0.15	0.65
		25x30	0.15	0.65
	120	22x30	0.15	0.62
		22x35	0.15	0.70
		25x30	0.15	0.70
		30x25	0.15	0.75
	150	22x35	0.15	0.72
		22x40	0.15	0.80
		25x30	0.15	0.85
		25x35	0.15	0.85
		30x30	0.15	0.85
		35x25	0.15	0.80
	180	22x40	0.15	0.81
		22x50	0.15	0.95
		25x40	0.15	0.95
		30x30	0.15	0.90
	220	25x45	0.15	1.05
		30x35	0.15	1.05
		35x30	0.15	1.10
	270	25x45	0.15	1.10
		25x50	0.15	1.20
		30x40	0.15	1.20
		35x35	0.15	1.20
	330	25x50	0.15	1.25
		30x45	0.15	1.40
		35x35	0.15	1.35
	390	30x45	0.15	1.42
		30x50	0.15	1.55
		35x40	0.15	1.55
	470	30x45	0.15	1.45
		35x40	0.15	1.65

Rated Voltage (SurageVoltage) (V)	Cap (μ F)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120KHz)
400 (450)	470	30x50	0.15	1.75
		35x45	0.15	1.75
	560	35x45	0.15	1.80
		30x60	0.15	1.90
		35x50	0.15	1.90
	680	35x50	0.15	2.10
		35x60	0.15	2.15
420(470)	150	22x35	0.20	0.58
		22x40	0.20	0.65
		25x30	0.20	0.70
	180	22x40	0.20	0.68
		25x35	0.20	0.68
	220	25x40	0.20	0.85
		25x45	0.20	0.95
		30x40	0.20	0.95
	270	25x45	0.20	1.05
		30x40	0.20	1.05
		35x30	0.20	1.05
	330	25x50	0.20	1.15
		30x40	0.20	1.15
		35x35	0.20	1.15
	390	30x45	0.20	1.25
	470	30x50	0.20	1.40
		35x40	0.20	1.35
	560	35x45	0.20	1.65
450 (500)	47	22x25	0.20	0.38
	56	22x25	0.20	0.40
	68	22x30	0.20	0.50
		25x25	0.20	0.50
	82	22x30	0.20	0.52
		22x35	0.20	0.55
		25x30	0.20	0.55
		30x25	0.20	0.55
	100	22x30	0.20	0.55
		22x40	0.20	0.65
		25x30	0.20	0.60
		30x25	0.20	0.65
	120	22x35	0.20	0.60
		22x45	0.20	0.70
		25x35	0.20	0.70
		30x30	0.20	0.70
		35x25	0.20	0.70
	150	22x40	0.20	0.68
		22x50	0.20	0.80
		25x40	0.20	0.80
		30x30	0.20	0.75
		35x25	0.20	0.75
	180	22x45	0.20	0.75
		25x45	0.20	0.85
		30x35	0.20	0.85
		35x30	0.20	0.85
	220	22x50	0.20	0.85
		25x50	0.20	1.00
		30x40	0.2.0	1.00
		35x30	0.20	1.00
	270	25x50	0.20	1.05
		30x45	0.20	1.15
		35x35	0.20	1.15
	330	30x45	0.20	1.25
		30x50	0.20	1.40
		35x40	0.20	1.40
	390	30x50	0.20	1.40
		35x45	0.20	1.55

LG Standard Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120KHz)
450 (500)	470	35x45	0.20	1.68
		35x50	0.20	1.70
	560	35x50	0.20	1.80
		35x60	0.20	2.10
500 (550)	47	22x25	0.25	0.51
	56	22x30	0.25	0.58
	68	25x25	0.25	0.65
	82	22x35	0.25	0.72
		25x30	0.25	0.74
	100	22x45	0.25	0.83
		30x25	0.25	0.82
	120	22x50	0.25	0.93
		25x35	0.25	0.93
		30x30	0.25	0.91

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120KHz)
500 (550)	150	25x45	0.25	1.08
		30x35	0.25	1.04
		35x25	0.25	0.99
	180	25x50	0.25	1.20
		30x40	0.25	1.17
		35x30	0.25	1.10
	220	30x45	0.25	1.33
		35x35	0.25	1.23
	270	30x50	0.25	1.50
		35x40	0.25	1.42
	330	35x45	0.25	1.60
	390	35x50	0.25	1.78
	470	35x60	0.25	2.03

TEAPO

Snap-in Type Aluminium Electrolytic Capacitors

LF Long Life Series

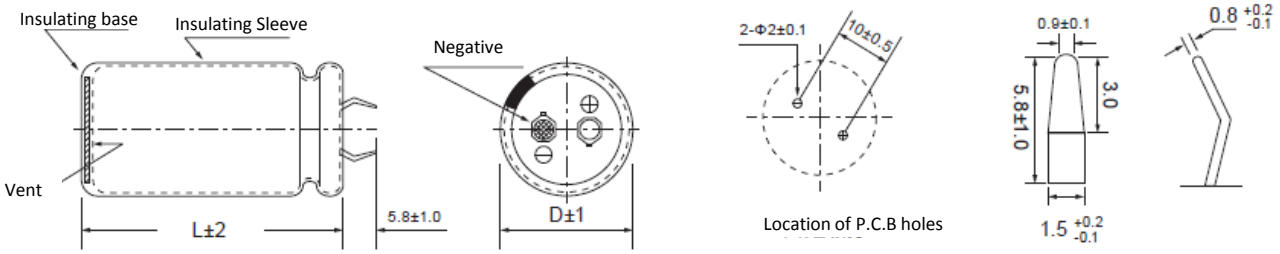
■ Endurance:85℃ 3000hours
■ Recommended Applications : Smoothing circuit, TV/Monitor, Adapter, SMPS
■ Corresponding product to RoHS

LF
↑Long Life
LH

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +85℃ -25 ~ +85℃
Rated Voltage Range	10 ~ 100VDC 160 ~ 450VDC
Rated Capacitance Range	820 ~ 56000 μF 56 ~ 2200 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I = 3√CV. (After rated voltage applied for 5 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV 10~16 25 35 50 63 80~100 160~400 450 tan δ 0.55 0.45 0.40 0.35 0.30 0.25 0.15 0.25
Low Temperature Stability Impedance Ratio (MAX)	Measurement frequency : 120Hz WV 10~16 25 35 50~63 80~100 160~400 450 Z-25℃ / Z+20℃ 3 3 3 2 2 4 8 Z-40℃ / Z+20℃ 12 10 8 6 5 — —
Endurance	After applying rated voltage with rated Ripple current for 3000hrs at 85℃, the capacitor shall meet the following requirement. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: initial specified value or less
Shelf Life	After placed at 85℃ without voltage applied for 1000 hours,the capacitor shall meet the same requirements as Endurance.

■ Dimensions [mm]



■ Multiplier for Ripple Current

Freq. (Hz)	50	60	120	400	1K	2.4K	5K	10K~100K
coefficient	0.8	0.85	1.0	1.14	1.23	1.3	1.36	1.4

Snap-in Type Aluminium Electrolytic Capacitors

LF Long Life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms85℃) (120Hz)	ESR (Ω,20℃) (120Hz)
10(13)	12000	22x25	2.45	0.061
	15000	22x30	2.80	0.049
	18000	22x35	3.34	0.041
		25x25	3.15	0.041
	22000	22x40	3.67	0.033
		25x30	3.50	0.033
		30x25	3.60	0.033
	27000	22x45	4.12	0.027
		25x35	4.00	0.027
		30x30	4.16	0.027
	33000	22x50	4.63	0.022
		25x40	4.49	0.022
		30x30	4.45	0.022
		35x25	4.54	0.022
	39000	25x45	4.90	0.019
		30x35	4.90	0.019
		35x30	5.05	0.019
	47000	25x50	5.55	0.016
		30x40	5.61	0.016
		35x30	5.50	0.016
	56000	30x45	6.11	0.013
		35x35	6.05	0.013
16(20)	8200	22x25	2.45	0.089
	10000	22x30	2.60	0.073
	12000	22x35	3.10	0.061
		25x25	2.90	0.061
	15000	22x40	3.46	0.049
		25x30	3.30	0.049
		30x25	3.40	0.049
	18000	22x45	3.81	0.041
		25x35	3.70	0.041
		30x30	3.85	0.041
	22000	22x50	4.32	0.033
		25x45	4.40	0.033
		30x30	4.15	0.033
		35x25	4.23	0.033
	27000	25x45	4.65	0.027
		30x35	4.65	0.027
		35x30	4.79	0.025
	33000	30x40	5.25	0.022
		35x35	5.41	0.022
	39000	30x45	5.86	0.019
		35x35	5.80	0.019
	47000	35x40	6.45	0.016
25(32)	5600	22x25	2.20	0.107
	6800	22x30	2.45	0.088
		25x25	2.45	0.088
	8200	22x35	2.75	0.073
		25x30	2.75	0.073
	10000	22x40	3.25	0.06
		25x30	3.10	0.06
		30x25	3.19	0.06
	12000	22x45	3.50	0.05
		25x35	3.40	0.05
		30x30	3.54	0.05
		35x25	3.64	0.05
	15000	25x45	3.90	0.04
		30x40	4.10	0.04
		35x30	4.21	0.04
	18000	25x45	4.30	0.033
		30x40	4.51	0.033
		35x30	4.39	0.033

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms85℃) (120Hz)	ESR (Ω,20℃) (120Hz)
25(32)	22000	30x45	4.90	0.027
		35x35	4.85	0.027
	27000	30x50	5.45	0.022
		35x40	5.45	0.022
	33000	35x45	6.15	0.018
35(44)	3900	22x25	2.10	0.136
	4700	22x30	2.30	0.113
		25x25	2.30	0.113
	5600	22x35	2.60	0.095
		25x30	2.62	0.095
		30x25	2.70	0.095
		35x25	2.99	0.095
	6800	22x40	2.90	0.078
		25x35	2.93	0.078
		30x30	3.07	0.078
		35x25	3.13	0.078
	8200	22x45	3.30	0.065
		25x35	3.20	0.065
		30x30	3.33	0.065
		35x25	3.42	0.065
	10000	22x50	3.74	0.053
		25x40	3.64	0.053
		30x30	3.60	0.053
		35x25	3.67	0.053
	12000	25x45	4.00	0.044
		30x35	4.00	0.044
		35x30	4.12	0.044
	15000	30x40	4.60	0.035
		35x35	4.47	0.035
	18000	30x45	5.10	0.029
		35x40	5.30	0.029
	22000	35x45	5.70	0.024
	27000	35x50	6.45	0.020
50(63)	2200	22x25	1.80	0.211
	2700	22x30	1.95	0.172
	3300	22x35	2.33	0.141
		25x25	2.20	0.141
	3900	22x40	2.52	0.119
		25x30	2.40	0.119
	4700	22x45	2.78	0.099
		25x35	2.70	0.099
		30x30	2.82	0.099
		35x25	2.89	0.099
	5600	25x35	3.00	0.083
		30x30	3.12	0.083
		35x25	3.21	0.083
	6800	25x40	3.35	0.068
		30x35	3.52	0.068
		35x30	3.62	0.068
	8200	25x50	3.74	0.057
		30x40	3.77	0.057
		35x30	3.70	0.057
	10000	30x45	4.24	0.046
		35x35	4.20	0.046
	12000	30x50	4.65	0.039
		35x40	4.65	0.039
	15000	35x45	5.30	0.031
	18000	35x50	5.90	0.026
63(79)	1800	22x25	1.80	0.221
	2200	225x30	2.00	0.181
		25x25	2.00	0.181
	2700	22x35	2.30	0.147

Snap-in Type Aluminium Electrolytic Capacitors

LF Long Life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms85℃) (120Hz)	ESR (Ω,20℃) (120Hz)
63(79)	2700	25x30	2.30	0.147
	3300	22x40	2.68	0.121
		25x30	2.55	0.121
		30x25	2.63	0.121
	3900	22x45	2.88	0.102
		25x35	2.80	0.102
		30x30	2.91	0.102
	4700	22x50	3.28	0.085
		25x40	3.18	0.085
		30x30	3.15	0.085
		35x25	3.21	0.085
	5600	25x45	3.50	0.071
		30x35	3.50	0.071
		35x30	3.60	0.071
	6800	25x50	3.94	0.059
		30x40	3.98	0.059
		35x30	3.90	0.059
	8200	30x45	4.39	0.049
		35x35	4.35	0.049
	10000	30x50	4.90	0.040
		35x40	4.90	0.040
	12000	35x50	5.45	0.033
80(100)	1200	22x25	1.70	0.276
	1500	22x30	1.95	0.221
		25x25	1.95	0.221
	1800	22x35	2.15	0.184
		25x30	2.15	0.184
	2200	22x40	2.57	0.151
		25x30	2.45	0.151
		30x25	2.52	0.151
	2700	22x45	2.83	0.123
		25x35	2.75	0.123
		30x30	2.86	0.123
	3300	22x50	3.22	0.100
		25x40	3.13	0.100
		30x30	3.10	0.100
		35x25	3.16	0.100
	3900	25x45	3.40	0.085
		30x35	3.40	0.085
		35x30	3.50	0.085
	4700	25x50	3.84	0.071
		30x40	3.88	0.071
		35x35	4.04	0.071
	5600	30x45	4.24	0.059
		35x40	4.43	0.059
	6800	30x50	4.70	0.049
		35x45	4.93	0.049
	8200	30x50	5.25	0.040
100(125)	820	22x25	1.70	0.404
	1000	22x30	1.95	0.332
		25x25	1.95	0.332
	1200	22x35	2.15	0.276
		25x30	2.15	0.276
	1500	22x40	2.57	0.221
		25x30	2.45	0.221
		30x25	2.52	0.221
	1800	22x45	2.83	0.184
		25x35	2.75	0.184
		30x30	2.86	0.184
	2200	22x50	3.17	0.151
		25x40	3.08	0.151
		30x30	3.05	0.151

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms85℃) (120Hz)	ESR (Ω,20℃) (120Hz)
100(125)	2200	35x25	3.11	0.151
	2700	25x45	3.45	0.123
		30x35	3.45	0.123
		35x30	3.55	0.123
	3300	25x50	3.94	0.100
		30x40	3.98	0.100
		35x30	3.90	0.100
	3900	30x45	4.34	0.085
		35x35	4.30	0.085
	4700	35x40	4.75	0.071
	5600	35x50	5.30	0.059
160(200)	330	22x25	1.15	0.603
	390	22x30	1.30	0.510
	470	22x35	1.59	0.423
		25x30	1.62	0.423
	560	22x35	1.70	0.355
		25x30	1.70	0.355
	680	22x40	1.97	0.293
		25x35	1.99	0.293
		30x25	1.95	0.293
	820	22x50	2.32	0.243
		25x40	2.28	0.243
		30x30	2.24	0.243
	1000	25x45	2.58	0.199
		30x35	2.57	0.199
		35x30	2.65	0.199
	1200	25x50	2.78	0.166
		30x40	2.80	0.166
		35x35	2.92	0.166
	1500	30x45	3.03	0.133
		35x40	3.17	0.133
	1800	30x50	3.50	0.111
		35x45	3.67	0.111
	2200	35x50	4.08	0.090
180(225)	270	22x25	1.10	0.737
	330	22x30	1.25	0.603
	390	22x30	1.40	0.510
		25x25	1.40	0.510
	470	22x35	1.60	0.423
		25x30	1.60	0.423
	560	22x40	1.89	0.355
		25x30	1.80	0.355
		30x25	1.85	0.355
	680	22x45	2.11	0.292
		25x35	2.05	0.292
		30x30	2.13	0.292
	820	22x50	2.34	0.234
		25x40	2.27	0.234
		30x30	2.25	0.234
		35x30	2.45	0.234
	1000	25x50	2.67	0.199
		30x35	2.55	0.199
		35x30	2.63	0.199
	1200	30x40	2.85	0.166
		35x35	2.93	0.166
	1500	30x50	3.10	0.130
		35x40	3.10	0.130
	1800	35x45	3.60	0.111
200(250)	220	22x25	1.00	0.905
		25x25	1.08	0.905
	270	22x30	1.15	0.737
		25x25	1.15	0.737

