

# Leaded Aluminium Electrolytic Capacitors



## Feature:

- 105°C high-temperature resistance, standard product, for general purposes.

## Specifications:

Items	Characteristics											
Capacitance Tolerance	±20% (120Hz, 20°C)											
Operating Temperature Range	-40°C to +105°C				-40°C to +105°C				-25°C to +105°C			
Rated Voltage Range	6.3~100V				160~250V				350~450V			
Leakage Current	I ≤ 0.01CV or 3 (µA), Which is greater. (After 2 minutes application of working voltage)						I ≤ 0.03CV + 20 (µA), (After 3 minutes application of working voltage)					
Dissipation Factor (tan δ)	Measurement Frequency: 120Hz. Temperature: 20°C											
	Rated Voltage(V)	6.3	10	16	25	35	50	63	80	100	160~250	350~450
	tan δ(Max)	0.24	0.2	0.16	0.15	0.12	0.1	0.09	0.08	0.08	0.2	0.25
When nominal capacitance exceeds 1000µF, add 0.02 to the value above for each 1000µF increase. 20°C 120Hz												
Low Temperature Stability Impedance Ratio(Max)	Measurement Frequency: 120Hz.											
	Rated Voltage(V)	6.3	10	16	25	35	50~100	160~250	350~400	450		
	Z(-25°C) / Z(20°C)	5	4	3	2	2	2	3	6	15		
	Z(-40°C) / Z(20°C)	10	8	6	4	3	3	4	-	-		
Load Life	2000 hours, with application of working voltage at 105°C											
	Capacitance Change	Within ±25% of Initial Value										
	tan δ	200% or less of Initial Specified Value										
	Leakage Current	Initial Specified Value or less										
Shelf Life	2000 hours, no voltage applied, at 105°C. After Test : U <sub>R</sub> to be applied for 30 minutes, 24 to 48 hours before measurement.											
	Capacitance Change	Within ±20% of Initial Value										
	tan δ	200% or less of Initial Specified Value										
	Leakage Current	Initial Specified Value or less										
Standards	JIS C 5141 and JIS C 5102											

## Permissible Ripple Current

TEMP. (°C)	60	70	85	105
Coefficient	1.85	1.65	1.4	1

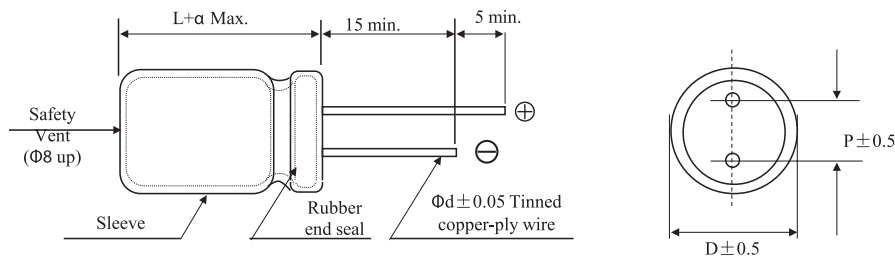
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## Frequency Coefficient

WV (V)	Capacitance (µF)	Frequency (Hz)			
		50	120	1K	≧10K
≧100	<100	0.75	1	1.57	2
	100~470	0.8	1	1.34	1.5
	>470	0.85	1	1.1	1.15
≧160	0.47~470	0.85	1	1.4	1.5

## MCKSK Series

### Dimensions: (mm)



ΦD	5	6.3	8	10	13	16	18	22	25
P	2	2.5	3.5	5	5	7.5	7.5	10	12.5
Φd	0.5	0.5	0.5	0.6	0.6	0.8	0.8	0.8	1

α	(L<16) 1 L≧16) 2
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## Standard Ratings

