

Surface Mount Type

Series: **ZA** Type: **V**

High temperature Lead-Free reflow



Features

- Endurance: 10000 h at 105 °C
- Low ESR and High ripple current (70 % over, Lower ESR than Current V-FP)
- High voltage (to 80 V)
- Equivalent to conductive polymer type Aluminum Electrolytic Capacitor (There are little characteristics change by temperature and frequency)
- Vibration-proof product is available upon request. (φ8 mm and larger)
- AEC-Q200 qualified*
- RoHS directive compliant

Specifications

Category Temp. Range	-55 °C to +105 °C				
Rated Voltage Range	25 V.DC to 80 V.DC				
Nominal Cap.Range	10 μF to 330 μF				
Capacitance Tolerance	±20 % (120 Hz/+20 °C)				
DC Leakage Current	I ≤ 0.01 CV or 3 (μA) After 2 minutes (whichever is greater)				
tan δ	Please see the attached Standard Products list				
Endurance	The capacitor shall be subjected to application of the D.C. voltage with full rated ripple current at +105 °C for 10000 hours. After stabilizing at room temperature(+15 to 35 °C), the capacitor shall not exceed the specified limits. (The sum of DC voltage and ripple peak voltage shall not exceed the rated voltage.)				
	Capacitance change	±30 % of initial measured value			
	tan δ	≤ 200 % of initial specified value			
	E. S. R.	≤ 200 % of initial specified value			
	DC leakage current	≤ initial specified value			
ESR after Endurance (Ω/100 kHz) (-40 °C)	Size Code				
	C	D	D8	F	G
	2.0	1.4	0.8	0.4	0.3
Shelf Life	After storage for 1000 hours at +105 °C±2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance. (With voltage treatment)				
Damp Heat (Load)	After applying rated working voltage for 2000 hours at +85 °C±2 °C / 85% to 90%RH and then being stabilized at +20 °C, Capacitors shall meet the following limits.				
	Capacitance change	±30 % of initial measured value			
	tan δ	≤ 200 % of initial specified value			
	E. S. R.	≤ 200 % of initial specified value			
	DC leakage current	≤ initial specified value			
Resistance to Soldering Heat	After reflow soldering and then being stabilized at +20 °C, capacitors shall meet the following limits.				
	Capacitance change	±10 % of initial measured value			
	tan δ	≤ initial specified value			
	DC leakage current	≤ initial specified value			

Marking

Example: 25 V 33 μF Marking color : BLACK

33
E ZA

Rated Voltage Mark

E	25 V	J	63 V
V	35 V	K	80 V
H	50 V		

Dimensions in mm (not to scale)

(Unit : mm)

Size code	D	L	A, B	H	I	W	P	K
C	5.0	5.8±0.3	5.3	6.5 max.	2.2	0.65±0.1	1.5	0.35 ^{+0.15} _{-0.20}
D	6.3	5.8±0.3	6.6	7.8 max.	2.6	0.65±0.1	1.8	0.35 ^{+0.15} _{-0.20}
D8	6.3	7.7±0.3	6.6	7.8 max.	2.6	0.65±0.1	1.8	0.35 ^{+0.15} _{-0.20}
F	8.0	10.2±0.3	8.3	10.0 max.	3.4	0.90±0.2	3.1	0.70±0.2
G	10.0	10.2±0.3	10.3	12.0 max.	3.5	0.90±0.2	4.6	0.70±0.2

* This product qualify for AEC-Q200, but it has some deviations.

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

■ Standard Products

Endurance : 105 °C 10000 h

R.V. (V)	Cap. (±20 %) (μF)	Case size			Specification			Part No. (RoHS:compliant)	Reflow	Min. Packaging Q'ty
		Dia. (mm)	Length (mm)	Size Code	Ripple Current (100 kHz) (+105 °C) (mA r.m.s.)	E.S.R. (100 kHz) (+20 °C) (mΩ)	tan δ (120 Hz) (+20 °C)			Taping (pcs)
25	33	5	5.8	C	900	80	0.14	EEHZA1E330R	(5)	1000
	56	6.3	5.8	D	1300	50	0.14	EEHZA1E560P	(5)	1000
	100	6.3	7.7	D8	2000	30	0.14	EEHZA1E101XP	(5)	900
	220	8	10.2	F	2300	27	0.14	EEHZA1E221P	(6)	500
	330	10	10.2	G	2500	20	0.14	EEHZA1E331P	(6)	500
35	22	5	5.8	C	900	100	0.12	EEHZA1V220R	(5)	1000
	27	6.3	5.8	D	1300	60	0.12	EEHZA1V270P	(5)	1000
	47	6.3	5.8	D	1300	60	0.12	EEHZA1V470P	(5)	1000
	68	6.3	7.7	D8	2000	35	0.12	EEHZA1V680XP	(5)	900
	150	8	10.2	F	2300	27	0.12	EEHZA1V151P	(6)	500
	270	10	10.2	G	2500	20	0.12	EEHZA1V271P	(6)	500
50	10	5	5.8	C	750	120	0.10	EEHZA1H100R	(5)	1000
	22	6.3	5.8	D	1100	80	0.10	EEHZA1H220P	(5)	1000
	33	6.3	7.7	D8	1600	40	0.10	EEHZA1H330XP	(5)	900
	68	8	10.2	F	1800	30	0.10	EEHZA1H680P	(6)	500
	100	10	10.2	G	2000	28	0.10	EEHZA1H101P	(6)	500
63	10	6.3	5.8	D	1000	120	0.08	EEHZA1J100P	(5)	1000
	22	6.3	7.7	D8	1500	80	0.08	EEHZA1J220XP	(5)	900
	33	8	10.2	F	1700	40	0.08	EEHZA1J330P	(6)	500
	56	10	10.2	G	1800	30	0.08	EEHZA1J560P	(6)	500
80	22	8	10.2	F	1550	45	0.08	EEHZA1K220P	(6)	500
	33	10	10.2	G	1700	36	0.08	EEHZA1K330P	(6)	500

- Please refer to the page of "Reflow Profile" and "The Taping Dimensions".
- When requesting vibration-proof product, please put the last "V" instead to "P".

■ Frequency correction factor for ripple current

Capacitance (μF)	Frequency (kHz)	0.1	0.12	0.2	0.3	0.5	1	2	3	5	10	15	20	30	40	50	100	300	500	1000
C < 47	Correction factor	0.10	0.10	0.10	0.15	0.20	0.30	0.40	0.45	0.50	0.60	0.65	0.70	0.75	0.80	0.85	1.00	1.00	1.05	1.05
		0.15	0.15	0.20	0.25	0.30	0.40	0.45	0.55	0.60	0.70	0.75	0.80	0.80	0.85	0.90	1.00	1.00	1.00	1.00
		0.15	0.15	0.25	0.25	0.30	0.45	0.50	0.60	0.65	0.75	0.80	0.85	0.85	0.85	0.90	1.00	1.00	1.00	1.00