Snap-in Type Aluminium Electrolytic Capacitors

LF Long Life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms85℃) (120Hz)	ESR (Ω,20℃) (120Hz)
200(250)	330	22x30	1.29	0.603
		25x25	1.30	0.603
	390	x22x35	1.45	0.510
		25x30	1.45	0.510
		30x25	1.51	0.510
	470	22x40	1.67	0.423
		25x30	1.68	0.423
		30x25	1.65	0.423
	560	33x56	1.94	0.355
		25x35	1.87	0.355
		30x30	1.96	0.355
	680	22x50	2.14	0.293
		25x45	2.21	0.293
		30x35	2.20	0.293
		35x30	2.27	0.293
	820	25x50	2.32	0.243
		30x35	2.22	0.243
		35x30	2.30	0.243
	1000	30x45	2.63	0.199
		35x35	2.60	0.199
	1200	30x50	2.90	0.166
		35x40	2.90	0.166
	1500	35x45	3.11	0.133
250(300)	180	22x25	1.00	1.110
	220	22x30	1.15	0.905
		25x25	1.15	0.905
	270	22x30	1.30	0.737
		25x25	1.30	0.737
	330	22x35	1.45	0.603
		25x30	1.45	0.603
	390	22x40	1.62	0.510
		25x35	1.63	0.510
		30x25	1.60	0.510
	470	22x45	1.80	0.423
		25x40	1.84	0.423
		30x30	1.80	0.423
		35x25	1.85	0.423
	560	25x40	2.00	0.355
		30x35	2.10	0.355
		35x30	2.20	0.355
	680	25x50	2.32	0.293
		30x40	2.35	0.293
		35x30	2.30	0.293
	820	30x45	2.57	0.243
		35x35	2.55	0.243
	1000	30x50	2.90	0.199
		35x40	2.90	0.199
	1200	35x45	3.25	0.166
315(365)	100	22x25	0.75	1.989
	120	22x30	0.80	1.658
	150	22x30	1.00	1.326
		25x25	1.00	1.326
	180	25x35	1.10	1.105
		25x30	1.10	1.105
	220	22x40	1.31	0.905
		25x30	1.25	0.905
		30x25	1.29	0.905
	270	22x45	1.44	0.737
		25x35	1.40	0.737
		30x30	1.46	0.737
		35x25	1.50	0.737
	330	22x50	1.63	0.603

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms85℃) (120Hz)	ESR (Ω,20℃) (120Hz)
315（365）	330	25x40	1.60	0.603
		30x35	1.68	0.603
		35x30	1.74	0.603
	390	25x45	1.75	0.510
		30x35	1.75	0.510
		35x30	1.80	0.510
	470	30x40	2.00	0.423
		35x35	2.06	0.423
	560	30x45	2.20	0.355
		35x40	2.29	0.355
	680	35x45	2.50	0.293
	820	35x50	2.80	0.243
350(400)	82	22x25	0.7	2.426
	100	22x30	0.8	1.989
	120	22x30	0.85	1.658
		25x25	0.85	1.658
	150	22x35	1.11	1.326
		25x25	1.05	1.326
	180	22x40	1.16	1.105
		25x35	1.17	1.105
		30x25	1.15	1.105
	220	22x45	1.34	0.905
		25x35	1.30	0.905
		30x30	1.35	0.905
		35x25	1.39	0.905
	270	25x45	1.51	0.737
		30x35	1.49	0.737
		35x25	1.45	0.737
	330	25x350	1.67	0.603
		30x40	1.68	0.603
		35x30	1.65	0.603
	390	30x45	1.87	0.510
		35x35	1.85	0.510
	470	30x50	2.10	0.423
		35x40	2.10	0.423
	560	35x45	2.30	0.355
	680	35x50	2.60	0.293
400(450)	68	22x25	0.65	2.926
	82	22x25	0.75	2.426
	100	22x30	0.85	1.989
		25x25	0.85	1.989
	120	22x30	0.99	1.658
		25x25	0.93	1.658
		30x25	1.04	1.658
	150	22x40	1.15	1.326
		25x30	1.10	1.326
		30x25	1.13	1.326
	180	22x45	1.24	1.105
		25x35	1.20	1.105
		30x30	1.25	1.105
	220	22x50	1.40	0.905
		25x40	1.36	0.905
		30x30	1.35	0.905
		35x25	1.38	0.905
	270	25x45	1.50	0.737
		30x35	1.50	0.737
		35x30	1.54	0.737
	330	25x50	1.70	0.603
		30x40	1.70	0.603
		35x35	1.77	0.603
	390	30x45	1.92	0.510
		35x35	1.90	0.510

LF Long Life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms85℃) (120Hz)	ESR (Ω,20℃) (120Hz)
400(450)	470	35x40	2.10	0.423
	560	35x50	2.30	0.355
450(500)	56	22x25	0.65	5.921
	68	22x30	0.75	4.876
	82	22x30	0.85	4.044
		25x25	0.85	4.044
	100	22x35	0.90	3.316
		25x30	0.90	3.316
	120	22x40	1.11	2.763
		25x35	1.12	2.763
		30x25	1.10	2.763
	150	22x50	1.25	2.210
		25x40	1.21	2.210

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms85℃) (120Hz)	ESR (Ω,20℃) (120Hz)
450(500)	150	30x30	1.20	2.210
	180	25x45	1.40	1.842
		30x35	1.39	1.842
		35x25	1.35	1.842
	220	25x50	1.51	1.507
		30x40	1.53	1.507
		35x30	1.50	1.507
	270	30x45	1.72	1.228
		35x35	1.70	1.228
	330	30x50	1.90	1.005
		35x40	1.90	1.005
	390	35x45	2.10	0.850
	470	35x50	2.23	0.705

TEAPO

Snap-in Type Aluminium Electrolytic Capacitors

LJ Long Life Series

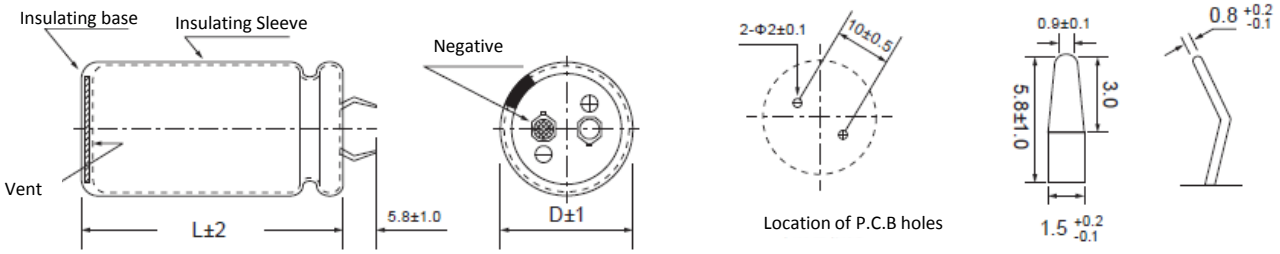
- Endurance:105℃ 3000 hours
- Recommended Applications : Smoothing circuit, TV/Monitor,Adapter, SMPS
- Corresponding product to RoHS

LJ
↑Long Life
LG

SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-40 ~ +105℃ -25 ~ +105℃
Rated Voltage Range	10 ~ 100VDC 160 ~ 500VDC
Rated Capacitance Range	560 ~ 68000 μF 56 ~ 2200 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I = 3√CV. (After rated voltage applied for 5minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 10~16 / 25 / 35 / 50 / 63 / 80~100 / 160~400 / 450~500 tan δ: 0.55 / 0.45 / 0.4 / 0.35 / 0.3 / 0.25 / 0.15 / 0.25
Low Temperature Stability Impedance Ratio (MAX)	Measurement frequency : 120Hz Rated voltage(V): 10~16 / 25 / 35 / 50~63 / 80~100 / 160~400 / 450 / 500 Z-25℃ / Z+20℃: 4 / 3 / 3 / 2 / 2 / 4 / 8 / 8 Z-40℃ / Z+20℃: 15 / 10 / 8 / 6 / 5 / — / — / —
Endurance	After applying rated voltage with rated Ripple current for 3000hrs at 105℃, the capacitor shall meet the following requirement. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value
Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,the capacitor shall meet the same requirements as Endurance.

Dimensions [mm]



Multiplier for Ripple Current

Freq. (Hz)	50	60	120	400	1K	2.4K	5K	10K~100K
10~450V	0.80	0.85	1.00	1.14	1.23	1.30	1.36	1.40
500V	0.70	0.72	1.00	1.16	1.30	1.32	1.36	1.41

TEAPO

Snap-in Type Aluminium Electrolytic Capacitors

LJ Long Life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms105℃) (120Hz)	ESR (Ω,20℃) (120Hz)
10(13)	10000	22x25	1.80	0.073
	12000	22x30	2.05	0.061
		25x25	2.05	0.061
	15000	22x35	2.45	0.049
		25x30	2.45	0.049
		3025	2.55	0.049
	18000	22x40	2.94	0.041
		25x30	2.80	0.041
		30x30	3.11	0.041
	22000	22x45	3.24	0.033
		25x35	3.15	0.033
		30x30	3.28	0.033
		35x25	3.37	0.033
	27000	25x40	3.50	0.027
		30x35	3.67	0.027
		35x30	3.78	0.027
	33000	25x45	4.00	0.022
		30x40	4.20	0.022
		35x30	4.08	0.022
	39000	25x50	4.45	0.019
		30x45	4.67	0.019
		35x35	4.63	0.019
	47000	35x40	4.90	0.016
	56000	35x45	5.50	0.013
	68000	30x50	6.05	0.011
16(20)	6800	22x25	1.80	0.107
	8200	22x30	2.05	0.089
		25x25	2.05	0.089
	10000	22x35	2.45	0.073
		25x30	2.45	0.073
	12000	22x40	2.73	0.061
		25x30	2.60	0.061
		30x25	2.68	0.061
	15000	22x45	2.99	0.049
		25x35	2.90	0.049
		30x30	3.02	0.049
	18000	22x50	3.43	0.041
		25x40	3.33	0.041
		30x30	3.30	0.041
		35x25	3.37	0.041
	22000	25x45	3.70	0.033
		30x35	3.70	0.033
		35x30	3.81	0.033
	27000	30x40	4.15	0.027
		35x35	4.27	0.027
	33000	30x50	4.65	0.022
		35x40	4.65	0.022
	39000	35x45	5.25	0.019
	47000	35x50	5.80	0.016
25(32)	3900	22x25	1.50	0.153
	4700	22x30	1.80	0.127
	5600	22x30	1.95	0.107
		25x25	1.95	0.107
	6800	22x35	2.20	0.088
		25x30	2.20	0.088
	8200	22x40	2.47	0.073
		25x35	2.50	0.073
		30x25	2.45	0.073
	10000	22x45	2.75	0.060
		25x40	2.80	0.060
		30x30	2.75	0.060
	12000	22x50	3.13	0.050

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms105℃) (120Hz)	ESR (Ω,20℃) (120Hz)
25(32)	12000	25x45	3.22	0.050
		30x35	3.19	0.050
		35x25	3.10	0.050
	15000	25x50	3.43	0.040
		30x40	3.47	0.040
		35x30	3.40	0.040
	18000	30x45	3.94	0.033
		35x35	3.90	0.033
	22000	30x50	4.30	0.027
		35x40	4.30	0.027
	27000	35x45	4.85	0.022
35(44)	2700	22x25	1.45	0.196
	3300	22x30	1.60	0.161
	3900	22x30	1.80	0.136
	4700	22x35	2.23	0.113
		25x25	2.10	0.113
	5600	22x40	2.41	0.095
		25x30	2.30	0.095
		30x25	2.37	0.095
	6800	22x45	2.68	0.078
		25x35	2.60	0.078
		30x30	2.70	0.078
	8200	22x50	3.02	0.065
		25x40	2.93	0.065
		30x30	2.90	0.065
		35x25	2.96	0.065
	10000	25x45	3.20	0.0531
		30x35	3.20	0.0531
		35x30	3.30	0.0531
	12000	25x50	3.64	0.044
		30x40	3.67	0.044
		35x30	3.60	0.044
	15000	30x45	4.04	0.035
		35x35	4.00	0.035
	18000	35x40	4.60	0.029
	22000	35x50	5.10	0.024
50(63)	1500	22x25	1.25	0.309
	1800	22x30	1.45	0.258
	2200	22x30	1.60	0.211
		25x25	1.60	0.211
	2700	22x35	1.80	0.172
		25x30	1.80	0.172
	3300	22x40	2.05	0.141
		25x30	1.95	0.141
		30x25	2.01	0.141
	3900	22x45	2.27	0.119
		25x35	2.20	0.119
		30x30	2.29	0.119
	4700	22x50	2.50	0.099
		25x40	2.42	0.099
		30x30	2.40	0.099
		35x25	2.45	0.099
	5600	25x45	2.70	0.083
		30x35	2.70	0.083
		35x30	2.78	0.083
	6800	30x40	3.06	0.068
		35x30	3.00	0.068
	8200	30x45	3.38	0.057
		35x35	3.35	0.057
	10000	35x40	3.70	0.046
	12000	35x50	4.20	0.039
63(79)	1200	22x25	1.25	0.332

Snap-in Type Aluminium Electrolytic Capacitors

LJ Long Life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms105℃) (120Hz)	ESR (Ω,20℃) (120Hz)
63(79)	1500	22x30	1.45	0.265
		22x25	1.45	0.265
	1800	22x35	1.60	0.221
		25x30	1.60	0.221
	2200	22x40	1.89	0.181
		25x30	1.80	0.181
		30x25	1.85	0.181
	2700	22x45	2.06	0.147
		25x35	2.00	0.147
		30x30	2.08	0.147
	3300	25x40	2.32	0.121
		30x30	2.30	0.121
		35x25	2.35	0.121
	3900	25x45	2.55	0.102
		30x35	2.55	0.102
		35x30	2.63	0.102
	4700	25x50	2.83	0.085
		30x40	2.86	0.085
		35x30	2.80	0.085
	5600	30x45	3.18	0.071
		35x35	3.15	0.071
	6800	30x50	3.50	0.059
		35x40	3.50	0.059
	8200	35x45	3.90	0.049
80(100)	820	22x25	1.20	0.404
	1000	22x30	1.35	0.332
	1200	22x35	1.59	0.276
		25x25	1.50	0.276
	1500	22x40	1.78	0.221
		25x30	1.70	0.221
		30x25	1.75	0.221
	1800	22x45	2.01	0.184
		25x35	1.95	0.184
		30x30	2.03	0.184
	2200	25x40	2.17	0.151
		30x30	2.15	0.151
		35x25	2.19	0.151
	2700	25x45	2.45	0.123
		30x35	2.45	0.123
		35x30	2.52	0.123
	3300	30x40	2.75	0.100
		35x35	2.83	0.100
	3900	30x45	3.13	0.085
		35x35	3.10	0.085
	4700	35x40	3.40	0.071
	5600	25x50	3.80	0.059
100(125)	560	22x25	1.20	0.592
	680	22x30	1.35	0.488
	820	22x30	1.50	0.404
		25x25	1.50	0.404
	1000	22x35	1.70	0.332
		25x30	1.70	0.332
	1200	22x40	1.97	0.276
		25x35	1.99	0.276
		30x25	1.95	0.276
	1500	22x45	2.15	0.221
		25x40	2.19	0.221
		30x30	2.15	0.221
		35x25	2.21	0.221
	1800	25x45	2.45	0.184
		30x35	2.45	0.184
		35x30	2.52	0.184

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms105℃) (120Hz)	ESR (Ω,20℃) (120Hz)
100(125)	2200	25x50	2.75	0.151
		30x40	2.75	0.151
		35x35	2.86	0.151
	2700	30x45	3.08	0.123
		35x35	3.05	0.123
	3300	30x50	3.45	0.100
		35x40	3.45	0.100
	3900	35x45	3.90	0.085
	4700	35x50	4.30	0.071
160(200)	270	22x25	0.85	0.737
	330	22x30	1.00	0.603
	390	22x30	1.15	0.510
		25x25	1.15	0.510
	470	22x35	1.30	0.423
		25x30	1.30	0.423
	560	22x40	1.57	0.355
		25x30	1.50	0.355
		30x25	1.54	0.355
	680	22x45	1.75	0.293
		25x35	1.70	0.293
		30x30	1.77	0.293
	820	22x50	2.03	0.243
		25x40	1.97	0.243
		30x30	1.95	0.243
		35x25	1.99	0.243
	1000	25x45	2.15	0.199
		30x35	2.15	0.199
		35x30	2.21	0.199
	1200	30x40	2.45	0.166
		35x35	2.52	0.166
	1500	30x50	2.75	0.133
		35x40	2.75	0.133
	1800	35x45	3.00	0.111
	2200	35x50	3.50	0.090
180(225)	270	22x25	0.85	0.737
	330	22x30	1.10	0.603
	390	22x35	1.32	0.510
		25x25	1.25	0.510
	470	22x40	1.47	0.423
		25x30	1.40	0.423
	560	22x45	1.70	0.355
		25x35	1.63	0.355
		30x25	1.60	0.355
	680	22x50	1.87	0.293
		25x40	1.82	0.293
		30x30	1.80	0.293
		35x25	1.84	0.293
	820	25x45	2.05	0.243
		30x35	2.05	0.243
		35x30	2.11	0.243
	1000	25x50	2.27	0.199
		30x40	2.29	0.199
		35x30	2.25	0.199
	1200	30x45	2.57	0.166
		35x35	2.55	0.166
	1500	35x40	2.85	0.133
	1800	35x50	3.10	0.111
200(250)	220	22x25	0.85	0.905
	270	22x30	1.00	0.737
	330	22x30	1.15	0.603
		25x25	1.15	0.603
	390	22x35	1.30	0.510

