

# KZH Series

- Newly innovative electrolyte is employed to minimize impedance
- Endurance with ripple current: 5,000 to 6,000 hours at 105°C
- Non solvent resistant type
- RoHS2 Compliant

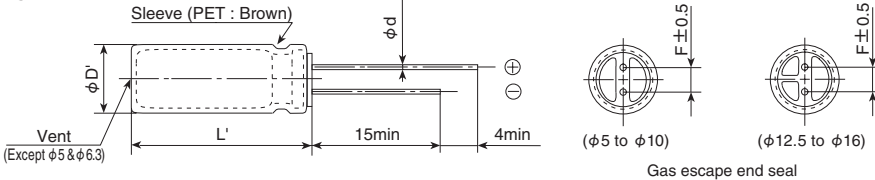


## SPECIFICATIONS

Items	Characteristics					
Category	-40 to +105°C					
Temperature Range	-40 to +105°C					
Rated Voltage Range	6.3 to 35V <sub>dc</sub>					
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)					
Leakage Current	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)					
Dissipation Factor (tan δ)	Rated voltage (V <sub>dc</sub> )	6.3V	10V	16V	25V	35V
	tan δ (Max.)	0.22	0.19	0.16	0.14	0.12
	When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20°C, 120Hz)					
Low Temperature Characteristics (Max. Impedance Ratio)	Z (-25°C) / Z (+20°C)	2max.				
	Z (-40°C) / Z (+20°C)	3max.				
Endurance	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 : 5,000hours φ 8 to φ 16 : 6,000hours				
	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				
Shelf Life	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				

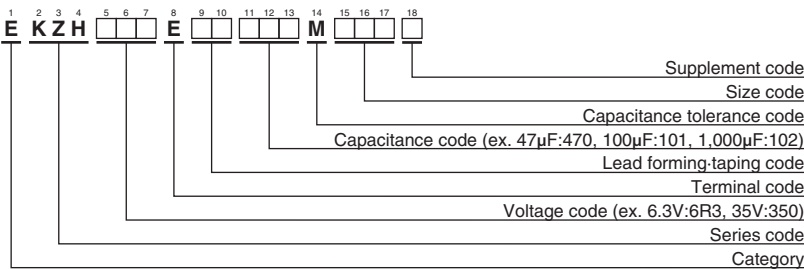
## DIMENSIONS [mm]

