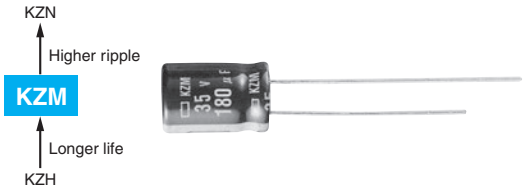
KZM Series



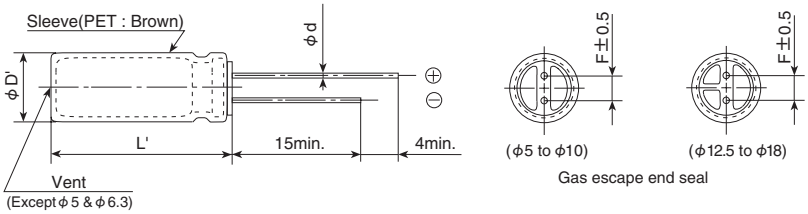
- Long-Life version of KZH series
- Endurance with ripple current : 6,000 to 10,000 hours at 105℃
- Newly innovative electrolyte is employed to minimize ESR
- Rated voltage range : 6.3 to 50Vdc, Nominal capacitance range : 27 to 10,000μF
- Non solvent resistant type
- RoHS2 Compliant

◆SPECIFICATIONS

Items	Characteristics						
Category Temperature Range	-40 to +105℃						
Rated Voltage Range	6.3 to 50Vdc						
Capacitance Tolerance	±20% (M) (at 20℃, 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℃ after 2 minutes)						
Dissipation Factor (tan δ)	Rated voltage (Vdc)	6.3V	10V	16V	25V	35V	50V
	tan δ (Max.)	0.22	0.19	0.16	0.14	0.12	0.10
	When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20℃, 120Hz)						
Low Temperature Characteristics (Max. Impedance Ratio)	Z (-25℃) / Z (+20℃)	2max.					
	Z (-40℃) / Z (+20℃)	3max.					
	(at 120Hz)						
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃ 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℃.						
	Time	φ5 & φ6.3 : 6,000hours φ8 : 8,000hours φ10 to φ18 : 10,000hours					
	Capacitance change	≦±25% of the initial value (6.3, 10Vdc : ≦± 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℃ after exposing them for 500 hours at 105℃ 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, 10Vdc : ≦±30%)					
	D.F. (tan δ)	≦200% of the initial specified value					
	Leakage current	≦The initial specified value					

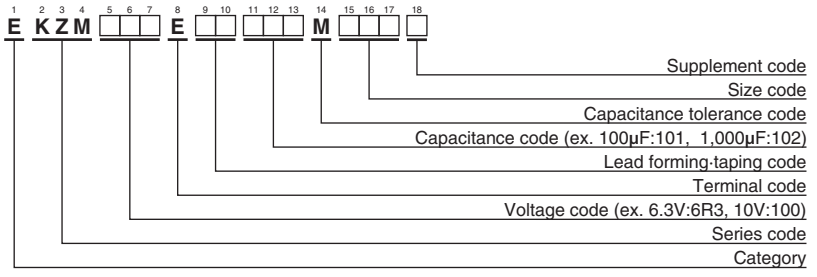
◆DIMENSIONS [mm]

●Terminal Code : E



φD	5	6.3	8	10	12.5	16	18
φd	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
φD'	φD+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
27 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 10,000	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.