Snap-in Type Aluminium Electrolytic Capacitors

LJ Long Life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms105℃) (120Hz)	ESR (Ω,20℃) (120Hz)
200(250)	390	25x30	1.30	0.510
	470	22x40	1.52	0.423
		25x35	1.54	0.423
		30x25	1.49	0.423
	560	22x45	1.70	0.355
		25x35	1.65	0.355
		30x30	1.72	0.355
	680	25x45	1.97	0.293
		30x35	1.97	0.293
		35x30	2.02	0.293
	820	25x45	2.20	0.243
		30x35	2.10	0.243
		35x30	2.16	0.243
	1000	30x45	2.32	0.199
		35x35	2.30	0.199
	1200	30x50	2.75	0.166
		35x40	2.75	0.166
	1500	35x45	2.90	0.133
250(300)	150	22x25	0.75	1.330
	180	22x30	0.85	1.110
	220	22x30	1.00	0.905
		25x25	1.00	0.905
	270	22x35	1.22	0.737
		25x25	1.15	0.737
	330	22x40	1.36	0.603
		25x30	1.30	0.603
	390	22x45	1.54	0.510
		25x35	1.48	0.510
		30x25	1.45	0.510
		35x25	1.59	0.510
	470	22x50	1.78	0.423
		25x40	1.75	0.423
		30x30	1.72	0.423
		35x30	1.88	0.423
	560	25x40	1.80	0.355
		30x35	1.89	0.355
		35x30	1.94	0.355
	680	25x50	2.10	0.293
		30x40	2.10	0.293
		35x35	2.18	0.293
	820	30x45	2.30	0.243
		35x40	2.39	0.243
	1000	30x50	2.55	0.199
		35x45	2.65	0.199
	1200	35x50	2.90	0.166
315(365)	82	22x25	0.55	2.426
	100	22x30	0.65	1.989
	120	22x30	0.75	1.658
		25x25	0.75	1.658
	150	22x35	0.80	1.326
		25x30	0.80	1.326
	180	22x40	1.01	1.105
		25x35	1.02	1.105
		30x25	1.00	1.105
	220	22x45	1.10	0.905
		25x40	1.12	0.905
		30x30	1.10	0.905
	270	25x45	1.25	0.737
		30x35	1.25	0.737
	330	25x50	1.53	0.603
		30x40	1.53	0.603
		35x30	1.50	0.603

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms105℃) (120Hz)	ESR (Ω,20℃) (120Hz)
315(365)	390	30x45	1.71	0.510
		35x30	1.60	0.510
	470	30x50	1.85	0.423
		35x35	1.75	0.423
	560	35x40	2.00	0.355
	680	35x45	2.20	0.293
350(400)	82	22x25	0.60	2.426
	100	22x30	0.70	1.989
		25x25	0.70	1.989
	120	22x35	0.80	1.658
		25x30	0.80	1.658
	150	22x40	0.86	1.326
		25x35	0.87	1.326
		30x25	0.85	1.326
	180	22x45	1.05	1.105
		25x40	1.07	1.105
		30x30	1.05	1.105
	220	22x50	1.16	0.905
		25x45	1.20	0.905
		30x35	1.18	0.905
		35x25	1.15	0.905
	270	25x50	1.31	0.737
		30x40	1.33	0.737
		35x30	1.30	0.737
	330	30x45	1.46	0.603
		35x35	1.45	0.603
	390	30x50	1.65	0.510
		35x40	1.65	0.510
	470	35x45	1.85	0.423
	560	35x50	2.10	0.355
400(450)	68	22x25	0.55	2.926
	82	22x30	0.65	2.426
		25x25	0.65	2.426
	100	22x35	0.79	1.989
		25x25	0.75	1.989
	120	22x40	0.89	1.658
		25x30	0.85	1.658
		30x25	0.87	1.658
	150	22x45	0.93	1.326
		25x35	0.90	1.326
		30x30	0.94	1.326
		35x25	0.96	1.326
	180	22x50	1.14	1.105
		25x450	1.11	1.105
		30x30	1.10	1.105
		35x25	1.12	1.105
	220	25x45	1.20	0.905
		30x35	1.20	0.905
		35x30	1.24	0.905
	270	25x50	1.36	0.737
		30x40	1.38	0.737
		35x30	1.35	0.737
	330	30x45	1.51	0.603
		35x35	1.50	0.603
	390	35x50	1.70	0.510
		35x40	1.70	0.510
	470	35x45	1.90	0.423
450(500)	56	22x25	0.55	5.921
	68	22x30	0.65	4.876
	82	22x35	0.80	4.044
		25x25	0.75	4.044
	100	22x40	0.89	3.316

Snap-in Type Aluminium Electrolytic Capacitors

LJ Long Life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms105℃) (120Hz)	ESR (Ω,20℃) (120Hz)
450(500)	100	25x30	0.85	3.316
	120	22x45	0.95	2.763
		25x35	0.92	2.763
		30x25	0.90	2.763
	150	22x50	1.14	2.210
		25x40	1.11	2.210
		30x30	1.10	2.210
	180	25x45	1.25	1.842
		30x35	1.24	1.842
		35x25	1.20	1.842
	220	25x50	1.36	1.507
		30x40	1.38	1.507
		35x30	1.35	1.507
	270	30x45	1.51	1.228
		35x35	1.50	1.228
	330	30x50	1.70	1.005
		35x40	1.70	1.005
	390	35x45	1.90	0.850
	470	35x50	2.10	0.705
500(550)	47	22x25	0.51	7.055
	56	252x30	0.58	5.912

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms105℃) (120Hz)	ESR (Ω,20℃) (120Hz)
500(550)	68	25x25	0.65	4.876
	82	22x35	0.72	4.044
		25x30	0.74	4.044
	100	22x45	0.83	3.316
		30x25	0.82	3.316
	120	22x50	0.93	2.763
		25x35	0.93	2.763
		30x30	0.91	2.763
	150	25x45	1.08	2.210
		30x35	1.04	2.210
		35x25	0.99	2.210
	180	25x50	1.20	1.842
		35x40	1.17	1.842
		35x30	1.10	1.842
	220	30x45	1.33	1.507
		35x35	1.23	1.507
	270	30x50	1.50	1.228
		35x40	1.42	1.228
	330	35x45	1.60	1.005
	390	35x50	1.78	0.850
	470	35x60	2.03	0.705

TEAPO

Snap-in Type Aluminium Electrolytic Capacitors

LQ Long Life Series

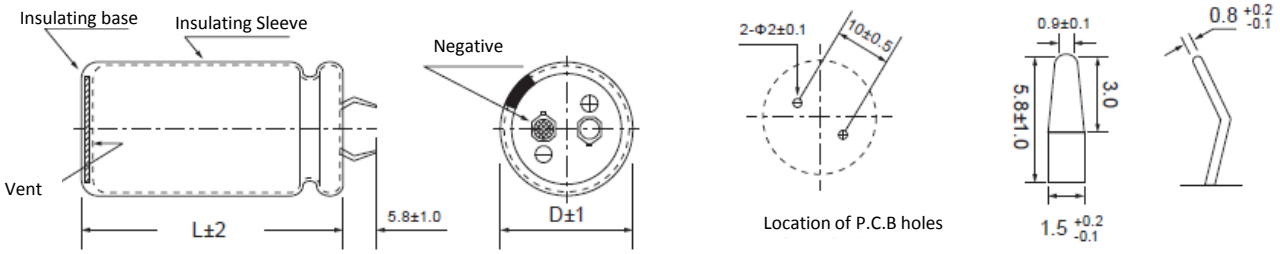
■ Endurance: 105℃ 5000 hours
■ Recommended Applications : Smoothing circuit, TV/Monitor,Adapter, SMPS
■ Corresponding product to RoHS

LQ
↑Long Life
LJ

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-25 ~ +105℃
Rated Voltage Range	160 ~ 500VDC
Rated Capacitance Range	56 ~ 2200 μF
Capacitance Tolerance	± 20 % at 120Hz , 20℃
Leakage Current (20℃)	I = 3√CV. (After rated voltage applied for 5 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 160 / 180 / 200 / 250~400 / 450~500 tan δ: 0.15 / 0.15 / 0.15 / 0.15 / 0.25
Low Temperature Stability Impedance Ratio (MAX)	Measurement frequency : 120Hz Rated voltage(V): 160~400 / 450 / 500 Z-25℃ / Z+20℃: 4 / 8 / 8 Z-40℃ / Z+20℃: — / — / —
Endurance	After applying rated voltage with rated Ripple current for 5000hrs at 105℃, the capacitor shall meet the following requirement. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value
Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,the capacitor shall meet the same requirements as Endurance.

■ Dimensions [mm]



■ Multiplier for Ripple Current

Freq. (Hz)	50	60	120	400	1K	2.4K	5K	10K~100K
160~450V	0.80	0.85	1.00	1.14	1.23	1.30	1.36	1.40
500V	0.70	0.72	1.00	1.16	1.30	1.32	1.36	1.41

Snap-in Type Aluminium Electrolytic Capacitors

LQ Long Life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms105℃) (120Hz)	ESR (Ω,20℃) (120Hz)
160(200)	270	22x25	0.85	0.737
	330	22x30	1.00	0.603
	390	22x30	1.15	0.51
		25x25	1.15	0.51
	470	22x35	1.30	0.423
		25x30	1.30	0.423
	560	22x40	1.57	0.355
		25x30	1.50	0.355
		30x25	1.54	0.355
	680	22x45	1.75	0.293
		25xx35	1.70	0.293
		30x30	1.77	0.293
	820	22x50	2.03	0.243
		25x40	1.97	0.243
		30x30	1.95	0.243
		35x25	1.99	0.243
	1000	25x45	2.15	0.199
		30x35	2.15	0.199
		35x30	2.21	0.199
	1200	30x40	2.45	0.166
		35x35	2.52	0.166
	1500	30x50	2.75	0.133
		35x40	2.75	0.133
	1800	35x45	3.00	0.111
	2200	35x50	3.50	0.09
180(225)	270	22x25	0.85	0.737
	330	22x30	1.10	0.603
	390	22x35	1.32	0.51
		25x25	1.25	0.51
	470	22x40	1.47	0.423
		25x30	1.40	0.423
	560	22x45	1.70	0.355
		25x35	1.63	0.355
		30x25	1.60	0.355
	680	22x50	1.87	0.293
		25x40	1.82	0.293
		30x30	1.80	0.293
		35x25	1.84	0.293
	820	25x45	2.05	0.243
		30x35	2.05	0.243
		35x30	2.11	0.243
	1000	25x50	2.27	0.199
		30x40	2.29	0.199
		35x30	2.25	0.199
	1200	30x45	2.57	0.166
		35x35	2.55	0.166
	1500	35x40	2.85	0.133
	1800	35x50	3.10	0.111
200(250)	220	22x25	0.85	0.905
	270	22x30	1.00	0.737
	330	22x30	1.15	0.603
		25x25	1.15	0.603
	390	22x35	1.30	0.510
		25x30	1.30	0.510
	470	22x40	1.52	0.423
		25x35	1.54	0.423
		30x25	1.49	0.423
	560	22x45	1.70	0.355
		25x30	1.65	0.355
		30x30	1.72	0.355
	680	25x45	1.97	0.293
		30x35	1.97	0.293

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms105℃) (120Hz)	ESR (Ω,20℃) (120Hz)
200(250)	680	35x30	2.02	0.293
	820	25x45	2.20	0.243
		30x35	2.10	0.243
		35x30	2.16	0.243
	1000	30x45	2.32	0.199
		35x35	2.30	0.199
	1200	30x50	2.75	0.166
		35x40	2.75	0.166
	1500	35x45	2.90	0.133
250（300）	150	22x25	0.75	1.330
	180	22x30	0.85	1.110
	220	22x30	1.00	0.905
		25x25	1.00	0.905
	270	22x35	1.22	0.737
		22x25	1.15	0.737
	330	22x40	1.36	0.603
		25x30	1.30	0.603
	390	22x45	1.54	0.510
		25x35	1.48	0.510
		30x25	1.45	0.510
		35x25	1.59	0.510
	470	22x50	1.78	0.423
		25x40	1.75	0.423
		30x30	1.72	0.423
		35x30	1.88	0.423
	560	25x40	1.80	0.355
		30x35	1.89	0.3550
		35x30	1.94	0.3550
	680	25x50	2.10	0.2930
		30x40	2.10	0.293
		35x35	2.18	0.293
	820	30x45	2.30	0.243
		35x40	2.39	0.243
	1000	30x50	2.55	0.199
		35x45	2.65	0.199
	1200	35x50	2.90	0.166
315(365)	82	22x25	0.55	2.426
	100	22x30	0.65	1.989
	120	22x30	0.75	1.658
		25x25	0.75	1.658
	150	22x35	0.80	1.326
		25x30	0.80	1.326
	180	22x40	1.01	1.105
		25x35	1.02	1.105
		30x25	1.00	1.105
	220	22x45	1.10	0.905
		25x40	1.12	0.905
		30x30	1.10	0.905
	270	25x45	1.25	1.737
		30x35	1.25	0.737
	330	25x50	1.53	0.603
		30x40	1.53	0.603
		35x30	1.50	0.603
	390	30x45	1.71	0.510
		35x30	1.60	0.510
	470	30x50	1.85	0.423
		35x35	1.75	0.423
	560	35x40	2.00	0.355
	680	35x45	2.20	0.293
350(400)	82	22x25	0.60	2.426
	100	22x30	0.70	1.989
		25x25	0.70	1.989

Snap-in Type Aluminium Electrolytic Capacitors

LQ Long Life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms105℃) (120Hz)	ESR (Ω,20℃) (120Hz)
350(400)	120	25x35	0.80	1.658
		25x30	0.80	1.658
	150	22x40	0.86	1.326
		25x35	0.87	1.326
		30x25	0.85	1.326
	180	22x45	1.05	1.105
		25x40	1.07	1.105
		30x30	1.05	1.105
	220	22x50	1.16	0.905
		25x45	1.20	0.905
		30x35	1.18	0.905
		30x25	1.15	0.905
	270	25x50	1.31	0.737
		30x40	1.33	0.737
		35x30	1.30	0.737
	330	30x45	1.46	0.603
		35x35	1.45	0.603
	390	30x50	1.65	0.510
		35x40	1.65	0.510
	470	35x45	1.85	0.423
	560	35x50	2.10	0.355
400(450)	68	22x25	0.55	2.926
	82	22x30	0.65	2.426
		25x25	0.65	2.426
	100	22x35	0.79	1.989
		25x25	0.50	1.989
	120	22x40	0.89	1.658
		25x30	0.85	1.658
		30x25	0.87	1.658
	150	22x45	0.93	1.326
		25x35	0.90	1.326
		30x30	0.94	1.326
		35x25	0.96	1.326
	180	22x50	1.14	1.105
		25x40	1.11	1.105
		30x30	1.10	1.105
		35x25	1.12	1.105
	220	25x45	1.20	0.905
		35x35	1.20	0.905
		35x30	1.24	0.905
	270	25x50	1.36	0.737
		30x40	1.38	0.737
		35x30	1.35	0.737

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	Ripple current (A/rms105℃) (120Hz)	ESR (Ω,20℃) (120Hz)
400(450)	330	30x45	1.51	0.603
		35x35	1.50	0.603
	390	30x50	1.70	0.510
		35x40	1.70	0.510
	470	35x45	1.90	0.423
450(500)	56	22x25	0.55	5.921
	68	22x30	0.65	4.876
	82	22x35	0.80	4.044
		25x25	0.75	4.044
	100	22x40	0.89	3.316
		25x30	0.85	3.316
	120	22x45	0.95	2.763
		25x35	0.92	2.763
		30x25	0.90	2.763
	150	22x50	1.14	2.210
		25x40	1.11	2.210
		30x30	1.10	2.210
	180	25x45	1.25	1.842
		30x35	1.25	1.842
		35x25	1.20	1.842
	220	25x50	1.36	1.507
		30x40	1.38	1.507
		35x30	1.35	1.507
	270	30x45	1.51	1.228
		35x35	1.50	1.228
	330	30x50	1.70	1.005
		35x40	1.70	1.005
	390	35x45	1.90	0.850
	470	35x50	2.10	0.705
500(500)	100	30x25	0.82	3.316
	120	30x30	0.91	2.763
		35x25	0.88	2.763
	150	30x35	1.04	2.210
	180	30x40	1.17	1.842
		35x30	1.10	1.842
	220	30x45	1.33	1.507
		35x35	1.23	1.507
	270	30x50	1.50	1.228
		35x40	1.42	1.228
	330	35x45	1.60	1.005
	390	35x50	1.78	0.850
	470	35x60	2.03	0.705

