

Surface Mount Type

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

High temperature lead-free reflow

UPGRADE

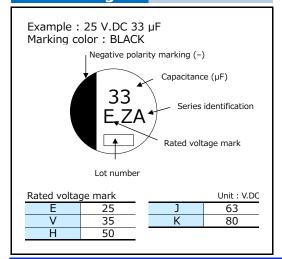


Features

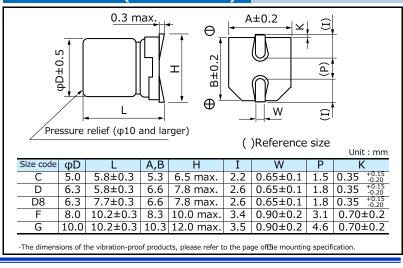
- Endurance: 10000 h at 105 °C
- Low ESR and high ripple current (70 % over, Lower ESR than current V-FP)
- High voltage (to 80 V.DC)
- Equivalent to conductive polymer type aluminum electrolytic capacitor (There are little characteristics change by temperature and frequency)
- Vibration-proof product 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 ℃ to +105 ℃									
Rated voltage range	25 V.DC to 50 V.DC		25 V.DC to 63 V.DC				25 V.DC to 80 V.DC			
Nominal cap.range	10 μF to 33 μF		to 56 μF 22 μF to 100 μF							
Capacitance tolerance										
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)									
	ESR		≤ 200 % of the initial limit							
	DC leakage curr	Within the initial limit								
	ESR after Endurance $(\Omega / 100 \text{ kHz})(-40 ^{\circ}\text{C})$		Size code							
			С	D	D8		F	G		
		2.0	1.4	0.8		0.4	0.3	<u> </u>		
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)									
	+85 °C ± 2 °C, 85 % to 90 %, 2000 h, rated voltage applied Capacitance change Within ±30% of the initial value									
Damp heat (Load)	Capacitance change Within $\pm 30\%$ of the initial value Dissipation factor (tan δ) $\leq 200\%$ of the initial limit									
	ESR	≤ 200 % of the initial limit								
	DC leakage curr	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 ($\tan \delta$) Within the initial limit									
	DC leakage current Within the initial limit									

Marking



Dimensions (not to scale)





Characteristics list

Endurance: 105 °C 10000 h

	Capaci- tance (±20 %) (µF)	Case size (mm)				Specification			Part n	Min.packaging q'ty	
volt. (V.DC)		φD	Standard	Vibration -proof	Size code	Ripple current*1 (mA r.m.s.)	ESR ^{*2} (mΩ)	tan δ ^{*3}	Standard Product	Vibration-proof product	Taping (pcs)
NE	w 22	5.0	5.8	-	С	900	80	0.14	EEHZA1E220R	-	1000
25 NEW	33	5.0	5.8	-	С	900	80	0.14	EEHZA1E330R	-	1000
	,	6.3	5.8	6.1	D	1300	50	0.14	EEHZA1E470P	EEHZA1E470V	1000
	56	6.3	5.8	6.1	D	1300	50	0.14	EEHZA1E560P	EEHZA1E560V	1000
	w 68	6.3	7.7	8.0	D8	2000	30	0.14	EEHZA1E680XP	EEHZA1E680XV	900
	100	6.3	7.7	8.0	D8	2000	30	0.14	EEHZA1E101XP	EEHZA1E101XV	900
	100	8.0	10.2	10.5	F	2300	27	0.14	EEHZA1E151P	EEHZA1E151V	500
	220	8.0	10.2	10.5	F	2300	27	0.14	EEHZA1E221P	EEHZA1E221V	500
	330	10.0	10.2	10.5	G	2500	20	0.14	EEHZA1E331P	EEHZA1E331V	500
NEW NEW 35		5.0	5.8	-	С	900	100	0.12	EEHZA1V100R	-	1000
	22	5.0	5.8	-	С	900	100	0.12	EEHZA1V220R		1000
	27	6.3	5.8	6.1	D	1300	60	0.12	EEHZA1V270P	EEHZA1V270V	1000
		6.3	5.8	6.1	D	1300	60	0.12	EEHZA1V330P	EEHZA1V330V	1000
	47	6.3	5.8	6.1	D	1300	60	0.12	EEHZA1V470P	EEHZA1V470V	1000
	68	6.3	7.7	8.0	D8	2000	35	0.12	EEHZA1V680XP	EEHZA1V680XV	900
		8.0	10.2	10.5	F	2300	27	0.12	EEHZA1V101P	EEHZA1V101V	500
	150	8.0	10.2	10.5	F	2300	27	0.12	EEHZA1V151P	EEHZA1V151V	500
NE		10.0	10.2	10.5	G	2500	20	0.12	EEHZA1V221P	EEHZA1V221V	500
	270	10.0	10.2	10.5	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	6.1	D	1100	80	0.10	EEHZA1H220P	EEHZA1H220V	1000
50_	33	6.3	7.7	8.0	D8	1600	40	0.10	EEHZA1H330XP	EEHZA1H330XV	900
JU		8.0	10.2	10.5	F	1800	30	0.10	EEHZA1H470P	EEHZA1H470V	500
	68	8.0	10.2	10.5	F	1800	30	0.10	EEHZA1H680P	EEHZA1H680V	500
	100	10.0	10.2	10.5	G	2000	28	0.10	EEHZA1H101P	EEHZA1H101V	500
	10	6.3	5.8	6.1	D	1000	120	0.08	EEHZA1J100P	EEHZA1J100V	1000
	22	6.3	7.7	8.0	D8	1500	80	0.08	EEHZA1J220XP	EEHZA1J220XV	900
63 NEW	33	8.0	10.2	10.5	F	1700	40	0.08	EEHZA1J330P	EEHZA1J330V	500
		8.0	10.2	10.5	F	1700	40	0.08	EEHZA1J470P	EEHZA1J470V	500
	56	10.0	10.2	10.5	G	1800	30	0.08	EEHZA1J560P	EEHZA1J560V	500
		10.0	10.2	10.5	G	1800	30	0.08	EEHZA1J680P	EEHZA1J680V	500
NE		10.0	10.2	10.5	G	1800	30	0.08	EEHZA1J820P	EEHZA1J820V	500
80	22	8.0	10.2	10.5	F	1550	45	0.08	EEHZA1K220P	EEHZA1K220V	500
00	33	10.0	10.2	10.5	G	1700	36	0.08	EEHZA1K330P	EEHZA1K330V	500

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

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

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

^{*2:} ESR (100 kHz / +20 °C)

^{*3:} $\tan \delta (120 \text{ Hz} / +20 ^{\circ}\text{C})$

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



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