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KZM Series

◆STANDARD RATINGS

WV (V_{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Impedance (Ω max./100kHz)		Rated ripple current (mArms/105℃, 100kHz)	Part No.
				20℃	-10℃		
6.3	220	5×11	0.22	0.22	0.80	345	EKZM6R3E□□221ME11D
	470	6.3×11	0.22	0.094	0.35	540	EKZM6R3E□□471MF11D
	820	8×11.5	0.22	0.056	0.19	945	EKZM6R3E□□821MHB5D
	1,200	8×15	0.22	0.045	0.15	1,250	EKZM6R3E□□122MH15D
	1,200	10×12.5	0.22	0.039	0.14	1,330	EKZM6R3E□□122MJC5S
	1,500	8×20	0.22	0.029	0.11	1,500	EKZM6R3E□□152MH20D
	1,800	10×16	0.22	0.028	0.10	1,760	EKZM6R3E□□182MJ16S
	2,200	10×20	0.24	0.020	0.060	1,960	EKZM6R3E□□222MJ20S
	2,700	10×25	0.24	0.018	0.054	2,250	EKZM6R3E□□272MJ25S
	3,900	12.5×20	0.26	0.017	0.043	2,480	EKZM6R3E□□392MK20S
	4,700	12.5×25	0.28	0.015	0.038	2,900	EKZM6R3E□□472MK25S
	5,600	12.5×30	0.30	0.013	0.033	3,450	EKZM6R3E□□562MK30S
	6,800	12.5×35	0.32	0.012	0.031	3,570	EKZM6R3E□□682MK35S
	6,800	16×20	0.32	0.015	0.038	3,250	EKZM6R3E□□682ML20S
	8,200	16×25	0.36	0.013	0.035	3,630	EKZM6R3E□□822ML25S
	10,000	18×25	0.40	0.012	0.031	3,650	EKZM6R3E□□103MM25S
10	150	5×11	0.19	0.22	0.80	345	EKZM100E□□151ME11D
	330	6.3×11	0.19	0.094	0.35	540	EKZM100E□□331MF11D
	680	8×11.5	0.19	0.056	0.19	945	EKZM100E□□681MHB5D
	1,000	8×15	0.19	0.045	0.15	1,250	EKZM100E□□102MH15D
	1,000	10×12.5	0.19	0.039	0.14	1,330	EKZM100E□□102MJC5S
	1,500	8×20	0.19	0.029	0.11	1,500	EKZM100E□□152MH20D
	1,500	10×16	0.19	0.028	0.10	1,760	EKZM100E□□152MJ16S
	1,800	10×20	0.19	0.020	0.060	1,960	EKZM100E□□182MJ20S
	2,200	10×25	0.21	0.018	0.054	2,250	EKZM100E□□222MJ25S
	3,300	12.5×20	0.23	0.017	0.043	2,480	EKZM100E□□332MK20S
	3,900	12.5×25	0.23	0.015	0.038	2,900	EKZM100E□□392MK25S
	4,700	12.5×30	0.25	0.013	0.033	3,450	EKZM100E□□472MK30S
	4,700	16×20	0.25	0.015	0.038	3,250	EKZM100E□□472ML20S
	5,600	12.5×35	0.27	0.012	0.031	3,570	EKZM100E□□562MK35S
	6,800	16×25	0.29	0.013	0.035	3,630	EKZM100E□□682ML25S
	8,200	18×25	0.33	0.012	0.031	3,650	EKZM100E□□822MM25S
16	100	5×11	0.16	0.22	0.80	345	EKZM160E□□101ME11D
	220	6.3×11	0.16	0.094	0.35	540	EKZM160E□□221MF11D
	470	8×11.5	0.16	0.056	0.19	945	EKZM160E□□471MHB5D
	680	8×15	0.16	0.045	0.15	1,250	EKZM160E□□681MH15D
	680	10×12.5	0.16	0.039	0.14	1,330	EKZM160E□□681MJC5S
	1,000	8×20	0.16	0.029	0.11	1,500	EKZM160E□□102MH20D
	1,000	10×16	0.16	0.028	0.10	1,760	EKZM160E□□102MJ16S
	1,500	10×20	0.16	0.020	0.060	1,960	EKZM160E□□152MJ20S
	1,800	10×25	0.16	0.018	0.054	2,250	EKZM160E□□182MJ25S
	2,200	12.5×20	0.18	0.017	0.043	2,480	EKZM160E□□222MK20S
	2,700	12.5×25	0.18	0.015	0.038	2,900	EKZM160E□□272MK25S
	3,300	12.5×30	0.20	0.013	0.033	3,450	EKZM160E□□332MK30S
	3,300	16×20	0.20	0.015	0.038	3,250	EKZM160E□□332ML20S
	3,900	12.5×35	0.20	0.012	0.031	3,570	EKZM160E□□392MK35S
	4,700	16×25	0.22	0.013	0.035	3,630	EKZM160E□□472ML25S
	5,600	18×25	0.24	0.012	0.031	3,650	EKZM160E□□562MM25S