TEAPO

Snap-in Type Aluminium Electrolytic Capacitors

LK Long Life Series

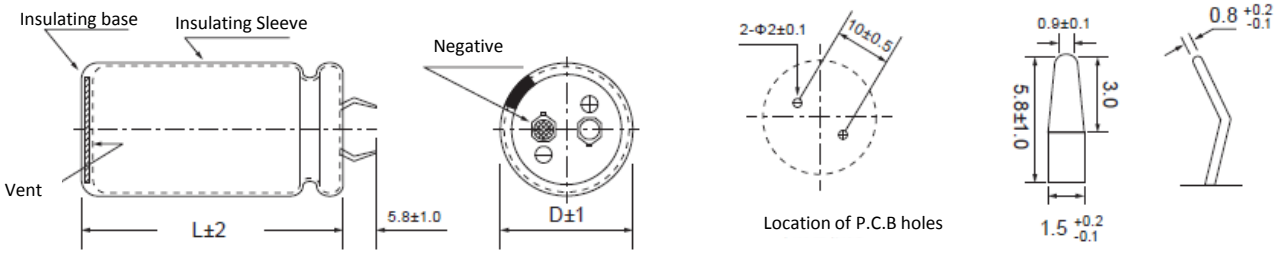
■ Endurance: 105℃ 7000hours
■ Recommended Applications: Smoothing circuit, TV/Monitor,Adapter, SMPS
■ Corresponding product to RoHS

LK
↑Long Life
LQ

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-25 ~ +105℃
Rated Voltage Range	160 ~ 450VDC
Rated Capacitance Range	39 ~ 2200 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I = $3\sqrt{CV}$. (After rated voltage applied for 5 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 160 / 180 / 200 / 250 / 315 / 350 / 400 / 450 tan δ: 0.15 / 0.15 / 0.15 / 0.15 / 0.20 / 0.20 / 0.20 / 0.20
Low Temperature Stability Impedance Ratio (MAX)	Measurement frequency : 120Hz Rated voltage(V): 160~400 / 450 Z-25℃ / Z+20℃: 4 / 8 Z-40℃ / Z+20℃: — / —
Endurance	After applying rated voltage with rated Ripple current for 7000hrs at 105℃, the capacitor shall meet the following requirement. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value
Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,the capacitor shall meet the same requirements as Endurance.

■ Dimensions [mm]



■ Multiplier for Ripple Current

Freq. (Hz)	60(50)	120	500	1K	≧10K
160~250WV	0.80	1.00	1.20	1.30	1.50
315~450WV	0.80	1.00	1.20	1.25	1.40

Snap-in Type Aluminium Electrolytic Capacitors

LK Long Life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
160(200)	270	22x25	0.15	1.10
	330	22x25	0.15	1.20
	390	22x30	0.15	1.30
		25x25	0.15	1.30
	470	22x35	0.15	1.40
		25x30	0.15	1.40
	560	22x40	0.15	1.50
		25x30	0.15	1.50
		30x25	0.15	1.50
	680	22x45	0.15	1.70
		25x35	0.15	1.70
		30x30	0.15	1.70
	820	22x250	0.15	2.00
		25x40	0.15	2.00
		30x30	0.15	2.00
	1000	25x45	0.15	2.20
		30x35	0.15	2.20
		35x30	0.15	2.20
	1200	25x50	0.15	2.40
		30x40	0.15	2.42
		35x35	0.15	2.43
	1500	30x45	0.15	2.70
		35x35	0.15	2.70
	1800	30x50	0.15	2.90
		35x40	0.15	2.90
	2200	35x45	0.15	3.10
180(225)	220	22x25	0.15	1.00
	270	22x25	0.15	1.10
	330	22x30	0.15	1.20
		25x25	0.15	1.20
	390	22x30	0.15	1.30
		25x25	0.15	1.30
	470	22x35	0.15	1.40
		25x30	0.15	1.40
		30x25	0.15	1.40
	560	22x40	0.15	1.50
		25x35	0.15	1.50
		30x25	0.15	1.50
	680	22x45	0.15	1.70
		25x35	0.15	1.70
		30x30	0.15	1.70
	820	25x40	0.15	2.00
		30x35	0.15	2.00
		35x30	0.15	2.00
	1000	25x50	0.15	2.20
		30x35	0.15	2.20
		35x30	0.15	2.20
	1200	30x40	0.15	2.40
		35x35	0.15	2.40
	1500	30x50	0.15	2.70
		35x40	0.15	2.70
	1800	35x45	0.15	2.90
	2200	35x50	0.150	3.10
200(250)	220	22x25	0.15	1.00
	270	22x30	0.15	1.10
		25x25	0.15	1.10
	330	22x30	0.15	1.20
		25x25	0.15	1.20
	390	22x35	0.15	1.30
		25x30	0.15	1.30
		30x25	0.15	1.30
	470	22x40	0.15	1.40

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
200(250)	470	25x35	0.15	1.40
		30x25	0.15	1.40
	560	22x45	0.15	1.55
		25x35	0.15	1.53
		30x30	0.15	1.53
	680	22x50	0.15	1.73
		25x40	0.15	1.75
		30x30	0.15	1.73
	820	25x45	0.15	2.00
		30x35	0.15	2.00
		35x30	0.15	2.00
	1000	30x40	0.15	2.20
		35x35	0.15	2.30
	1200	30x45	0.15	2.40
		35x40	0.15	2.45
	1500	35x50	0.15	2.70
250(300)	180	22x30	0.15	0.90
		25x25	0.15	0.90
	220	22x30	0.15	1.00
		25x25	0.15	1.00
	270	22x35	0.15	1.10
		25x30	0.15	1.10
		30x25	0.15	1.10
	330	22x40	0.15	1.20
		25x30	0.15	1.20
		30x25	0.15	1.20
	390	22x45	0.15	1.30
		25x35	0.15	1.30
		30x30	0.15	1.30
	470	22x50	0.15	1.40
		25x40	0.15	1.40
		30x35	0.15	1.40
		35x30	0.15	1.40
	560	25x45	0.15	1.60
		30x35	0.15	1.60
		35x30	0.15	1.60
	680	25x50	0.15	1.80
		30x40	0.15	1.83
		35x35	0.15	1.83
	820	30x45	0.15	2.10
		35x35	0.15	2.05
	1000	30x50	0.15	2.30
		35x40	0.15	2.30
	1200	35x45	0.15	2.40
315(365)	82	22x25	0.20	0.64
	100	22x30	0.20	0.69
	120	22x30	0.20	0.75
		25x25	0.20	0.75
	150	22x35	0.20	0.82
		25x30	0.20	0.82
		30x25	0.20	0.82
	180	22x40	0.20	0.90
		25x30	0.20	0.90
		30x25	0.20	0.90
	220	22x45	0.20	1.05
		25x35	0.20	1.05
		30x30	0.20	1.05
	270	25x40	0.20	1.20
		30x35	0.20	1.20
		35x30	0.20	1.20
	330	25x50	0.20	1.35
		30x40	0.20	1.35

Snap-in Type Aluminium Electrolytic Capacitors

LK Long Life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
315(365)	330	35x30	0.20	1.35
	390	30x40	0.20	1.50
		35x35	0.20	1.50
	470	30x45	0.20	1.60
		35x40	0.20	1.60
	560	35x45	0.20	1.70
	680	35x50	0.20	1.90
350(400)	82	22x25	0.20	0.64
	100	22x30	0.20	0.69
		25x25	0.20	0.69
	120	22x35	0.20	0.75
		25x30	0.20	0.75
	150	22x40	0.20	0.85
		25x30	0.20	0.85
		30x25	0.20	0.85
	180	22x45	0.20	0.95
		25x35	0.20	0.95
		30x30	0.20	0.95
	220	22x50	0.20	1.05
		25x40	0.20	1.05
		30x30	0.20	1.05
	270	25x45	0.20	1.20
		30x35	0.20	1.21
		35x30	0.20	1.21
	330	30x40	0.20	1.35
		35x35	0.20	1.35
	390	30x45	0.20	1.45
		35x35	0.20	1.45
	470	30x50	0.20	1.55
		35x40	0.20	1.55
	560	35x50	0.20	1.70
400(450)	56	22x25	0.20	0.51
	68	22x30	0.20	0.56
		25x25	0.20	0.56
	82	22x30	0.20	0.64
		25x25	0.20	0.64
	100	22x35	0.20	0.69
		25x30	0.20	0.69
	120	22x40	0.20	0.75
		25x30	0.20	0.75

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
400(450)	120	30x25	0.20	0.75
	150	22x45	0.20	0.82
		25x35	0.20	0.82
		30x30	0.20	0.82
	180	22x50	0.20	0.93
		25x40	0.20	0.93
		30x30	0.20	0.95
		35x25	0.20	0.95
	220	25x45	0.20	1.03
		30x35	0.20	1.03
		35x30	0.20	1.02
	270	30x40	0.20	1.21
		35x35	0.20	1.20
	330	30x45	0.20	1.40
		35x40	0.20	1.38
	390	35x45	0.20	1.50
	470	35x50	0.20	1.60
450(500)	39	22x25	0.20	0.40
	47	22x30	0.20	0.46
	56	22x35	0.20	0.52
		25x25	0.20	0.52
	68	22x40	0.20	0.58
		25x30	0.20	0.58
	82	22x45	0.20	0.65
		25x35	0.20	0.65
		30x25	0.20	0.65
	100	22x50	0.20	0.73
		25x40	0.20	0.73
		30x30	0.20	0.73
	120	25x45	0.20	0.82
		30x30	0.20	0.82
	150	25x50	0.20	0.96
		30x40	0.20	0.96
		35x30	0.20	0.96
	180	30x45	0.20	1.07
		35x35	0.20	1.07
	220	30x50	0.20	1.21
		35x40	0.20	1.21
	270	35x45	0.20	1.40
	330	35x50	0.20	1.60

TEAPO

Snap-in Type Aluminium Electrolytic Capacitors

LS Downsized、Low profile Series

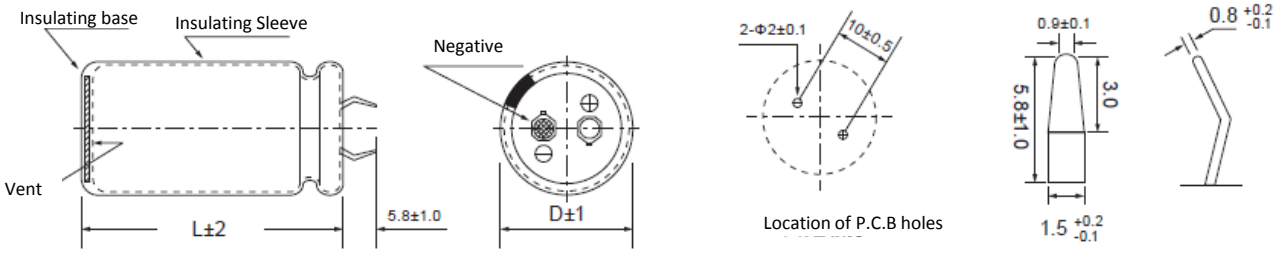
■ Endurance: 105℃ 2000 hours
■ Recommended Applications : Applying to switching power supply and other industry/ commercial field
■ Corresponding product to RoHS

LS
↑ Smaiier size
LG

■ SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-25 ~ +105℃
Rated Voltage Range	160 ~ 450VDC
Rated Capacitance Range	100 ~ 3300 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I = $3\sqrt{CV}$. (After rated voltage applied for 5 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 160 / 200 / 220~400 / 420 / 450 tan δ: 0.15 / 0.15 / 0.15 / 0.20 / 0.20
Low Temperature Stability Impedance Ratio (MAX)	Measurement frequency : 120Hz WV: 160 / 200 / 220~400 / 420 / 450 Z-25℃ / Z+20℃: 4 / 4 / 4 / 8 / 8
Endurance	After applying rated voltage with rated Ripple current for 2000hrs at 105℃,the capacitor shall meet the following requirements. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: initial specified value or less
Shelf Life	After placed at 105℃without voltage applied for 1000 hours,the capacitor shall meet the same requirement as Endurance.

■ Dimensions [mm]



■ Multiplier for Ripple Current

Freq. (Hz)	50	60	120	1K	10K~100K
160~250V	0.85	0.88	1.00	1.30	1.50
315~450V	0.88	0.9	1.00	1.35	1.45

Snap-in Type Aluminium Electrolytic Capacitors

LS Downsized、Low profile Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
160 (200)	560	22x30	0.15	1.40
	680	22x35	0.15	1.50
		25x30	0.15	1.70
	820	22x40	0.15	2.00
		25x35	0.15	2.00
	1000	22x50	0.15	2.10
		25x40	0.15	2.20
		30x30	0.15	2.20
	1200	25x45	0.15	2.30
		30x35	0.15	2.30
	1500	25x50	0.15	2.50
		30x40	0.15	2.50
		35x30	0.15	2.50
	1800	30x45	0.15	2.70
		35x35	0.15	2.55
	2200	30x50	0.15	2.90
		35x45	0.15	2.90
	2700	35x50	0.15	3.00
	3300	35x60	0.15	3.10
200 (250)	470	22x30	0.15	1.20
	560	22x35	0.15	1.48
		25x30	0.15	1.48
	680	22x40	0.15	1.60
		25x35	0.15	1.60
	820	22x45	0.15	1.75
		25x40	0.15	1.75
		30x30	0.15	1.75
	1000	25x45	0.15	2.04
		30x35	0.15	2.04
	1200	25x50	0.15	2.30
		30x40	0.15	2.30
		35x30	0.15	2.30
	1500	30x45	0.15	2.57
		35x35	0.15	2.57
	1800	30x50	0.15	2.41
		35x40	0.15	2.68
	2200	35x45	0.15	2.63
	2700	35x55	0.15	3.27
220 (270)	330	22x25	0.15	1.26
	390	22x30	0.15	1.34
	470	22x35	0.15	1.48
		25x30	0.15	1.40
	560	22x40	0.15	1.45
		25x30	0.15	1.45
	680	22x40	0.15	1.49
		25x35	0.15	1.78
		30x30	0.15	1.65
	820	22x50	0.15	1.93
		25x40	0.15	1.93
		30x30	0.15	1.85
		35x25	0.15	1.93
	1000	25x45	0.15	2.15
		30x35	0.15	2.33
		35x30	0.15	2.33
	1200	30x40	0.15	2.50
		35x30	0.15	2.12
	1500	30x45	0.15	2.30
		35x35	0.15	2.25
	1800	35x40	0.15	2.43
	2200	35x50	0.15	2.95
250（300）	390	22x30	0.15	1.08
		25x25	0.15	1.08

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
250（300）	470	22x35	0.15	1.17
		25x30	0.15	1.30
	560	22x40	0.15	1.40
		25x35	0.15	1.50
		30x25	0.15	1.26
	680	22x45	0.15	1.35
		25x40	0.15	1.70
		30x30	0.15	1.70
	820	25x45	0.15	2.00
		30x35	0.15	2.00
		35x30	0.15	2.00
	1000	25x50	0.15	2.20
		30x40	0.15	2.20
		35x30	0.15	2.00
	1200	30x45	0.15	2.30
		35x35	0.15	2.20
	1500	35x40	0.15	2.30
	1800	35x50	0.15	2.50
400 (450)	120	22x25	0.15	0.61
	180	22x30	0.15	0.68
		25x25	0.15	0.66
	220	22x35	0.15	0.80
		25x30	0.15	0.77
	270	22x40	0.15	0.95
		25x35	0.15	1.00
		30x25	0.15	0.93
	330	22x50	0.15	1.04
		25x40	0.15	1.04
		30x30	0.15	1.08
		35x25	0.15	1.04
	390	25x45	0.15	1.26
		30x35	0.15	1.26
		35x30	0.15	1.55
	470	30x40	0.15	1.40
		35x30	0.15	1.46
	560	30x45	0.15	1.56
		35x35	0.15	1.54
	680	30x50	0.15	1.72
		35x40	0.15	1.70
	820	35x45	0.15	1.91
420(470)	120	22x25	0.20	0.46
	150	22x30	0.20	0.54
		25x25	0.20	0.65
	180	22x35	0.20	0.64
		25x30	0.20	0.64
	220	22x40	0.20	0.80
		25x35	0.20	0.80
		30x25	0.20	0.80
	270	22x50	0.20	1.00
		25x40	0.20	1.00
		30x30	0.20	1.00
	330	25x45	0.20	1.10
		30x35	0.20	1.10
		35x30	0.20	1.10
	390	25x50	0.20	1.20
		30x40	0.20	1.20
		35x30	0.20	1.20
	470	30x45	0.20	1.30
		35x35	0.20	1.30
	560	30x50	0.20	1.60
		35x40	0.20	1.60
	680	35x45	0.20	2.00

