

Surface Mount Type

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

High temperature lead-free reflow

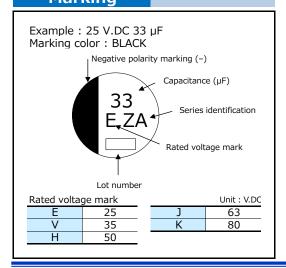


Features

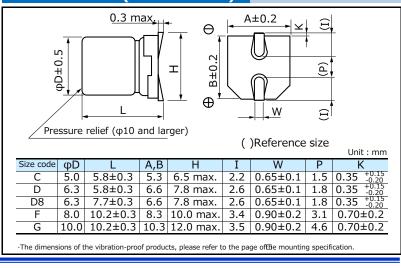
- Endurance: 10000 h at 105 °C
- Low ESR and high ripple current (70 % over, Lower ESR than current V-FP)
- High voltage (to 80 V.DC)
- Equivalent to conductive polymer type aluminum electrolytic capacitor (There are little characteristics change by temperature and frequency)
- Vibration-proof product is available upon request. New lineup of ϕ 6.3 product. (ϕ 6.3, ϕ 8, ϕ 10)
- AEC-Q200 compliant
- RoHS compliant

Specifications										
Size code	С	D	D8		F	(G			
Category temp. range	−55 °C to +105 °C									
Rated voltage range	25 V.DC to 50 V.DC									
Nominal cap.range	10 μF to 33 μF	10 μF to 56 μF	00 μF 22	2 μF to 220 μ	F 33 µF to	330 μF				
Capacitance tolerance	±20 % (120 Hz / +20 ℃)									
DC leakage current	$I \le 0.01$ CV or 3 (μ A) After 2 minutes (whichever is greater)									
Dissipation factor (tan δ)										
Endurance	± 105 °C ± 2 °C, 10000 h, apply the rated ripple current without exceeding the rated voltage									
	Capacitance change Within ±30% of the initial value									
	Dissipation factor (tan δ) \leq 200 % of the initial limit									
	ESR		≤ 200 % of the initial limit							
	DC leakage current Within the initial limit									
	ESR after Enduran	ce	Size code							
	(Ω / 100 kHz)(-40 °	C C	D	D8	F	G				
		2.0	1.4	0.8	0.4	0.3	<u> </u>			
CI IC 1:C-	After storage for 1000 hours at +105 °C \pm 2 °C with no voltage applied and then being									
Shelf life	stabilized at +20 °C, capacitors shall meet the limits specified in endurance.									
	(With voltage treatment)									
Damp heat (Load)	+85 °C ± 2 °C, 85 % to 90 %, 2000 h, rated voltage applied Capacitance change Within ±30% of the initial value									
	Capacitance change Within $\pm 30\%$ of the initial value Dissipation factor (tan δ) $\leq 200\%$ of the initial limit									
	ESR $\leq 200 \%$ of the initial limit									
	DC leakage current Within the initial limit									
Resistance to soldering heat	After reflow soldering and then being stabilized at +20 °C, capacitors shall meet the									
	following limits.									
	Capacitance change Within ±10% of the initial value									
	Dissipation factor (tan δ) Within the initial limit									
	DC leakage current Within the initial limit									

Marking



Dimensions (not to scale)