● Terminal Code : E



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

## PART NUMBERING SYSTEM



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



KZH Series

◆ 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		
6.3	220	5×11	0.24	0.80	330	EKZH6R3E□□221ME11D	16	1,800	10×25	0.018	0.054	2,250	EKZH160E□□182MJ25S
	470	6.3×11	0.11	0.35	500	EKZH6R3E□□471MF11D		2,200	12.5×20	0.017	0.043	2,480	EKZH160E□□222MK20S
	820	8×11.5	0.062	0.19	900	EKZH6R3E□□821MHB5D		2,700	12.5×25	0.015	0.038	2,900	EKZH160E□□272MK25S
	1,200	8×15	0.048	0.15	1,210	EKZH6R3E□□122MH15D		3,300	12.5×30	0.013	0.033	3,450	EKZH160E□□332MK30S
	1,200	10×12.5	0.045	0.14	1,240	EKZH6R3E□□122MJC5S		3,300	16×20	0.015	0.038	3,250	EKZH160E□□332ML20S
	1,500	8×20	0.033	0.11	1,410	EKZH6R3E□□152MH20D		3,900	12.5×35	0.012	0.031	3,570	EKZH160E□□392MK35S
	1,800	10×16	0.032	0.10	1,650	EKZH6R3E□□182MJ16S		4,700	16×25	0.013	0.035	3,630	EKZH160E□□472ML25S
	2,200	10×20	0.020	0.060	1,960	EKZH6R3E□□222MJ20S		68	5×11	0.24	0.80	330	EKZH250E□□680ME11D
	2,700	10×25	0.018	0.054	2,250	EKZH6R3E□□272MJ25S		150	6.3×11	0.11	0.35	500	EKZH250E□□151MF11D
	3,900	12.5×20	0.017	0.043	2,480	EKZH6R3E□□392MK20S		330	8×11.5	0.062	0.19	900	EKZH250E□□331MHB5D
	4,700	12.5×25	0.015	0.038	2,900	EKZH6R3E□□472MK25S		390	8×15	0.048	0.15	1,210	EKZH250E□□391MH15D
	5,600	12.5×30	0.013	0.033	3,450	EKZH6R3E□□562MK30S		470	10×12.5	0.045	0.14	1,240	EKZH250E□□471MJ25S
	6,800	12.5×35	0.012	0.031	3,570	EKZH6R3E□□682MK35S		560	8×20	0.033	0.11	1,410	EKZH250E□□561MH20D
	6,800	16×20	0.015	0.038	3,250	EKZH6R3E□□682ML20S		680	10×16	0.032	0.10	1,650	EKZH250E□□681MJ16S
8,200	16×25	0.013	0.035	3,630	EKZH6R3E□□822ML25S	820	10×20	0.020	0.060	1,960	EKZH250E□□821MJ20S		
10	150	5×11	0.24	0.80	330	EKZH100E□□151ME11D	1,000	10×25	0.018	0.054	2,250	EKZH250E□□102MJ25S	
	330	6.3×11	0.11	0.35	500	EKZH100E□□331MF11D	1,500	12.5×20	0.017	0.043	2,480	EKZH250E□□152MK20S	
	680	8×11.5	0.062	0.19	900	EKZH100E□□681MHB5D	1,800	12.5×25	0.015	0.038	2,900	EKZH250E□□182MK25S	
	1,000	8×15	0.048	0.15	1,210	EKZH100E□□102MH15D	2,200	12.5×30	0.013	0.033	3,450	EKZH250E□□222MK30S	
	1,000	10×12.5	0.045	0.14	1,240	EKZH100E□□102MJC5S	2,200	16×20	0.015	0.038	3,250	EKZH250E□□222ML20S	
	1,500	8×20	0.033	0.11	1,410	EKZH100E□□152MH20D	2,700	12.5×35	0.012	0.031	3,570	EKZH250E□□272MK35S	
	1,500	10×16	0.032	0.10	1,650	EKZH100E□□152MJ16S	3,300	16×25	0.013	0.035	3,630	EKZH250E□□332ML25S	
	1,800	10×20	0.020	0.060	1,960	EKZH100E□□182MJ20S	47	5×11	0.24	0.80	330	EKZH350E□□470ME11D	
	2,200	10×25	0.018	0.054	2,250	EKZH100E□□222MJ25S	100	6.3×11	0.11	0.35	500	EKZH350E□□101MF11D	
	3,300	12.5×20	0.017	0.043	2,480	EKZH100E□□332MK20S	220	8×11.5	0.062	0.19	900	EKZH350E□□221MHB5D	
	3,900	12.5×25	0.015	0.038	2,900	EKZH100E□□392MK25S	270	8×15	0.048	0.15	1,210	EKZH350E□□271MH15D	
	4,700	12.5×30	0.013	0.033	3,450	EKZH100E□□472MK30S	330	10×12.5	0.045	0.14	1,240	EKZH350E□□331MJC5S	
	4,700	16×20	0.015	0.038	3,250	EKZH100E□□472ML20S	390	8×20	0.033	0.11	1,410	EKZH350E□□391MH20D	
	5,600	12.5×35	0.012	0.031	3,570	EKZH100E□□562MK35S	470	10×16	0.032	0.10	1,650	EKZH350E□□471MJ16S	
6,800	16×25	0.013	0.035	3,630	EKZH100E□□682ML25S	560	10×20	0.020	0.060	1,960	EKZH350E□□561MJ20S		
16	100	5×11	0.24	0.80	330	EKZH160E□□101ME11D	680	10×25	0.018	0.054	2,250	EKZH350E□□681MJ25S	
	220	6.3×11	0.11	0.35	500	EKZH160E□□221MF11D	1,000	12.5×20	0.017	0.043	2,480	EKZH350E□□102MK20S	
	470	8×11.5	0.062	0.19	900	EKZH160E□□471MHB5D	1,200	12.5×25	0.015	0.038	2,900	EKZH350E□□122MK25S	
	680	8×15	0.048	0.15	1,210	EKZH160E□□681MH15D	1,500	12.5×30	0.013	0.033	3,450	EKZH350E□□152MK30S	
	680	10×12.5	0.045	0.14	1,240	EKZH160E□□681MJC5S	1,500	16×20	0.015	0.038	3,250	EKZH350E□□152ML20S	
	1,000	8×20	0.033	0.11	1,410	EKZH160E□□102MH20D	1,800	12.5×35	0.012	0.031	3,570	EKZH350E□□182MK35S	
	1,000	10×16	0.032	0.10	1,650	EKZH160E□□102MJ16S	2,200	16×25	0.013	0.035	3,630	EKZH350E□□222ML25S	
	1,500	10×20	0.020	0.060	1,960	EKZH160E□□152MJ20S							

□□ : Enter the appropriate lead forming or taping code.  
 Production of the products shown in [ ] is scheduled to be discontinued.

◆ RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

Capacitance(μF)	Frequency(Hz)			
	120	1k	10k	100k
0.47 to 150	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 8,200	0.85	0.95	0.98	1.00

The deterioration of aluminum electrolytic capacitors accelerates their life due to the internal heating produced by ripple current. For details, refer to Section "5-3 Ripple Current Effect on Lifetime" in the catalog, Technical Note.



- Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.
- Request the Product Specification on the product of NIPPON CHEMI-CON CORPORATION to refer to it as well as this brochure prior to the order of the products. Some specific notes on use of the ordered product may be described in the specifications.
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In addition, we have an established system with enhanced traceability, therefore we will limit the applicable lot items for any potential compensation.

[Part Numbering System](#)

[Part Numbering System \(Appendix\)](#)

[Standardization](#)

[Available Items by Manufacturing Locations](#)

[Environmental Measures](#)

[Technical Note](#)

[Precautions and Guidelines](#)

[Recommended Soldering Conditions](#)

[Taping, Lead-preforming and Packaging](#)

[Available Terminals for Snap-in and Screw Mount Type](#)

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