LS

Downsized、Low profile Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
420(470)	820	35x50	0.20	2.30
450 (500)	100	22x25	0.20	0.50
	120	22x30	0.20	0.60
	150	22x35	0.20	0.72
		25x25	0.20	0.73
	180	22x40	0.20	0.79
		25x30	0.20	0.71
	220	22x45	0.20	0.87
		25x35	0.20	0.78
		30x25	0.20	0.83
	270	22x50	0.20	0.95
		25x40	0.20	0.90

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
450 (500)	270	30x35	0.20	1.05
		35x25	0.20	0.95
	330	25x50	0.20	1.20
		30x35	0.20	1.14
		35x30	0.20	1.20
	390	30x40	0.20	1.31
		35x35	0.20	1.38
	470	30x45	0.20	1.48
		35x35	0.20	1.47
	560	35x40	0.20	1.62
	680	35x50	0.20	1.91

TEAPO

Snap-in Type Aluminium Electrolytic Capacitors

LM Downsized、Low profile、Long Life Series

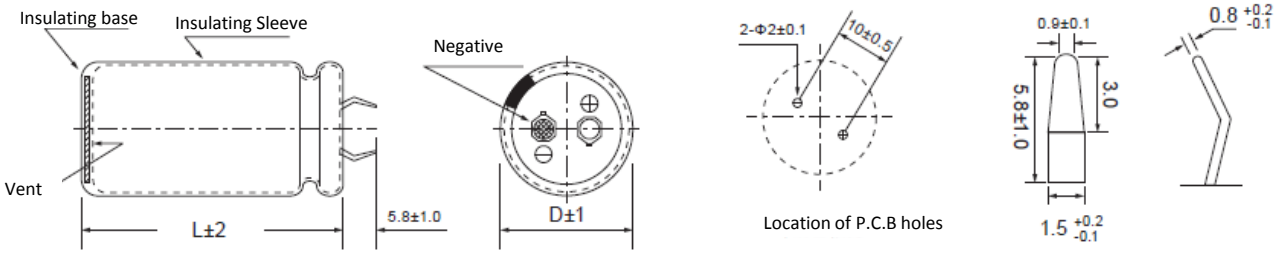
- Endurance: 105℃ 3000hours
- Recommended Applications : Smoothing circuit, TV/Monitor,Adapter, SMPS
- Corresponding product to RoHS

LM
↑ Smaiier size
LJ

SPECIFICATIONS

Item	Characteristics
Category Temperature Range	-25 ~ +105℃
Rated Voltage Range	400 ~ 450VDC
Rated Capacitance Range	82 ~ 1000 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I = $3\sqrt{CV}$. (After rated voltage applied for 5 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 400 / 420 / 450 tan δ: 0.15 / 0.20 / 0.20
Low Temperature Stability Impedance Ratio (MAX)	Measurement frequency : 120Hz Rated voltage(V): 400 / 420 / 450 Z-25℃ / Z+20℃: 4 / 8 / 8 Z-40℃ / Z+20℃: — / — / —
Endurance	After applying rated voltage with rated Ripple current for 3000hrs at 105℃, the capacitor shall meet the following requirement. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value
Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,the capacitor shall meet the same requirements as Endurance.

Dimensions [mm]



Multiplier for Ripple Current

Freq. (Hz)	50	120	300	1K	10K	50K
400~450V	0.77	1.00	1.16	1.30	1.41	1.43

Snap-in Type Aluminium Electrolytic Capacitors

LM

Downsized、Low profile、Long Life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
400 (450)	120	22x25	0.15	0.77
	150	22x30	0.15	0.9
	180	22x35	0.15	1.02
		25x25	0.15	0.99
	220	22x40	0.15	1.15
		25x30	0.15	1.13
	270	22x45	0.15	1.29
		25x35	0.15	1.30
		30x25	0.15	1.29
	330	22x50	0.15	1.47
		25x40	0.15	1.47
		30x30	0.15	1.45
		35x25	0.15	1.52
	390	25x45	0.15	1.63
		25x50	0.15	1.66
		30x35	0.15	1.61
	470	30x40	0.15	1.82
		35x30	0.15	1.85
	560	30x45	0.15	2.04
		30x50	0.15	2.07
		35x35	0.15	2.05
	680	35x40	0.15	2.34
		35x45	0.15	2.40
	820	35x50	0.15	2.69
	1000	35x60	0.15	2.75
420(470)	220	22x45	0.20	1.17
		22x50	0.20	1.20
		25x35	0.20	1.18
		30x30	0.20	1.18
	270	25x40	0.20	1.33
		25x45	0.20	1.36
		35x25	0.20	1.38
	330	25x50	0.20	1.52
		30x35	0.20	1.48
		30x40	0.20	1.52

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
420(470)	330	35x30	0.20	1.55
	390	30x45	0.20	1.70
		35x35	0.20	1.71
	470	30x50	0.20	1.90
		35x40	0.20	1.95
	560	35x45	0.20	2.17
	680	35x50	0.20	2.45
450 (500)	82	22x25	0.20	0.64
	120	22x30	0.20	0.81
		22x35	0.20	0.83
		25x25	0.20	0.81
	150	22x40	0.20	0.94
		25x30	0.20	0.93
	180	22x45	0.20	1.06
		25x35	0.20	1.06
		30x25	0.20	1.06
	220	22x50	0.20	1.20
		25x40	0.20	1.20
		30x30	0.20	1.18
		35x25	0.20	1.24
	270	25x45	0.20	1.36
		25x50	0.20	1.38
		30x35	0.20	1.34
		35x30	0.20	1.40
	330	30x40	0.20	1.52
	390	30x45	0.20	1.70
		30x50	0.20	1.73
		35x35	0.20	1.71
	470	35x40	0.20	1.95
		35x45	0.20	1.99
	560	35x50	0.20	2.22
	680	35x55	0.20	2.30
	820	35x60	0.20	2.42
	1000	35x65	0.20	2.77

TEAPO

Screw Type Aluminium Electrolytic Capacitors

KP Standard Series

- Endurance:85℃ 2000hours
- Recommended Applications :UPS、service system、press working equipment、charging equipment、inverter、converter
- Corresponding product to RoHS

SPECIFICATIONS

Item	Characteristics	
Category Temperature Range	-40 ~ +85℃	-25 ~ +85℃
Rated Voltage Range	6.3~ 100VDC	160~450VDC
Capacitance Tolerance	± 20 % (120Hz , 20℃)	
Leakage Current (20℃)	I≦0.02CVor5mA whichever is greater. (After rated voltage applied for 5 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)	

Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)

WV		6.3~10	16	25	35	50	63	80	100	160~250	350~450
tan δ	φ35	0.75	0.60	0.40	0.30	0.25	0.20	0.20	0.15	0.15	0.20
	φ51	1.00	0.70	0.50	0.50	0.30	0.25	0.20	0.20	0.15	0.20
	φ64	1.30	0.80	0.70	0.60	0.50	0.30	0.25	0.25	0.20	0.25
	φ77	1.50	1.00	0.80	0.70	0.60	0.40	0.30	0.25	0.20	0.25
	φ90	1.50	1.00	0.80	0.70	0.60	0.40	0.30	0.25	0.20	0.25

Low Temperature Stability Impedance Ratio (MAX)

Measurement frequency : 120Hz

Rated voltage(V)	10~100	160~450
Z-25℃ / Z+20℃	-	8
Z-40℃ / Z+20℃	12	-

Endurance

After applying rated voltage with ripple current for 2000 hours at85℃,
the capacitors shall meet the following requirements.

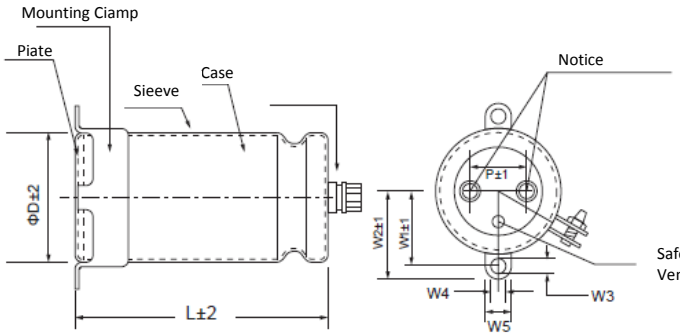
Capacitance change	Within ± 15% of initial value
D.F. (tan δ)	Not more than 175% of specified value
Leakage current	Not more than the specified value

Shelf Life

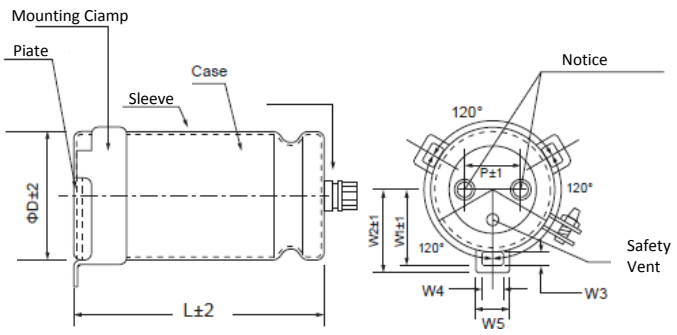
After placed at 105℃without voltage applied for 1000 hours,the capacitor shall meet the same requirements as Endurance.

Dimensions [mm]

Fixed with two hoies



Fiexed with three holes



φD	W1	W2	W3	W4	W5	P
35	24.0	30.0	7.0	3.5	10.0	12.7
51	32.5	37.5	4.5	7.0	13.0	21.8
64	38.5	42.8	4.5	7.0	13.0	28.2
77	44.8	49.0	4.5	7.0	13.0	31.4
90	50.8	56.0	4.5	8.0	16.0	31.4

Multiplier for Ripple Current

Freq. (Hz)	60	120	1K	10K	100K
W.V	coefficient				
6.3~35V	0.90	1.00	1.05	1.10	1.10
50~100V	0.90	1.00	1.10	1.15	1.15
160~450V	0.80	1.00	1.20	1.40	1.40

Temperature	≦60	70	85
coefficient	1.8	1.6	1.00

TEAPO

Screw Type Aluminium Electrolytic Capacitors

KP Standard Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	R.C (A/rms,85℃) (120Hz)
6.3 (8)	47000	35x50	0.75	4.94
	56000	35x60	0.75	4.96
	68000	35x60	0.75	5.47
	82000	35x80	0.75	6.82
	100000	35x80	0.75	7.53
	120000	35x121	0.75	9.15
	150000	51x80	1.00	9.51
	180000	51x80	1.00	10.42
	220000	51x100	1.00	12.39
	270000	64x100	1.30	13.68
	330000	64x100	1.30	15.12
	390000	64x121	1.30	16.97
	470000	64x121	1.30	18.63
	560000	77x121	1.50	18.80
	680000	77x121	1.50	20.71
10 (13)	33000	35x50	0.75	4.14
	39000	35x50	0.75	4.50
	47000	35x60	0.75	5.35
	56000	35x80	0.75	6.63
	68000	35x80	0.75	7.31
	82000	35x80	0.75	8.02
	100000	35x121	0.75	9.21
	120000	51x80	1.00	9.23
	150000	51x80	1.00	10.32
	180000	51x90	1.00	11.50
	220000	51x121	1.00	13.66
	270000	51x121	1.00	15.13
	330000	64x121	1.30	17.25
	390000	64x121	1.30	18.75
	470000	77x121	1.50	19.25
	560000	77x121	1.50	21.01
16 (20)	22000	35x50	0.60	4.16
	33000	35x60	0.60	5.51
	39000	35x80	0.60	6.80
	47000	35x80	0.60	7.47
	56000	35x100	0.60	9.03
	68000	35x121	0.60	9.88
	82000	35x121	0.60	10.85
	100000	51x80	0.70	10.86
	120000	51x90	0.70	11.74
	150000	51x121	0.70	12.48
	180000	51x121	0.70	13.67
	220000	64x100	0.80	14.75
	270000	64x115	0.80	17.37
	330000	77x121	1.00	18.19
	390000	77x121	1.00	19.78
25(32)	18000	35x50	0.40	3.35
	22000	35x60	0.40	4.01
	27000	35x80	0.40	5.04
	33000	35x80	0.40	5.58
	39000	35x80	0.40	6.06
	47000	35x121	0.40	7.54
	56000	35x121	0.40	8.23
	68000	51x100	0.50	9.13
	82000	51x100	0.50	10.03
	100000	51x121	0.50	11.27
	120000	51x121	0.50	12.33
	150000	64x100	0.70	12.69
	180000	64x100	0.70	13.89
	220000	64x144	0.70	16.05
	270000	77x115	0.80	17.80
	330000	77x144	0.80	20.38

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	R.C (A/rms,85℃) (120Hz)
35(44)	10000	35x50	0.30	3.53
	12000	35x50	0.30	3.87
	15000	35x60	0.30	3.96
	18000	35x60	0.30	4.34
	22000	35x80	0.30	4.93
	27000	35x80	0.30	5.46
	33000	35x121	0.30	7.20
	39000	35x121	0.30	7.83
	47000	51x80	0.50	8.26
	56000	51x80	0.50	9.02
	68000	51x100	0.50	10.35
	82000	51x100	0.50	11.36
	100000	64x100	0.60	11.48
	120000	64x121	0.60	13.13
	150000	64x144	0.60	15.42
	180000	64x144	0.60	16.89
	220000	77x144	0.70	17.79
50(63)	6800	35x50	0.25	3.26
	8200	35x50	0.25	3.58
	10000	35x60	0.25	4.27
	12000	35x60	0.25	4.68
	15000	35x80	0.25	5.94
	18000	35x80	0.25	6.51
	22000	35x121	0.25	6.70
	27000	35x121	0.25	7.42
	33000	51x80	0.30	7.55
	39000	51x80	0.30	8.20
	47000	51x100	0.30	9.80
	56000	51x100	0.30	10.70
	68000	64x100	0.50	11.34
	82000	64x100	0.50	12.46
	100000	64x144	0.50	12.81
	120000	64x144	0.50	14.03
	150000	77x144	0.60	15.86
63 (79)	5600	35x50	0.20	2.97
	6800	35x50	0.20	3.28
	8200	35x60	0.20	3.89
	10000	35x80	0.20	4.77
	12000	35x80	0.20	5.23
	15000	35x100	0.20	5.88
	18000	35x121	0.20	6.16
	22000	51x80	0.25	7.73
	27000	51x80	0.25	8.56
	33000	51x100	0.25	8.76
	39000	51x121	0.25	10.22
	47000	64x100	0.30	11.88
	56000	64x100	0.30	12.96
	68000	64x144	0.30	13.63
	100000	77x144	0.40	15.86
80 (100)	4700	35x50	0.20	2.72
	5600	35x60	0.20	3.22
	6800	35x80	0.20	4.03
	8200	35x80	0.20	4.42
	10000	35x100	0.20	5.41
	12000	35x121	0.20	6.47
	15000	51x80	0.20	7.63
	18000	51x80	0.20	8.35
	22000	51x100	0.20	8.76
	27000	51x100	0.20	9.70
	33000	64x100	0.25	10.22
	39000	64x100	0.25	11.11
	47000	64x144	0.25	14.33

