

Surface Mount Type

Series: **ZC** Type: **V**

High temperature Lead-Free reflow



■ Features

- Endurance: 4000 h at 125 °C
(The longest endurance in the industry by each case size)
- Low ESR and High ripple current (85% over, Lower ESR than Current V-TP)
- High-withstand voltage (25 V to 63 V), Low LC(0.01 CV or 3 μA)
- Equivalent to conductive polymer type Aluminum Electrolytic Capacitor
(There are little characteristics change by temperature and frequency)
- RoHS directive compliant

■ Specifications

Category Temp. Range	-55 °C to +125 °C																			
Rated W.V.Range	25 V.DC to 63 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 +125 °C for 4000 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)	<table><tr><th colspan="5">Size Code</th></tr><tr><td>C</td><td>D</td><td>D8</td><td>F</td><td>G</td></tr><tr><td>2.0</td><td>1.4</td><td>0.8</td><td>0.4</td><td>0.3</td></tr></table>				Size Code					C	D	D8	F	G	2.0	1.4	0.8	0.4	0.3
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C	D	D8	F	G																
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Shelf Life	After storage for 1000 hours at +125 °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)																			
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																		

■ Frequency correction factor for ripple current

	Frequency (Hz)			
	120	1 k	10 k	100 k to
Correction factor	0.10	0.30	0.60	1.00

■ Marking

Example: 25 V 33 μF Marking color : BLACK

Rated Voltage Mark	
E	25 V
V	35 V
H	50 V
J	63 V

■ Dimensions in mm (not to scale)

() Reference size (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

■ Standard Products

Endurance : 125 °C 4000 h

W.V.	Cap. (±20 %)	Case size			Specification			Part No. (RoHS:compliant)	Reflow	Min. Packaging Q'ty
		Dia.	Length	Size Code	Ripple Current (100 kHz) (+125 °C) (mA r.m.s.)	E.S.R. (100 kHz) (+20 °C) (mΩ)	tan δ (120 Hz) (+20 °C)			Taping
(V)	(μF)	(mm)	(mm)							(pcs)
25	33	5	5.8	C	550	80	0.14	EEHZA1E330R	(5)	1000
	56	6.3	5.8	D	900	50	0.14	EEHZA1E560P	(5)	1000
	100	6.3	7.7	D8	1400	30	0.14	EEHZA1E101XP	(5)	900
	220	8	10.2	F	1600	27	0.14	EEHZA1E221P	(6)	500
	330	10	10.2	G	2000	20	0.14	EEHZA1E331P	(6)	500
35	22	5	5.8	C	550	100	0.12	EEHZA1V220R	(5)	1000
	47	6.3	5.8	D	900	60	0.12	EEHZA1V470P	(5)	1000
	68	6.3	7.7	D8	1400	35	0.12	EEHZA1V680XP	(5)	900
	150	8	10.2	F	1600	27	0.12	EEHZA1V151P	(6)	500
	270	10	10.2	G	2000	20	0.12	EEHZA1V271P	(6)	500
50	10	5	5.8	C	500	120	0.10	EEHZA1H100R	(5)	1000
	22	6.3	5.8	D	750	80	0.10	EEHZA1H220P	(5)	1000
	33	6.3	7.7	D8	1100	40	0.10	EEHZA1H330XP	(5)	900
	68	8	10.2	F	1250	30	0.10	EEHZA1H680P	(6)	500
	100	10	10.2	G	1600	28	0.10	EEHZA1H101P	(6)	500
63	10	6.3	5.8	D	700	120	0.08	EEHZA1J100P	(5)	1000
	22	6.3	7.7	D8	900	80	0.08	EEHZA1J220XP	(5)	900
	33	8	10.2	F	1100	40	0.08	EEHZA1J330P	(6)	500
	56	10	10.2	G	1400	30	0.08	EEHZA1J560P	(6)	500

The taping dimensions are explained on EE188 of our Catalog. Please use it as a reference guide.
 Reflow Profile(Fig-5, Fig-6) listed on EE186 of our Catalog.