D×L(mm) ; R.C.(mA rms) at 105°C, 120Hz

Cap (µF)	WV(V) (Code)	6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)		63 (1J)	
		Item	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L
0.1~0.47		-	-	-	-	-	-	-	-	-	-	5×11	9.9	5×11	5
1.0		-	-	-	-	-	-	-	-	-	-	5×11	14	5×11	15
2.2		-	-	-	-	-	-	-	-	-	-	5×11	22	5×11	23
3.3		-	-	-	-	-	-	-	-	-	-	5×11	27	5×11	28
4.7		-	-	-	-	-	-	5×11	27	5×11	28	5×11	33	5×11	34
6.8		-	-	-	-	-	-	5×11	32	5×11	34	5×11	42	5×11	46
10		-	-	5×11	36	5×11	38	5×11	39	5×11	43	5×11	49	5×11	53
22		5×11	49	5×11	49	5×11	59	5×11	57	5×11	68	5×11	75	6.3×12	99
33		5×11	60	5×11	64	5×11	72	5×11	75	5×11	83	6.3×12	97	8×12	110
47		5×11	71	5×11	72	5×11	85	5×11	88	6.3×12	105	6.3×12	132	6.3×12	148
56		5×11	82	5×11	86	5×11	95	5×11	99	6.3×12	115	6.3×12	137	8×12	156
68		5×11	93	5×11	98	5×11	132	5×11	137	6.3×12	154	6.3×12	178	8×12	187
100		5×11	101	5×11	115	5×11	137	6.3×12	148	6.3×12	176	8×12	220	10×13	231

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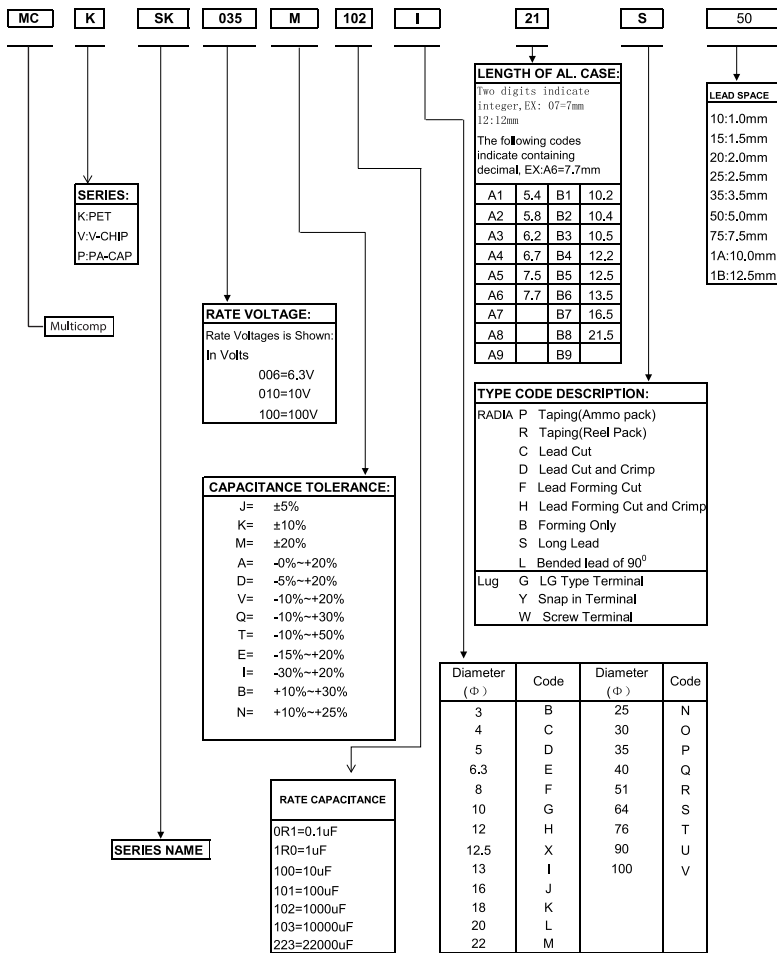
Cap (µF)	WV(V) (Code)	6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)		63 (1J)	
	Item	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.
220	6.3×12	159	6.3×12	193	6.3×12	215	8×12	264	10×13	302	10×16	330	10×20	396	
330	6.3×12	212	6.3×12	225	8×12	292	8×12	335	10×16	440	10×20	467	13×21	605	
470	6.3×12	242	8×12	247	8×12	346	8×14	396	10×20	528	10×20	693	13×25	770	
							10×13	418							
560	8×12	247	8×12	253	8×14	352	10×16	407	10×20	572	13×21	704	13×25	792	
680	8×12	253	8×12	264	8×14	385	10×20	528	10×20	638	13×25	726	16×26	913	
1000	8×14	440	8×12	484	10×20	561	10×17	550	13×21	908	13×25	990	16×32	1100	
1200	8×14	460	10×17	510	10×20	550	-	-	-	-	-	-	-	-	
1500	8×20	495	10×20	539	10×20	583	13×21	715	13×25	946	16×32	1320	18×32	1562	
2200	10×20	704	10×20	759	10×28	913	13×26	1029	16×26	1221	16×36	1463	18×35	1815	
3300	10×20	825	13×21	902	13×25	1111	16×26	1298	16×36	1573	18×35	1815	22×40	2134	
4700	13×26	1056	13×25	1188	16×26	1331	16×32	1562	18×35	1870	22×40	2310	22×50	2695	
6800	16×26	1259	16×26	1463	16×36	1694	18×35	2002	22×40	2365	22×50	2750	-	-	
10000	16×26	1573	16×36	1848	18×35	2123	22×40	2354	22×50	2915	-	-	-	-	
15000	16×36	2013	18×35	2321	22×40	2662	22×50	3025	-	-	-	-	-	-	
22000	18×40	2519	22×40	2904	22×50	3300	-	-	-	-	-	-	-	-	