TEAPO

Screw Type Aluminium Electrolytic Capacitors

KP Standard Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	R.C (A/rms,85℃) (120Hz)
80 (100)	56000	64x144	0.25	15.64
	68000	77x144	0.30	16.27
100 (125)	2200	35x50	0.15	2.15
	2700	35x50	0.15	2.38
	3300	35x50	0.15	2.64
	3900	35x60	0.15	3.10
	4700	35x80	0.15	3.87
	5600	35x80	0.15	4.22
	6800	35x100	0.15	5.15
	8200	35x121	0.15	5.83
	10000	51x80	0.20	6.03
	12000	51x80	0.20	6.60
	15000	51x121	0.20	8.86
	18000	51x121	0.20	9.71
	22000	64x100	0.25	9.79
	27000	64x100	0.25	10.85
	33000	64x144	0.25	12.80
	39000	77x115	0.25	13.11
	47000	77x144	0.25	14.81
160 (200)	1200	35x50	0.15	2.64
	1500	35x60	0.15	3.20
	1800	35x70	0.15	3.63
	2200	35x80	0.15	4.26
	2700	35x100	0.15	4.68
	3300	35x121	0.15	5.22
	3900	51x70	0.15	5.70
	4700	51x70	0.15	6.26
	5600	51x90	0.15	7.00
	6800	51x90	0.15	7.72
	8200	51x115	0.15	9.04
	10000	64x96	0.20	10.30
	12000	64x96	0.20	11.29
	15000	64x130	0.20	13.83
	18000	64x130	0.20	15.15
	22000	77x130	0.20	18.57
	27000	77x130	0.20	20.58
	33000	90x131	0.20	23.90
	39000	90x157	0.20	28.10
200 (250)	680	35x50	0.15	1.99
	820	35x50	0.15	2.19
	1000	35x60	0.15	2.62
	1200	35x60	0.15	2.87
	1500	35x80	0.15	3.52
	1800	35x80	0.15	3.85
	2200	35x100	0.15	4.23
	2700	35x121	0.15	4.72
	3300	51x70	0.15	5.24
	3900	51x70	0.15	5.70
	4700	51x90	0.15	6.42
	5600	51x115	0.15	7.47
	6800	51x130	0.15	8.70
	8200	64x96	0.20	9.33
	10000	64x96	0.20	10.30
	12000	77x96	0.20	12.56
	15000	77x96	0.20	14.04
	18000	77x130	0.20	16.80
	22000	77x155	0.20	20.07
	27000	90x131	0.20	21.62
	33000	90x157	0.20	25.85
250 (300)	470	35x50	0.15	1.66
	560	35x50	0.15	1.81
	680	35x50	0.15	1.99

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	R.C (A/rms,85℃) (120Hz)
250 (300)	820	35x60	0.15	2.37
	1000	35x80	0.15	2.87
	1200	35x80	0.15	3.15
	1500	35x100	0.15	3.49
	1800	35x100	0.15	3.83
	2200	51x70	0.15	4.28
	2700	51x70	0.15	4.74
	3300	51x90	0.15	5.38
	3900	51x115	0.15	6.23
	4700	64x96	0.20	7.06
	5600	64x96	0.20	7.71
	6800	64x115	0.20	9.19
	8200	64x115	0.20	10.09
	10000	64x130	0.20	11.76
	12000	77x115	0.20	13.01
	15000	77x130	0.20	14.70
	18000	77x155	0.20	17.40
	22000	90x157	0.20	20.19
350 (400)	390	35x50	0.20	1.74
	470	35x80	0.20	2.35
	560	35x80	0.20	2.57
	680	35x80	0.20	2.83
	820	35x100	0.20	3.18
	1000	35x100	0.20	3.51
	1200	51x70	0.20	3.94
	1500	51x70	0.20	4.41
	1800	51x90	0.20	5.38
	2200	51x90	0.20	5.95
	2700	51x130	0.20	6.91
	3300	51x130	0.20	7.63
	3900	64x115	0.25	8.71
	4700	64x130	0.25	9.81
	5600	77x115	0.25	11.26
	6800	77x130	0.25	13.08
	8200	77x155	0.25	15.53
	10000	90x157	0.25	17.71
	12000	90x157	0.25	19.40
	15000	90x196	0.25	23.93
	18000	90x236	0.25	28.51
400 (450)	330	35x80	0.20	1.97
	390	35x80	0.20	2.14
	470	35x80	0.20	2.35
	560	35x80	0.20	2.57
	680	35x100	0.20	2.90
	820	35x100	0.20	3.18
	1000	51x70	0.20	3.60
	1200	51x70	0.20	3.94
	1500	51x90	0.20	4.91
	1800	51x90	0.20	5.38
	2200	51x130	0.20	6.23
	2700	64x96	0.25	7.09
	3300	64x115	0.25	8.01
	3900	64x130	0.25	8.94
	4700	77x115	0.25	10.32
	5600	77x130	0.25	11.87
	6800	77x155	0.25	14.14
	8200	90x157	0.25	16.03
	10000	90x157	0.25	17.71
	12000	90x196	0.25	21.40
	15000	90x236	0.25	26.02
450 (500)	270	35x50	0.20	1.45
	330	35x80	0.20	1.97

Screw Type Aluminium Electrolytic Capacitors

KP Standard Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	R.C (A/rms,85℃) (120Hz)
450 (500)	390	35x80	0.20	2.14
	470	35x80	0.20	2.35
	560	35x100	0.20	2.63
	680	35x100	0.20	2.90
	820	51x70	0.20	3.26
	1000	51x70	0.20	3.60
	1200	51x90	0.20	4.39
	1500	51x115	0.20	5.17
	1800	51x130	0.20	5.64
	2200	64x96	0.25	6.40

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	R.C (A/rms,85℃) (120Hz)
450 (500)	2700	64x115	0.25	7.25
	3300	64x130	0.25	8.22
	3900	77x115	0.25	9.40
	4700	77x130	0.25	10.88
	5600	77x155	0.25	12.83
	6800	90x157	0.25	14.60
	8200	90x157	0.25	16.03
	10000	90x196	0.25	19.53
	12000	90x236	0.25	23.28

TEAPO

Screw Type Aluminium Electrolytic Capacitors

WP Standard 、High Ripple Series

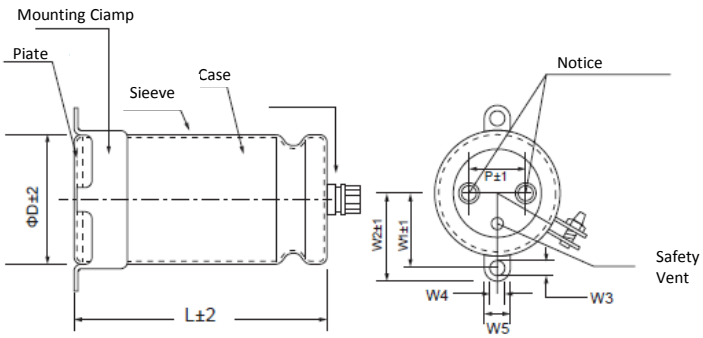
■ Endurance:85℃ 2000hours
■ Recommended Applications :UPS、service system、press working equipment、charging equipment、inverter、converter
■ Corresponding product to RoHS

■ SPECIFICATIONS

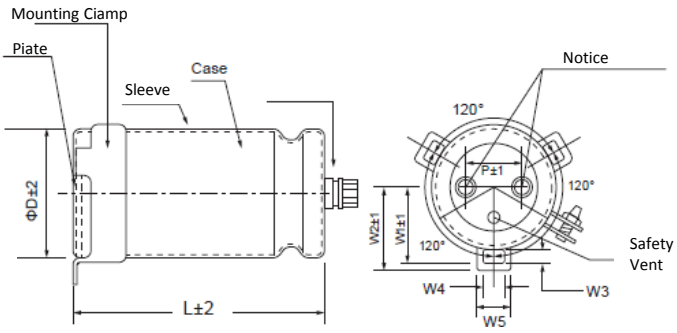
Item	Characteristics
Category Temperature Range	-25 ~ +85℃
Rated Voltage Range	160 ~ 550VDC
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I≦0.02CVor5mA whichever is greater. (After rated voltage applied for 5 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 160 / 200 / 250 / 350~450 / 500~550 tan δ: 0.15 / 0.15 / 0.15 / 0.15 / 0.20
Low Temperature Stability Impedance Ratio (MAX)	Measurement frequency : 120Hz Rated voltage(V): 160~550 Z-25℃ / Z+20℃: 8
Endurance	After applying rated voltage with ripple current for 2000 hours at85℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value
Shelf Life	After placed at 85℃ without voltage applied for 1000 hours,the capacitor shall meet the same requirements as Endurance.

■ Dimensions [mm]

Fixed with two hoies



Fiexed with three holes



ϕ	W1	W2	W3	W4	W5	P
51	32.5	37.5	4.5	7.0	13.0	22.2
64	38.5	42.8	4.5	7.0	13.0	28.5
77	44.8	49.0	4.5	7.0	13.0	31.8
90	52.3	58.8	5.0	8.0	16.0	31.6

■ Multiplier for Ripple Current

Freq. (Hz)	60	120	300	1K	≧10K
coefficient	0.70	1.00	1.10	1.30	1.40

Temperature	40	60	85
coefficient	1.89	1.67	1.00

Screw Type Aluminium Electrolytic Capacitors

WP Standard 、High Ripple Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms 85℃) (120Hz)
160 (200)	3900	51x75	0.15	7.51
	4700	51x75	0.15	8.25
	5600	51x96	0.15	10.02
	6800	51x96	0.15	11.04
	8200	51x115	0.15	13.15
	10000	64x96	0.15	14.27
	12000	64x96	0.15	15.64
	15000	64x130	0.15	19.96
	18000	64x130	0.15	21.87
	22000	77x130	0.15	25.91
	27000	77x130	0.15	28.71
	33000	90x131	0.15	33.60
	39000	90x157	0.15	39.50
200 (250)	3300	51x75	0.15	6.91
	3900	51x75	0.15	7.51
	4700	51x96	0.15	9.18
	5600	51x115	0.15	10.86
	6800	51x130	0.15	12.65
	8200	64x96	0.15	12.93
	10000	64x100	0.15	14.53
	12000	77x96	0.15	16.82
	15000	77x96	0.15	18.80
	18000	77x130	0.15	23.44
	22000	77x155	0.15	28.00
	27000	90x131	0.15	30.39
	33000	90x157	0.15	36.33
250 (300)	2200	51x75	0.15	5.64
	2700	51x75	0.15	6.25
	3300	51x96	0.15	7.69
	3900	51x115	0.15	9.07
	4700	64x96	0.15	9.79
	5600	64x96	0.15	10.68
	6800	64x115	0.15	12.73
	8200	64x115	0.15	13.98
	10000	64x130	0.15	16.30
	12000	77x115	0.15	18.15
	15000	77x130	0.15	21.40
	18000	77x155	0.15	25.33
	22000	90x157	0.15	29.67
350 (400)	1200	51x75	0.15	5.21
	1500	51x80	0.15	5.99
	1800	51x96	0.15	7.10
	2200	51x96	0.15	7.85
	2700	51x130	0.15	9.97
	3300	51x130	0.15	11.02
		64x96	0.15	10.66
	3900	64x115	0.15	12.53
	4700	64x130	0.15	14.53
		77x96	0.15	13.07
	5600	77x115	0.15	15.39
	6800	77x130	0.15	17.89
	8200	77x155	0.15	21.22
	10000	90x157	0.15	25.00
	12000	90x157	0.15	27.39
	15000	90x196	0.15	33.78

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms 85℃) (120Hz)
350 (400)	18000	90x236	0.15	40.25
400 (450)	1000	51x75	0.15	4.76
	1200	51x80	0.15	5.36
	1500	51x96	0.15	6.48
	1800	51x96	0.15	7.10
	2200	51x130	0.15	9.00
	2700	64x96	0.15	9.64
	3300	64x115	0.15	11.53
	3900	64x130	0.15	13.23
		77x96	0.15	11.90
	4700	77x115	0.15	14.10
	5600	77x130	0.15	16.23
	6800	77x155	0.15	19.32
	8200	90x157	0.15	22.64
	10000	90x157	0.15	25.00
	12000	90x196	0.15	30.22
	15000	90x236	0.15	36.74
450 (500)	820	51x75	0.15	4.31
	1000	51x80	0.15	4.89
	1200	51x96	0.15	5.8
	1500	51x115	0.15	7.03
	1800	54x130	0.15	8.14
	2200	64x100	0.15	8.86
	2700	64x115	0.15	10.43
	3300	64x130	0.15	12.17
	3900	77x115	0.15	12.85
	4700	77x130	0.15	14.87
	5600	77x155	0.15	17.54
	6800	90x157	0.15	20.62
	8200	90x157	0.15	22.64
	10000	90x196	0.15	27.58
	12000	90x236	0.15	32.87
500 (550)	470	51x75	0.20	2.96
	680	51x96	0.20	3.97
	820	51x115	0.20	4.72
	1000	51x130	0.20	5.52
		64x96	0.20	5.34
	1500	64x115	0.20	7.08
		77x96	0.20	6.75
	1800	64x130	0.20	8.18
	2200	77x115	0.20	8.82
	2700	77x155	0.20	11.13
	3900	90x157	0.20	14.29
550 (600)	390	51x75	0.20	2.70
	560	51x96	0.20	3.60
		64x96	0.20	4.00
	680	51x115	0.20	4.30
		64x115	0.20	4.76
	820	51x130	0.20	4.99
		64x130	0.20	5.52
	1200	77x96	0.20	6.04
	1500	77x115	0.20	7.28
	1800	77x130	0.20	8.41
	2200	77x155	0.20	10.05
	3300	90x157	0.20	13.15

TEAPO

Screw Type Aluminium Electrolytic Capacitors

QP Standard 、High Ripple Series

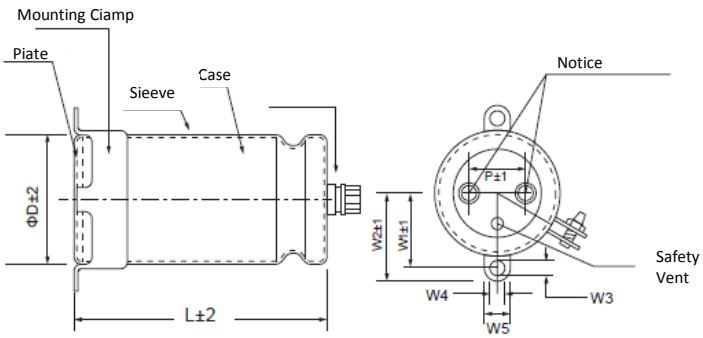
■ Endurance:105℃ 2000hours
■ Recommended Applications :UPS、service system、press working equipment、charging equipment、inverter、converter
■ Corresponding product to RoHS

■ SPECIFICATIONS

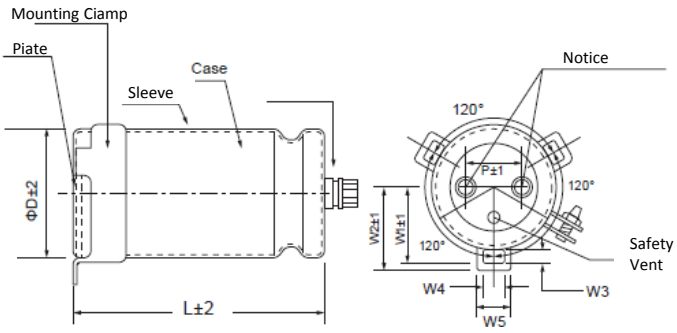
Item	Characteristics
Category Temperature Range	-25~ +105℃
Rated Voltage Range	160 ~ 500VDC
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I≦0.02CVor5mA whichever is greater. (After rated voltage applied for 5 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 160 / 200 / 250 / 350 / 400~500 tan δ: 0.15 / 0.15 / 0.15 / 0.15 / 0.15
Low Temperature Stability Impedance Ratio (MAX)	Measurement frequency : 120Hz Rated voltage(V): 160~500 Z-25℃ / Z+20℃: 8
Endurance	After applying rated voltage with ripple current for 2000 hours at105℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value
Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,the capacitor shall meet the same requirements as Endurance.