Characteristics list

Endurance : 105 ℃ 10000 h

Rated voltage (V.DC)	Capaci- tance (±20 %) (µF)	Case size (mm)			Specification			Part n	Min.packaging q'ty	
		φD	L	Size code	Ripple current *1 (mA r.m.s.)	ESR ^{*2} (mΩ)	tan δ ^{*3}	Standard Product	Vibration-proof product	Taping (pcs)
25	33	5.0	5.8	С	900	80	0.14	EEHZA1E330R	-	1000
	56	6.3	5.8	D	1300	50	0.14	EEHZA1E560P	EEHZA1E560V	1000
	100	6.3	7.7	D8	2000	30	0.14	EEHZA1E101XP	EEHZA1E101XV	900
	220	8.0	10.2	F	2300	27	0.14	EEHZA1E221P	EEHZA1E221V	500
	330	10.0	10.2	G	2500	20	0.14	EEHZA1E331P	EEHZA1E331V	500
35	22	5.0	5.8	С	900	100	0.12	EEHZA1V220R	-	1000
	27	6.3	5.8	D	1300	60	0.12	EEHZA1V270P	EEHZA1V270V	1000
	47	6.3	5.8	D	1300	60	0.12	EEHZA1V470P	EEHZA1V470V	1000
	68	6.3	7.7	D8	2000	35	0.12	EEHZA1V680XP	EEHZA1V680XV	900
	150	8.0	10.2	F	2300	27	0.12	EEHZA1V151P	EEHZA1V151V	500
	270	10.0	10.2	G	2500	20	0.12	EEHZA1V271P	EEHZA1V271V	500
	10	5.0	5.8	С	750	120	0.10	EEHZA1H100R	_	1000
	22	6.3	5.8	D	1100	80	0.10	EEHZA1H220P	EEHZA1H220V	1000
50	33	6.3	7.7	D8	1600	40	0.10	EEHZA1H330XP	EEHZA1H330XV	900
-	68	8.0	10.2	F	1800	30	0.10	EEHZA1H680P	EEHZA1H680V	500
	100	10.0	10.2	G	2000	28	0.10	EEHZA1H101P	EEHZA1H101V	500
63	10	6.3	5.8	D	1000	120	0.08	EEHZA1J100P	EEHZA1J100V	1000
	22	6.3	7.7	D8	1500	80	0.08	EEHZA1J220XP	EEHZA1J220XV	900
	33	8.0	10.2	F	1700	40	0.08	EEHZA1J330P	EEHZA1J330V	500
	56	10.0	10.2	G	1800	30	0.08	EEHZA1J560P	EEHZA1J560V	500
80	22	8.0	10.2	F	1550	45	0.08	EEHZA1K220P	EEHZA1K220V	500
	33	10.0	10.2	G	1700	36	0.08	EEHZA1K330P	EEHZA1K330V	500

^{*1:} Ripple current (100 kHz / +105 ℃)

[•] The dimensions of the vibration-proof products, please refer to the page of the mounting specification.

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Frequency correction factor for ripple current										
Rated capacitance (C)	Frequency (f)	100Hz ≤ f < 200Hz	200Hz ≤ f < 300Hz	300Hz ≤ f < 500Hz	500Hz ≤ f< 1kHz					
C < 47µF	Correction	0.10	0.10	0.15	0.20					
47μF ≤ C < 150μF		0.15	0.20	0.25	0.30					
150µF ≦ C	factor	0.15	0.25	0.25	0.30					
Rated capacitance (C)	Frequency (f)	$1kHz \le f < 2kHz$	$2kHz \le f < 3kHz$	$3kHz \le f < 5kHz$	$5kHz \le f < 10kHz$					
$C < 47\mu F$	Correction	0.30	0.40	0.45	0.50					
47μF ≤ C < 150μF		0.40	0.45	0.55	0.60					
150µF ≦ C	factor	0.45	0.50	0.60	0.65					
Rated capacitance (C)	Frequency (f)	$10kHz \le f < 15kHz$	$15kHz \le f < 20kHz$	$20kHz \le f < 30kHz$	$30kHz \le f < 40kHz$					
C < 47µF	Correction	0.60	0.65	0.70	0.75					
47μF ≤ C < 150μF		0.70	0.75	0.80	0.80					
150µF ≦ C	factor	0.75	0.80	0.85	0.85					
Rated capacitance (C)	Frequency (f)	$40kHz \le f < 50kHz$	$50kHz \le f < 100kHz$	$100kHz \le f < 500kHz$	500kHz ≦ f					
C < 47µF	Correction	0.80	0.85	1.00	1.05					
47μF ≦ C < 150μF		0.85	0.90	1.00	1.00					
150µF ≦ C	factor	0.85	0.90	1.00	1.00					

^{*2:} ESR (100 kHz / +20 °C) *3: $\tan \delta$ (120 Hz / +20 °C)

[·] Please refer to the page of "Reflow profile" and "The taping dimensions".