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

◆STANDARD RATINGS

WV (V_{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Impedance (Ω max./100kHz)		Rated ripple current (mArms/105℃, 100kHz)	Part No.
				20℃	-10℃		
25	68	5×11	0.14	0.22	0.80	345	EKZM250E□□680ME11D
	150	6.3×11	0.14	0.094	0.35	540	EKZM250E□□151MF11D
	330	8×11.5	0.14	0.056	0.19	945	EKZM250E□□331MHB5D
	390	8×15	0.14	0.045	0.15	1,250	EKZM250E□□391MH15D
	470	10×12.5	0.14	0.039	0.14	1,330	EKZM250E□□471MJC5S
	560	8×20	0.14	0.029	0.11	1,500	EKZM250E□□561MH20D
	680	10×16	0.14	0.028	0.10	1,760	EKZM250E□□681MJ16S
	820	10×20	0.14	0.020	0.060	1,960	EKZM250E□□821MJ20S
	1,000	10×25	0.14	0.018	0.054	2,250	EKZM250E□□102MJ25S
	1,500	12.5×20	0.14	0.017	0.043	2,480	EKZM250E□□152MK20S
	1,800	12.5×25	0.14	0.015	0.038	2,900	EKZM250E□□182MK25S
	2,200	12.5×30	0.16	0.013	0.033	3,450	EKZM250E□□222MK30S
	2,200	16×20	0.16	0.015	0.038	3,250	EKZM250E□□222ML20S
	2,700	12.5×35	0.16	0.012	0.031	3,570	EKZM250E□□272MK35S
	3,300	16×25	0.18	0.013	0.035	3,630	EKZM250E□□332ML25S
	3,900	18×25	0.18	0.012	0.031	3,650	EKZM250E□□392MM25S
35	47	5×11	0.12	0.22	0.80	345	EKZM350E□□470ME11D
	100	6.3×11	0.12	0.094	0.35	540	EKZM350E□□101MF11D
	220	8×11.5	0.12	0.056	0.19	945	EKZM350E□□221MHB5D
	270	8×15	0.12	0.045	0.15	1,250	EKZM350E□□271MH15D
	330	10×12.5	0.12	0.039	0.14	1,330	EKZM350E□□331MJC5S
	390	8×20	0.12	0.029	0.11	1,500	EKZM350E□□391MH20D
	470	10×16	0.12	0.028	0.10	1,760	EKZM350E□□471MJ16S
	560	10×20	0.12	0.020	0.060	1,960	EKZM350E□□561MJ20S
	680	10×25	0.12	0.018	0.054	2,250	EKZM350E□□681MJ25S
	1,000	12.5×20	0.12	0.017	0.043	2,480	EKZM350E□□102MK20S
	1,200	12.5×25	0.12	0.015	0.038	2,900	EKZM350E□□122MK25S
	1,500	12.5×30	0.12	0.013	0.033	3,450	EKZM350E□□152MK30S
	1,500	16×20	0.12	0.015	0.038	3,250	EKZM350E□□152ML20S
	1,800	12.5×35	0.12	0.012	0.031	3,570	EKZM350E□□182MK35S
	2,200	16×25	0.14	0.013	0.035	3,630	EKZM350E□□222ML25S
	2,700	18×25	0.14	0.012	0.031	3,650	EKZM350E□□272MM25S
50	27	5×11	0.10	0.34	1.18	238	EKZM500E□□270ME11D
	56	6.3×11	0.10	0.14	0.50	385	EKZM500E□□560MF11D
	100	8×11.5	0.10	0.074	0.22	724	EKZM500E□□101MHB5D
	120	8×15	0.10	0.061	0.18	950	EKZM500E□□121MH15D
	150	10×12.5	0.10	0.061	0.18	979	EKZM500E□□151MJC5S
	180	8×20	0.10	0.046	0.14	1,190	EKZM500E□□181MH20D
	220	10×16	0.10	0.042	0.12	1,370	EKZM500E□□221MJ16S
	270	10×20	0.10	0.030	0.090	1,580	EKZM500E□□271MJ20S
	330	10×25	0.10	0.028	0.085	1,870	EKZM500E□□331MJ25S
	470	12.5×20	0.10	0.027	0.068	2,050	EKZM500E□□471MK20S
	560	12.5×25	0.10	0.023	0.059	2,410	EKZM500E□□561MK25S
	680	12.5×30	0.10	0.021	0.052	2,860	EKZM500E□□681MK30S
	820	12.5×35	0.10	0.019	0.051	2,960	EKZM500E□□821MK35S
	820	16×20	0.10	0.023	0.059	2,730	EKZM500E□□821ML20S
	1,000	16×25	0.10	0.021	0.056	3,010	EKZM500E□□102ML25S
	1,500	18×25	0.10	0.019	0.051	3,290	EKZM500E□□152MM25S

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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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