■ Dimensions [mm]

Fixed with two hoies



Fiexed with three holes



ϕD	W1	W2	W3	W4	W5	P
51	32.5	37.5	4.5	7.0	13.0	22.2
64	38.5	42.8	4.5	7.0	13.0	28.5
77	44.8	49.0	4.5	7.0	13.0	31.8
90	52.3	58.8	5.0	8.0	16.0	31.6

■ Multiplier for Ripple Current

Freq. (Hz)	60	120	300	1K	≧10K
coefficient	0.70	1.00	1.10	1.30	1.40

Temperature	40	60	85	105
coefficient	2.44	2.16	2.00	1.00

Screw Type Aluminium Electrolytic Capacitors

QP

Standard 、High Ripple Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
160 (200)	4700	51x80	0.15	6.81
	5600	51x96	0.15	8.05
	6800	64x96	0.15	8.80
	8200	64x96	0.15	9.66
	10000	77x96	0.15	11.34
	15000	77x130	0.15	15.81
	22000	90x131	0.15	19.87
200 (250)	3300	51x80	0.15	5.23
	4700	51x96	0.15	6.76
	5600	64x96	0.15	7.99
	6800	64x115	0.15	9.52
	8200	77x66	0.15	10.27
	10000	77x115	0.15	12.24
	15000	90x131	0.15	16.47
250 (300)	2200	51x75	0.15	4.53
	3300	51x96	0.15	6.18
	3900	64x96	0.15	6.69
	4700	64x115	0.15	7.94
	5600	77x96	0.15	8.91
	6800	77x115	0.15	10.60
	8200	77x130	0.15	12.27
	10000	77x155	0.15	14.65
	15000	90x157	0.15	17.81
350 (400)	1000	51x75	0.15	4.08
	1200	51x75	0.15	4.47
	1500	51x96	0.15	5.56
	1800	51x96	0.15	6.09
	2200	51x115	0.15	7.29
	2700	64x96	0.15	8.48
	3300	64x115	0.15	10.13
	3900	64x115	0.15	11.02
	4700	64x130	0.15	12.77
	5600	77x130	0.15	15.46
	6800	77x130	0.15	17.03

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
350 (400)	8200	77x155	0.15	18.11
	10000	90x157	0.15	21.94
400 (450)	1000	51x75	0.15	4.08
	1200	51x96	0.15	4.97
	1500	51x96	0.15	5.56
	2200	64x96	0.15	7.65
	3300	64x130	0.15	10.70
	3900	64x155	0.15	12.59
	4700	77x130	0.15	14.16
	5600	77x155	0.15	16.70
	6800	90x157	0.15	16.83
	8200	90x157	0.15	18.48
	10000	90x196	0.15	22.52
450 (500)	1000	51x96	0.15	4.54
	1200	51x115	0.15	5.39
	1500	51x115	0.15	6.02
	2200	64x115	0.15	8.28
	3300	64x130	0.15	10.70
	3900	77x121	0.15	12.50
	4700	77x144	0.15	14.81
	5600	90x145	0.15	15.49
	6800	90x196	0.15	19.50
	8200	90x196	0.15	21.41
500 (550)	820	51x115	0.20	3.86
	1000	51x130	0.20	4.50
		64x96	0.2	4.37
	1200	64x115	0.20	5.18
	1500	64x130	0.20	6.12
		77x96	0.2	5.66
	1800	77x115	0.20	6.69
	2700	77x155	0.20	9.33
	1900	90x157	0.20	11.70
	6800	90x236	0.20	18.54

TEAPO

Screw Type Aluminium Electrolytic Capacitors

RP Wide temperature range standard Series

- Endurance: 105℃ 2000hours
- Recommended Applications :UPS、service system、press working equipment、charging equipment、inverter、converter
- Corresponding product to RoHS

SPECIFICATIONS

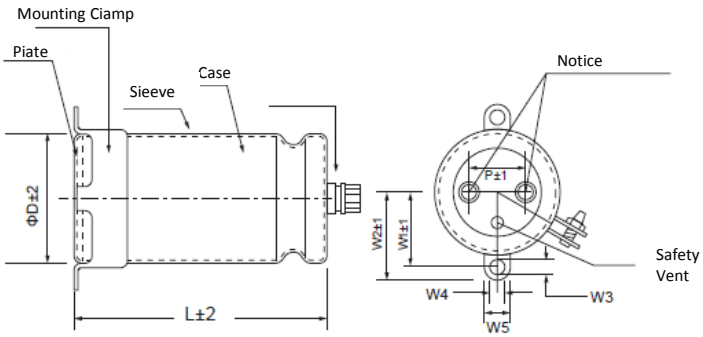
Item	Characteristics	
Category Temperature Range	-40 ~ +105℃	-25 ~ +105℃
Rated Voltage Range	10~ 100VDC	160~450VDC
Capacitance Tolerance	± 20 % (120Hz , 20℃)	
Leakage Current (20℃)	I≦0.02CVor5mA whichever is greater. (After rated voltage applied for 5 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)	
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	Shown in the table of standard rating	
Low Temperature Stability Impedance Ratio (MAX)	Measurement frequency : 120Hz	

Rated voltage(V)	10~100	160~450
Z-25℃ / Z+20℃	-	8
Z-40℃ / Z+20℃	12	-

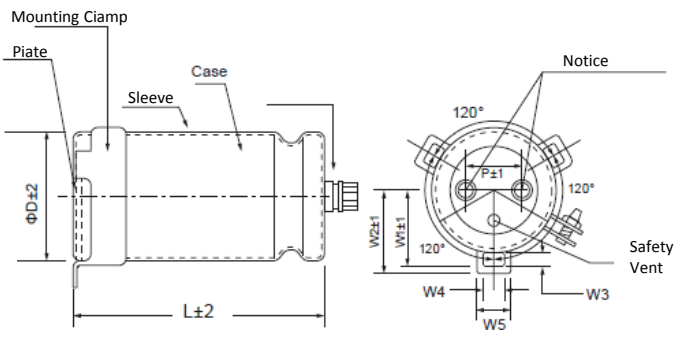
Endurance	After applying rated voltage with ripple current for 2000 hours at105℃, the capacitors shall meet the following requirements.	
	Capacitance change	Within ± 20% of initial value
	D.F. (tan δ)	Not more than 200% of specified value
	Leakage current	Not more than the specified value
Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,the capacitor shall meet the same requirements as Endurance.	

Dimensions [mm]

Fixed with two hoies



Fiexed with three holes



ϕD	W1	W2	W3	W4	W5	P
35	24.0	30.0	7.0	3.5	10.0	12.7
51	32.5	37.5	4.5	7.0	13.0	21.8
64	38.5	42.8	4.5	7.0	13.0	28.2
77	44.8	49.0	4.5	7.0	13.0	31.4
90	53.2	55.6	4.5	7.0	14.0	31.4

Multiplier for Ripple Current

Freq. (Hz)	120	1K	10K	100K
W.V	coefficient			
10~35V	1.00	1.05	1.10	1.10
50~100V	1.00	1.10	1.15	1.15
160~450V	1.00	1.20	1.30	1.35
Temperature	55	70	85	105
coefficient ≦250V	2.50	2.00	1.40	1.00
≧350V	2.00	1.50	1.20	1.00

TEAPO

Screw Type Aluminium Electrolytic Capacitors

RP

Wide temperature range standard Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	R.C (A/rms,105℃) (120Hz)
10 (13)	33000	35x50	0.80	3.72
	47000	35x60	0.80	4.81
	56000	35x70	0.80	5.61
	68000	35x80	0.80	6.57
	100000	51x70	1.00	7.67
	150000	51x90	1.00	10.46
	220000	64x96	1.20	13.53
	330000	64x115	1.20	17.92
16 (20)	22000	35x50	0.70	3.25
	33000	35x60	0.70	4.31
	47000	35x80	0.70	5.84
	56000	35x90	0.70	6.72
	68000	51x70	0.90	6.66
	100000	51x90	0.90	9.00
	150000	64x96	1.00	11.22
	220000	64x115	1.00	14.69
	330000	77x115	1.20	18.24
25 (32)	22000	35x60	0.35	4.59
	33000	35x80	0.35	6.39
	47000	35x90	0.35	8.04
	56000	51x70	0.40	8.31
	68000	51x90	0.40	10.21
	100000	64x96	0.40	11.28
	150000	64x115	0.80	12.94
	220000	77x115	1.00	14.83
	330000	90x131	1.00	19.94
35 (44)	15000	35x60	0.30	4.09
	22000	35x80	0.30	5.63
	33000	51x70	0.45	6.56
	47000	51x80	0.45	8.29
	56000	51x90	0.45	9.53
	68000	51x115	0.50	11.11
	100000	64x115	0.60	12.20
	150000	77x115	0.70	13.90
	220000	90x131	0.70	17.42
50 (63)	8200	35x60	0.25	3.18
	10000	35x70	0.25	3.75
	15000	35x80	0.25	4.88
	22000	51x70	0.35	5.57
	33000	51x90	0.35	7.60
	47000	64x96	0.40	9.48
	56000	64x96	0.40	10.34
	68000	64x115	0.45	11.62
	100000	77x115	0.50	14.14
	150000	90x131	0.50	19.02
63 (79)	6800	35x70	0.20	3.31
	8200	35x80	0.20	3.86
	10000	35x90	0.20	4.50
	15000	51x70	0.25	4.95
	22000	51x90	0.25	6.68
	33000	64x96	0.30	8.73
	47000	64x115	0.35	10.43
	56000	77x96	0.40	10.96
	68000	77x115	0.40	13.03
	100000	90x131	0.40	17.36
100 (125)	5600	35x90	0.15	4.59
	6800	51x70	0.15	5.16
	8200	51x80	0.15	6.00
	10000	51x90	0.15	6.97
	15000	64x96	0.15	7.57
	22000	77x96	0.25	8.69
	33000	77x130	0.25	12.11

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	R.C (A/rms,105℃) (120Hz)
100 (125)	47000	90x131	0.25	15.05
160 (200)	1000	35x50	0.15	1.50
	1500	35x60	0.15	1.98
	2200	35x70	0.15	2.57
	3300	35x90	0.15	3.52
	4700	51x80	0.15	4.54
	5600	51x90	0.15	5.22
	6800	64x96	0.15	5.89
	8200	64x96	0.15	6.46
	10000	77x96	0.15	7.56
	15000	77x130	0.15	10.54
	22000	90x131	0.15	13.30
200 (250)	1000	35x60	0.15	1.62
	1500	35x70	0.15	2.12
	2200	35x90	0.15	2.88
	3300	51x80	0.15	3.49
	4700	51x90	0.15	4.38
	5600	64x96	0.15	5.34
	6800	64x115	0.15	6.37
	8200	77x96	0.15	6.85
	10000	77x115	0.15	8.16
	15000	90x131	0.15	10.98
250 (300)	1000	35x70	0.15	1.73
	1500	35x90	0.15	2.38
	2200	51x70	0.15	2.94
	3300	51x90	0.15	4.01
	3900	64x96	0.15	4.46
	4700	64x115	0.15	5.29
	5600	77x96	0.15	5.94
	6800	77x115	0.15	7.07
	8200	77x130	0.15	8.18
	10000	77x155	0.15	9.76
	15000	90x157	0.15	11.87
350 (400)	1000	51x65	0.15	2.40
	1500	51x70	0.15	3.03
	2200	51x96	0.15	4.21
	3300	64x96	0.15	5.47
	3900	64x115	0.15	6.43
	4700	64x130	0.15	7.45
	5600	77x115	0.15	7.94
	6800	77x130	0.15	9.23
	8200	77x155	0.15	10.95
	10000	90x157	0.15	12.25
400 (450)	1000	51x70	0.15	2.47
	1500	51x90	0.15	3.38
	2200	64x96	0.15	4.46
	3300	64x130	0.15	6.24
	3900	64x155	0.15	7.34
	4700	77x130	0.15	7.97
	5600	77x155	0.15	9.39
	6800	90x157	0.15	10.94
	8200	90x157	0.15	12.01
	10000	90x196	0.15	14.64
450 (500)	1000	51x90	0.15	2.94
	1500	51x115	0.15	4.02
	2200	64x115	0.15	5.17
	3300	64x130	0.15	6.69
	3900	77x121	0.15	7.82
	4700	77x144	0.15	9.26
	5600	90x145	0.15	11.06
	6800	90x196	0.15	13.93

TEAPO

Screw Type Aluminium Electrolytic Capacitors

MP High voltage、Long life Series

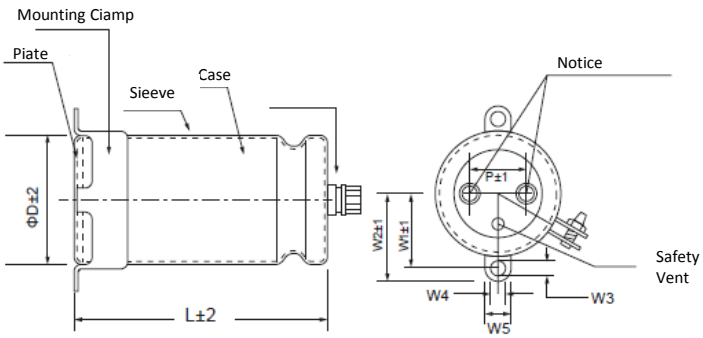
- Endurance:85℃ 5000hours
- Recommended Applications :UPS、service system、press working equipment、charging equipment、inverter、converter
- Corresponding product to RoHS

SPECIFICATIONS

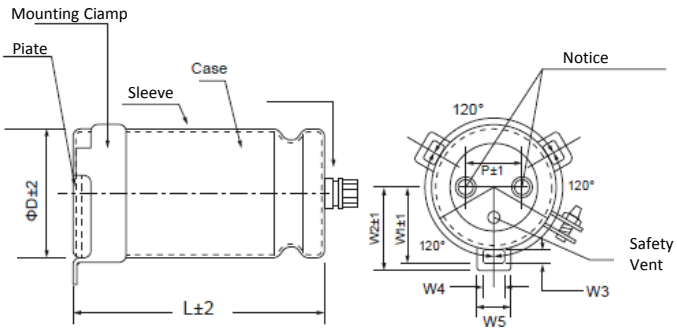
Item	Characteristics
Category Temperature Range	-40 ~ +85℃
Rated Voltage Range	350 ~ 450VDC
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I≦0.02CVor5mA whichever is greater. (After rated voltage applied for 5 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 350 / 400 / 450 tan δ: 0.15 / 0.15 / 0.15
Low Temperature Stability Impedance Ratio (MAX)	Rated voltage(V): 350~450 Z-25℃ / Z+20℃: 8
Endurance	After applying rated voltage with ripple current for 5000 hours at85℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value
Shelf Life	After placed at 85℃ without voltage applied for 1000 hours,the capacitor shall meet the same requirements as Endurance.

Dimensions [mm]

Fixed with two hoies



Fiexed with three holes



ϕD	W1	W2	W3	W4	W5	P
51	32.5	37.5	4.5	7.0	13.0	22.0
64	38.5	42.8	4.5	7.0	13.0	28.5
77	44.8	49.0	4.5	7.0	13.0	32.0
90	52.3	58.8	5.0	8.0	16.0	32.0

Multiplier for Ripple Current

Freq. (Hz)	60	120	300	1K	≧10K
coefficient	0.70	1.00	1.10	1.30	1.40

Temperature	40	60	85
coefficient	1.89	1.67	1.00

MP

High voltage、Long life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms85℃) (120Hz)
350 (400)	1200	51x75	0.15	5.21
	1500	51x75	0.15	5.82
	1800	51x96	0.15	7.1
	2200	51x96	0.15	7.85
	2700	51x130	0.15	9.97
	3300	51x130	0.15	11.02
	3900	64x115	0.15	12.5
	4700	64x130	0.15	14.53
	5600	64x155	0.15	17.16
		77x115	0.15	15.39
	6800	64x195	0.15	21
		77x130	0.15	17.88
	8200	77x155	0.15	21.22
	10000	90x157	0.15	25
	12000	90x157	0.15	27.39
	15000	90x196	0.15	33.78
	18000	90x236	0.15	40.25
400 (450)	1000	51x75	0.15	4.76
	1200	51x75	0.15	5.21
	1500	51x96	0.15	6.48
	1800	51x96	0.15	7.10
	2200	51x130	0.15	8.99
	2700	64x96	0.15	9.64
	3300	64x115	0.15	11.53
	3900	64x130	0.15	13.23

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms85℃) (120Hz)
400 (450)	4700	64x155	0.15	15.72
		77x115	0.15	14.10
	5600	64x195	0.15	19.06
		77x130	0.15	16.23
	6800	77x155	0.15	19.33
	8200	90x157	0.15	22.64
	10000	90x157	0.15	25.00
	12000	90x196	0.15	30.22
	15000	90x236	0.15	36.74
450 (500)	1000	51x75	0.15	4.99
	1200	51x96	0.15	6.1
	1500	51x115	0.15	7.4
	1800	51x130	0.15	8.54
	2200	64x96	0.15	8.93
	2700	64x115	0.15	10.69
	3300	64x130	0.15	12.48
	3900	64x155	0.15	14.68
		77x115	0.15	13.56
	4700	64x195	0.15	17.91
		77x130	0.15	15.69
	5600	77x155	0.15	18.51
	6800	90x157	0.15	21.21
	8200	90x157	0.15	23.29
	10000	90x196	0.15	28.37
	12000	90x236	0.15	33.80

TEAPO

Screw Type Aluminium Electrolytic Capacitors

XP High voltage、Long life Series

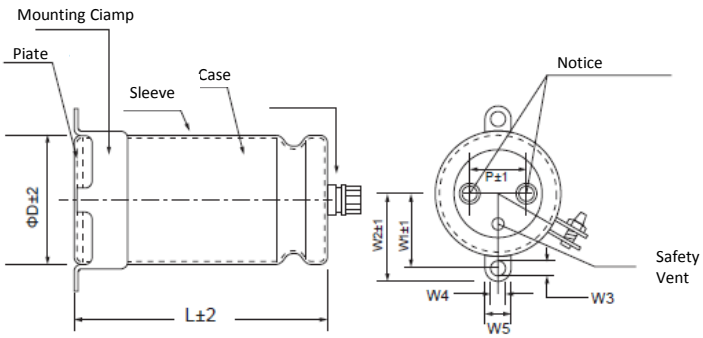
■ Endurance:105℃ 5000hours
■ Recommended Applications :UPS、service system、press working equipment、charging equipment、inverter、converter
■ Corresponding product to RoHS

■ SPECIFICATIONS

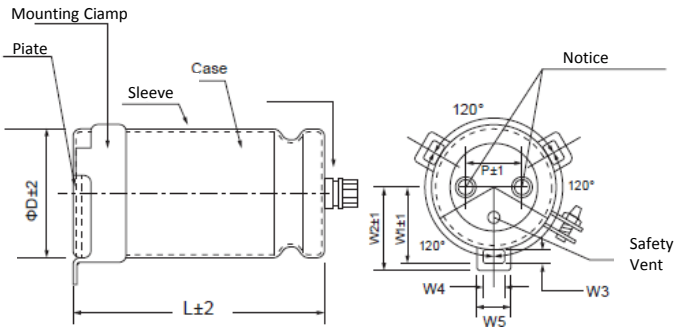
Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	200 ~ 450VDC
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I≦0.02CVor5mA whichever is greater. (After rated voltage applied for 5 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 200 / 250 / 350 / 400 / 450 tan δ: 0.15 / 0.15 / 0.15 / 0.15 / 0.15
Low Temperature Stability Impedance Ratio (MAX)	Measurement frequency : 120Hz Rated voltage(V): 200~450 Z-25℃ / Z+20℃: 8
Endurance	After applying rated voltage with ripple current for 5000 hours at105℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value
Shelf Life	After placed at 105℃ without voltage applied for 1000 hours,the capacitor shall meet the same requirements as Endurance.

