

# KZE Series

- Newly innovative electrolyte is employed to minimize impedance
- Endurance with ripple current: 2,000 to 5,000 hours at 105°C
- Non solvent resistant type
- RoHS2 Compliant



## SPECIFICATIONS

Items	Characteristics									
<b>Category</b>	-40 to +105°C									
<b>Temperature Range</b>	-40 to +105°C									
<b>Rated Voltage Range</b>	6.3 to 100V <sub>dc</sub>									
<b>Capacitance Tolerance</b>	±20% (M) (at 20°C, 120Hz)									
<b>Leakage Current</b>	I=0.01CV or 3μA, whichever is greater. Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 2 minutes)									
<b>Dissipation Factor (tan δ)</b>	Rated voltage (V <sub>dc</sub> )	6.3V	10V	16V	25V	35V	50V	63V	80V	100V
	tan δ (Max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.09	0.08
	When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20°C, 120Hz)									
<b>Low Temperature Characteristics (Max. Impedance Ratio)</b>	Z (-25°C) / Z (+20°C)	2max.								
	Z (-40°C) / Z (+20°C)	3max.								
<b>Endurance</b>	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for the specified period of time at 105°C.									
	Time	φ 5 & φ 6.3 : 2,000hours	φ 8 : 3,000hours	φ 10 : 4,000hours	φ 12.5 to φ 18 : 5,000hours					
	Capacitance change	≤ ±25% of the initial value								
	D.F. (tan δ)	≤ 200% of the initial specified value								
	Leakage current	≤ The initial specified value								
<b>Shelf Life</b>	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 500 hours at 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4.									
	Capacitance change	≤ ±25% of the initial value								
	D.F. (tan δ)	≤ 200% of the initial specified value								
	Leakage current	≤ The initial specified value								

## DIMENSIONS [mm]

- Terminal Code : E



φD	5	6.3	8	10, 12.5	16, 18
φd	0.5	0.5	0.6	0.6	0.8
F	2.0	2.5	3.5	5.0	7.5
φD'	φ D+0.5max.				
L'	L+1.5max.				

## PART NUMBERING SYSTEM



Please refer to "Product code guide (radial lead type)"



◆ STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	Impedance (Ω max./100kHz)		Rated ripple current (mA <sub>rms</sub> /105°C, 100kHz)	Part No.	WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	Impedance (Ω max./100kHz)		Rated ripple current (mA <sub>rms</sub> /105°C, 100kHz)	Part No.
			20°C	-10°C						20°C	-10°C		
80	820	16×35.5	0.029	0.086	2,000	EKZE800E□□821MLP1S	100	150	12.5×20	0.062	0.18	1,100	EKZE101E□□151MK20S
	820	18×31.5	0.030	0.090	1,900	EKZE800E□□821MMN3S		220	12.5×25	0.047	0.14	1,250	EKZE101E□□221MK25S
	1,000	16×40	0.027	0.081	2,200	EKZE800E□□102ML40S		220	16×20	0.048	0.15	1,350	EKZE101E□□221ML20S
	1,000	18×35.5	0.027	0.081	2,200	EKZE800E□□102MMP1S		270	12.5×30	0.042	0.13	1,500	EKZE101E□□271MK30S
	1,200	18×40	0.026	0.077	2,700	EKZE800E□□122MM40S		330	12.5×35	0.036	0.11	1,650	EKZE101E□□331MK35S
100	6.8	5×11	1.4	5.6	125	EKZE101E□□6R8ME11D		330	16×25	0.038	0.12	1,700	EKZE101E□□331ML25S
	15	6.3×11	0.57	2.3	205	EKZE101E□□150MF11D		330	18×20	0.045	0.14	1,500	EKZE101E□□331MM20S
	27	8×11.5	0.36	1.4	355	EKZE101E□□270MHB5D		390	12.5×40	0.032	0.095	1,800	EKZE101E□□391MK40S
	39	8×15	0.25	1.0	450	EKZE101E□□390MH15D		470	16×31.5	0.032	0.095	1,850	EKZE101E□□471MLN3S
	47	10×12.5	0.17	0.66	480	EKZE101E□□470MJC5S		470	18×25	0.036	0.11	1,750	EKZE101E□□471MM25S
	56	8×20	0.19	0.76	565	EKZE101E□□560MH20D		560	16×35.5	0.029	0.086	2,000	EKZE101E□□561MLP1S
	68	10×16	0.11	0.47	600	EKZE101E□□680MJ16S		560	18×31.5	0.030	0.090	1,900	EKZE101E□□561MMN3S
	82	10×20	0.084	0.34	800	EKZE101E□□820MJ20S		680	16×40	0.027	0.081	2,200	EKZE101E□□681ML40S
	100	12.5×16	0.11	0.34	750	EKZE101E□□101MK16S		680	18×35.5	0.027	0.081	2,200	EKZE101E□□681MMP1S
	120	10×25	0.069	0.28	900	EKZE101E□□121MJ25S		820	18×40	0.026	0.077	2,700	EKZE101E□□821MM40S

□ □ : Enter the appropriate lead forming or taping code.

◆ RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

Capacitance(μF)	Frequency(Hz)			
	120	1k	10k	100k
6.8 to 180	0.40	0.75	0.90	1.00
220 to 560	0.50	0.85	0.94	1.00
680 to 1,800	0.60	0.87	0.95	1.00
2,200 to 3,900	0.75	0.90	0.95	1.00
4,700 to	0.85	0.95	0.98	1.00

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.