Cap (µF)	WV(V) (Code)	100 (2A)		160 (2C)		200 (2D)		250 (2E)		350 (2V)		400 (2G)		450 (2W)	
	Item	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.	D×L	R.C.
0.1	5×11	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-
0.22	5×11	3.7	-	-	-	-	-	-	-	-	-	-	-	-	-
0.33	5×11	5.5	-	-	-	-	-	-	-	-	-	-	-	-	-
0.47	5×11	12	6.3×12	11	6.3×12	11	6.3×12	13	8×12	12	8×12	13	10×13	13	
1.0	5×11	18	6.3×12	15	6.3×12	17	6.3×12	17	8×12	17	6.3×12	17	10×13	20	
2.2	5×11	27	6.3×12	24	8×12	25	8×12	31	8×12	27	8×12	33	10×20	35	
3.3	5×11	33	8×12	33	8×12	38	8×12	44	10×13	35	10×13	42	13×21	50	
4.7	5×11	40	6.3×12	44	8×12	46	10×13	55	10×13	42	8×12	55	10×20	44	
6.8	5×11	41	8×12	46	8×12	55	10×13	64	10×13	69	8×14	75	13×21	79	
10	6.3×12	68	10×13	55	8×12	66	10×16	77	10×20	88	10×16	88	13×25	86	
22	8×12	102	10×16	110	10×20	148	13×21	143	13×25	137	13×21	137	16×26	144	
33	8×12	121	10×20	132	13×21	159	13×21	165	16×26	160	13×25	187	16×32	192	
47	10×16	170	13×21	176	13×25	220	13×25	225	16×26	231	16×26	231	18×32	308	
680	10×16	216	22×40	204	13×25	230	16×26	247	16×32	236	16×32	236	18×35	462	
82	10×16	238	13×25	242	13×25	253	16×26	273	16×32	258	18×32	385	18×35	517	
100	10×20	286	16×26	330	16×26	291	16×32	357	18×32	298	18×35	440	18×36	550	
120	10×25	352	16×26	330	16×26	330	16×32	418	18×35	315	18×40	495	18×45	605	

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Cap (uF)	WV(V) (Code)	100 (2A)		160 (2C)		200 (2D)		250 (2E)		350 (2V)		400 (2G)		450 (2W)	
	Item	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.	DxL	R.C.
150		13x21	412	16x26	363	16x32	404	18x32	495	18x40	352	22x40	550	-	-
220		13x25	528	16x36	473	18x32	583	22x35	770	-	-	-	-	-	-
330		16x26	649	18x35	660	22x30	682	-	-	-	-	-	-	-	-
470		16x32	880	18x40	797	22x40	913	-	-	-	-	-	-	-	-
1000		18x35	1430	22x50	1083	25x50	1441	-	-	-	-	-	-	-	-
2200		18x40	1815	-	-	-	-	-	-	-	-	-	-	-	-

## Explanation of parts numbers



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