

Radial Lead type

ZF series A type



Features

- Endurance : 1000 h at 150 °C (High temperature)
- High temperature compared with ZC series
- High-withstand voltage (to 63 V.DC), 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)
- AEC-Q200 compliant
- RoHS compliant

Specifications

Size code	F		G
Category temp. range	-55 °C to +150 °C		
Rated voltage range	25 V.DC to 63 V.DC		
Nominal cap.range	33 μF to 150 μF		56 μF to 270 μF
Capacitance tolerance	±20 % (120 Hz / +20°C)		
DC leakage current	I ≤ 0.01 CV or 3 (μA) After 2 minutes (whichever is greater)		
Dissipation factor (tan δ)	Please see the attached characteristics list		
Endurance	+150 °C ± 2 °C, 1000 h, apply the rated ripple current without exceeding the rated voltage.		
	Capacitance change	Within ±30% of the initial value	
	Dissipation factor (tan δ)	≤ 200 % of the initial limit	
	ESR	≤ 200 % of the initial limit	
	DC leakage current	Within the initial limit	
ESR after endurance (Ω / 100 kHz)(-40 °C)	Size code		
	F	G	
	0.4	0.3	
Shelf life	After storage for 1000 hours at +150 °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)	+85 °C ± 2 °C, 85 % to 90 %, 2000 h, rated voltage applied		
	Capacitance change	Within ±30% of the initial value	
	Dissipation factor (tan δ)	≤ 200 % of the initial limit	
	ESR	≤ 200 % of the initial limit	
DC leakage current	Within the initial limit		

Marking

Example : 25 V.DC 270 μF
Marking color : BLACK

R. voltage code		Unit : V.DC	
E	25	H	50
V	35	J	63

Dimensions (not to scale)

Size code	φD	L	φd	F
F	8.0	9.5	0.6	3.5
G	10.0	9.5	0.6	5.0

Unit : mm

Characteristics list

Endurance : 150 °C 1000 h

Rated voltage (V.DC)	Capacitance (±20 %) (μF)	Case size (mm)		Size code	Specification			Part number	Min. packaging q'ty
		φD	L		Ripple current *1 (mA r.m.s.)	ESR *2 (mΩ)	tan δ *3		Long lead (pcs)
25	150	8.0	9.5	F	800	27	0.14	EEHAZF1E151	200
	270	10.0	9.5	G	1000	20	0.14	EEHAZF1E271	200
35	100	8.0	9.5	F	770	30	0.12	EEHAZF1V101	200
	150	10.0	9.5	G	950	23	0.12	EEHAZF1V151	200
50	56	8.0	9.5	F	700	35	0.10	EEHAZF1H560	200
	100	10.0	9.5	G	900	28	0.10	EEHAZF1H101	200
63	33	8.0	9.5	F	650	40	0.08	EEHAZF1J330	200
	56	10.0	9.5	G	840	30	0.08	EEHAZF1J560	200

*1: Ripple current (100 kHz / +150 °C)

*2: ESR (100 kHz / +20 °C)

*3: tan δ (120 Hz / +20 °C)

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 factor	0.10	0.10	0.15	0.20
47 μF ≤ C < 150 μF		0.15	0.20	0.25	0.30
150 μF ≤ C		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 factor	0.30	0.40	0.45	0.50
47 μF ≤ C < 150 μF		0.40	0.45	0.55	0.60
150 μF ≤ C		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
C < 47 μF	Correction factor	0.60	0.65	0.70	0.75
47 μF ≤ C < 150 μF		0.70	0.75	0.80	0.80
150 μF ≤ C		0.75	0.80	0.85	0.85

Rated capacitance (C)	Frequency (f)	40 kHz ≤ f < 50 kHz	50 kHz ≤ f < 100 kHz	100 kHz ≤ f < 500 kHz	500 kHz ≤ f
C < 47 μF	Correction factor	0.80	0.85	1.00	1.05
47 μF ≤ C < 150 μF		0.85	0.90	1.00	1.00
150 μF ≤ C		0.85	0.90	1.00	1.00

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