

**KZN** Upgrade!  
Series

- Adoption of innovative high stability electrolyte
- High ripple current and long endurance
- Rated voltage range : 6.3 to 100V<sub>dc</sub>, Capacitance range : 8.2 to 22,000μF
- Endurance with ripple current : 6,000 to 10,000 hours at 105°C
- Non solvent resistant type
- RoHS2 Compliant

KZN

Higher ripple  
KZM



◆ SPECIFICATIONS

Items	Characteristics	
<b>Category 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	Case size φ 5& φ 6.3 φ 8×11.5L φ 10×12.5L φ 8×15L, 20L φ 10×16L, 20L, 25L φ 12.5 to φ 18
	6.3V <sub>dc</sub>	6,000 hours 8,000 hours 9,000 hours 9,000 hours 10,000 hours
	10 to 50V <sub>dc</sub>	7,000 hours 9,000 hours 9,000 hours 10,000 hours 10,000 hours
	63 to 100V <sub>dc</sub>	6,000 hours 8,000 hours 9,000 hours 9,000 hours 10,000 hours
	Capacitance change	≤ ±25% of the initial value (6.3, 10V <sub>dc</sub> : ≤ ±30%)
	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 (6.3, 10V <sub>dc</sub> : ≤ ±30%)
	D.F. (tan δ)	≤200% of the initial specified value
	Leakage current	≤The initial specified value

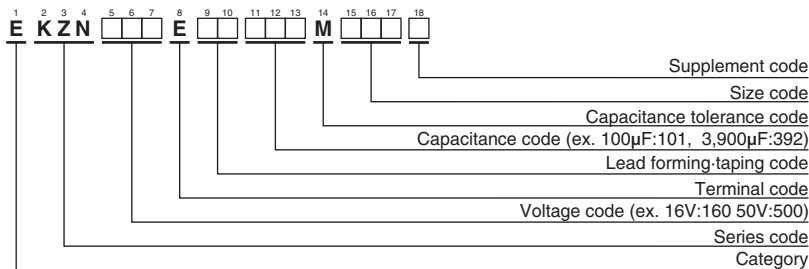
◆ DIMENSIONS [mm]

● Terminal Code : E



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

◆ PART NUMBERING SYSTEM



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







## ◆ RATED RIPPLE CURRENT MULTIPLIERS

### ● Frequency Multipliers

Capacitance(μF) \ Frequency(Hz)	120	1k	10k	100k
8.2 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 22,000	0.85	0.95	0.98	1.00

Note : 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.