■ 尺寸图

Fixed with two hoies



Fiexed with three holes



φD	W1	W2	W3	W4	W5	P
51	32.5	37.5	4.5	7.0	13.0	22.0
64	38.5	42.8	4.5	7.0	13.0	28.5
77	44.8	49.0	4.5	7.0	13.0	32.0
90	53.7	56.2	4.5	7.0	14.0	32.0

■ 纹波电流频率修正系数

Freq. (Hz)	60(50)	120	300	1K	≧10K
coefficient	0.70	1.00	1.10	1.30	1.40

Temperature	40	60	85	105
coefficient	2.44	2.16	2.00	1.00

Screw Type Aluminium Electrolytic Capacitors

XP

High voltage、Long life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
200 (250)	2200	51x80	0.20	2.92
	3300	51x100	0.20	3.94
	4700	64x100	0.20	5.13
	6800	64x121	0.20	6.71
	10000	77x121	0.20	8.31
	15000	77x144	0.20	10.98
	22000	90x145	0.20	11.40
	33000	90x236	0.20	17.34
250 (300)	1500	51x80	0.20	2.41
	2200	51x100	0.20	3.21
	3300	64x100	0.20	4.47
	4700	64x121	0.20	5.80
	6800	77x121	0.20	7.15
	10000	90x145	0.20	9.36
	15000	90x171	0.20	12.36
	22000	90x236	0.20	17.30
350 (400)	1000	51x75	0.15	3.06
	1200	51x75	0.15	3.35
	1500	51x96	0.15	4.17
	1800	51x96	0.15	4.57
	2200	51x130	0.15	5.78
	2700	64x96	0.15	6.00
	3300	64x115	0.15	7.18
	3900	64x130	0.15	8.24
	4700	64x155	0.15	9.79
		77x115	0.15	8.95
	5600	64x196	0.15	11.87
		77x130	0.15	10.30
	6800	77x130	0.15	12.27
	8200	90x157	0.15	13.86
	10000	90x157	0.15	15.31
	12000	90x196	0.15	18.50
	15000	90x236	0.15	22.50
400 (450)	1000	51x75	0.15	3.40

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
400 (450)	1200	51x96	0.15	4.14
	1500	51x115	0.15	5.02
	1800	51x130	0.15	5.81
	2200	51x130	0.15	6.43
		64x96	0.15	6.22
	2700	64x115	0.15	7.45
	3300	64x130	0.15	8.69
	3900	64x155	0.15	10.23
		77x115	0.15	9.18
	4700	64x195	0.15	12.47
		77x130	0.15	10.62
	5600	64x195	0.15	13.61
		77x155	0.15	12.53
	6800	90x157	0.15	14.73
	8200	90x157	0.15	16.17
	10000	90x196	0.15	19.70
	12000	90x236	0.15	23.48
450 (500)	1000	51x96	0.15	4.25
	1200	51x115	0.15	5.05
	1500	51x130	0.15	5.97
	1800	64x96	0.15	6.20
	2200	64x115	0.15	7.41
	2700	64x130	0.15	8.67
		77x115	0.15	8.69
	3300	64x155	0.15	10.37
		77x130	0.15	10.14
	3900	64x195	0.15	12.53
	4700	77x155	0.15	13.07
	5600	77x195	0.15	15.82
		90x157	0.15	14.89
	6800	90x196	0.15	18.10
	8200	90x196	0.15	19.88
	10000	90x236	0.15	23.88

TEAPO

Screw Type Aluminium Electrolytic Capacitors

JP

High voltage、Long life Series

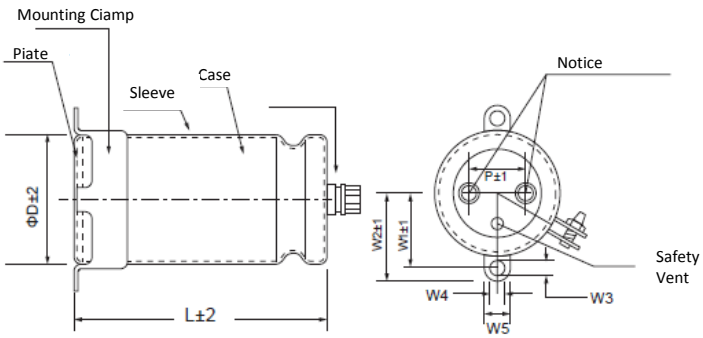
- Endurance:85℃ 10000hours
- Recommended Applications :UPS、service system、press working equipment、charging equipment、inverter、converter
- Corresponding product to RoHS

SPECIFICATIONS

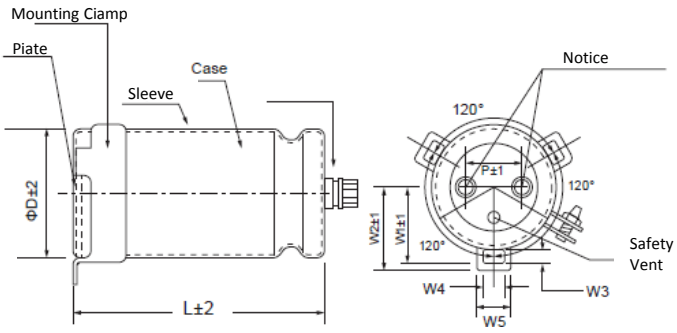
Item	Characteristics
Category Temperature Range	-40 ~ +85℃
Rated Voltage Range	350 ~ 450VDC
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I≦0.02CVor5mA whichever is greater. (After rated voltage applied for 5 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV: 350 / 400 / 450 tan δ: 0.15 / 0.15 / 0.15
Low Temperature Stability Impedance Ratio (MAX)	Measurement frequency : 120Hz Rated voltage(V): 350~450 Z-25℃ / Z+20℃: 8
Endurance	After applying rated voltage with ripple current for 10000 hours at85℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value
Shelf Life	After placed at 85℃without voltage applied for 1000 hours,the capacitor shall meet the same requirements as Endurance.

Dimensions [mm]

Fixed with two hoies



Fiexed with three holes



ϕD	W1	W2	W3	W4	W5	P
51	32.5	37.5	4.5	7.0	13.0	22.0
64	38.5	42.8	4.5	7.0	13.0	28.5
77	44.8	49.0	4.5	7.0	13.0	32.0
90	52.3	58.8	5.0	8.0	16.0	32.0

Multiplier for Ripple Current

Freq. (Hz)	60	120	300	1K	≧10K
coefficient	0.70	1.00	1.10	1.30	1.40

Temperature	40	60	85
coefficient	1.89	1.67	1.00

Screw Type Aluminium Electrolytic Capacitors

JP

High voltage、Long life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms85℃) (120Hz)
350 (400)	1000	51x75	0.15	5.7
	1200	51x75	0.15	6.3
	1500	51x96	0.15	7.8
	1800	51x96	0.15	8.5
	2200	51x130	0.15	10.8
	2700	64x96	0.15	11.5
	3300	64x115	0.15	13.7
	3900	64x130	0.15	15.8
	4700	64x155	0.15	18.7
		77x115	0.15	17.6
	5600	64x195	0.15	22
		77x130	0.15	20.3
	6800	77x155	0.15	23.4
	8200	90x157	0.15	27.2
	10000	90x157	0.15	30
	12000	90x196	0.15	36.3
	15000	90x236	0.15	42.5
400 (450)	1000	51x75	0.15	4.6
	1200	51x96	0.15	5.6
	1500	51x115	0.15	6.7
	1800	51x130	0.15	7.8
	2200	64x96	0.15	8.3
	2700	64x115	0.15	9.9
	3300	64x130	0.15	11.6
	3900	64x155	0.15	13.6

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms85℃) (120Hz)
400 (450)	3900	77x115	0.15	12.8
	4700	64x195	0.15	16.6
		77x130	0.15	14.9
	5600	64x195	0.15	17.6
		77x155	0.15	17.0
	6800	90x157	0.15	19.8
	8200	90x157	0.15	21.7
	10000	90x196	0.15	25.5
	12000	90x236	0.15	20.4
450 (500)	1000	51x96	0.15	5.9
	1200	51x115	0.15	7
	1500	51x130	0.15	8.3
	1800	64x96	0.15	8.7
	2200	64x115	0.15	10.5
	2700	64x130	0.15	12.2
		77x115	0.15	12.5
	3300	64x155	0.15	14.6
		77x130	0.15	14.5
	3900	64x195	0.15	17.7
	4700	77x155	0.15	18.1
	5600	77x195	0.15	21.9
		90x157	0.15	21.00
	6800	90x196	0.15	25.40
	8200	90x196	0.15	28
	10000	90x236	0.15	32.4

TEAPO

Screw Type Aluminium Electrolytic Capacitors

EP High voltage、Long life Series

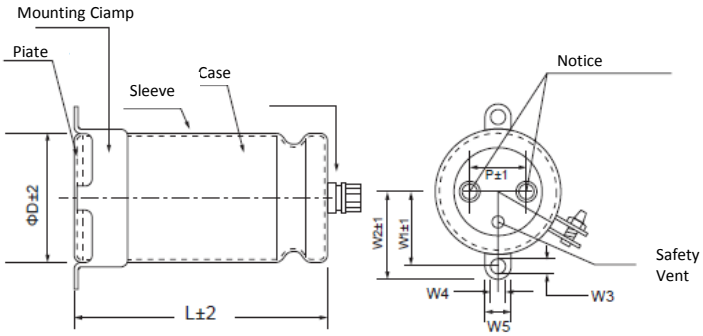
■ Endurance:105℃ 10000hours
■ Recommended Applications :UPS、service system、press working equipment、
charging equipment、inverter、converter
■ Corresponding product to RoHS

■ SPECIFICATIONS

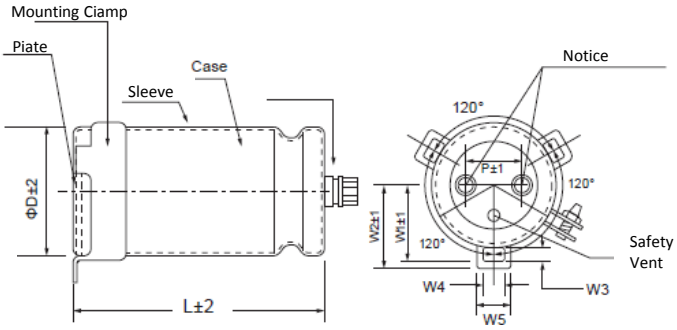
Item	Characteristics
Category Temperature Range	-40 ~ +105℃
Rated Voltage Range	350 ~ 450VDC
Rated Capacitance Range	1000 ~ 15000 μF
Capacitance Tolerance	± 20 % (120Hz , 20℃)
Leakage Current (20℃)	I≦0.02CVor5mA whichever is greater. (After rated voltage applied for 5 minutes) I：Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V)
Dissipation Factor(MAX) (tan δ) (120Hz ,20℃)	WV 350 400 450 tan δ 0.15 0.15 0.15
Low Temperature Stability Impedance Ratio (MAX)	Measurement frequency : 120Hz Rated voltage(V) 350~450 Z-25℃ / Z+20℃ 8
Endurance	After applying rated voltage with ripple current for 10000 hours at105℃, the capacitors shall meet the following requirements. Capacitance change: Within ± 20% of initial value D.F. (tan δ): Not more than 200% of specified value Leakage current: Not more than the specified value
Shelf Life	After placed at 105℃without voltage applied for 1000 hours,the capacitor shall meet the same requirements as Endurance.

■ 尺寸图

Fixed with two hoies



Fiexed with three holes



ϕD	W1	W2	W3	W4	W5	P
51	32.5	37.5	4.5	7.0	13.0	22.0
64	38.5	42.8	4.5	7.0	13.0	28.5
77	44.8	49.0	4.5	7.0	13.0	31.8
90	52.3	58.8	5.0	8.0	16.0	31.6

■ Multiplier for Ripple Current

Freq. (Hz)	60(50)	120	300	1K	≧10K
coefficient	0.70	1.00	1.10	1.30	1.40

Temperature	40	60	85	105
coefficient	2.44	2.16	2.00	1.00

EP

High voltage、Long life Series

■STANDARD RATINGS

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
350 (400)	1000	51x75	0.15	5.6
	1200	51x75	0.15	6.1
	1500	51x96	0.15	7.6
	1800	51x96	0.15	8.3
	2200	51x130	0.15	10.5
	2700	64x96	0.15	10.9
	3300	64x115	0.15	13.1
	3900	64x130	0.15	15.0
	4700	64x155	0.15	17.8
		77x115	0.15	16.8
	5600	64x195	0.15	21.6
		77x130	0.15	19.3
	6800	77x144	0.15	22.3
	8200	90x157	0.15	26.1
	10000	90x157	0.15	28.8
	12000	90x196	0.15	34.8
	15000	90x236	0.15	42.3
400 (450)	1000	51x75	0.15	5.6
	1200	51x96	0.15	6.8
	1500	51x115	0.15	8.2
	1800	51x130	0.15	9.5
	2200	64x96	0.15	9.7
	2700	64x115	0.15	11.8
	3300	64x130	0.15	13.8
	3900	64x155	0.15	16.2

Rated Voltage (SurageVoltage) (V)	Cap (μF)	Case size ΦDxL(mm)	tan δ	Ripple current (A/rms105℃) (120Hz)
400 (450)	3900	77x115	0.15	15.3
	4700	64x195	0.15	19.8
		77x130	0.15	17.7
	5600	64x195	0.15	21.6
		77x155	0.15	20.9
	6800	90x157	0.15	23.7
	8200	90x157	0.15	26.1
	10000	90x196	0.15	31.8
	12000	90x236	0.15	37.8
450 (500)	1000	51x96	0.15	6.2
	1200	51x115	0.15	7.4
	1500	51x130	0.15	8.7
	1800	64x115	0.15	9.7
	2200	64x115	0.15	10.7
	2700	64x130	0.15	12.5
		77x115	0.15	12.7
	3300	64x155	0.15	14.9
		77x130	0.15	14.8
	3900	64x195	0.15	18
	4700	77x155	0.15	19.1
	5600	77x195	0.15	23.20
		90x157	0.15	21.50
	6800	90x196	0.15	26.2
	8200	90x196	0.15	28.8
	10000	90x236	0.15	34.5

Quality and Environmental Management System Certification

Standara	Certificate Number
ISO 9001：2015	N° 2014/58801.1
IATF 16949：2016	N°58802 N° IATF : 0182450
IECQ QC 080000：2017	IECQ-H KTL 14.0026
ISO 14001：2015	GTE14032
OHSAS 18001：2007	GTO14032
CQC	201300103010100174

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