KZE Series

- Newly innovative electrolyte is employed to minimize impedance
- Endurance with ripple current: 1,000 to 5,000 hours at 105℃
- Non solvent resistant type
- RoHS Compliant

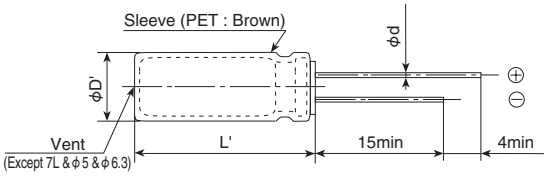
KZH P155
↑ Lower Z
KZE
↓ Lower Z
KY P166

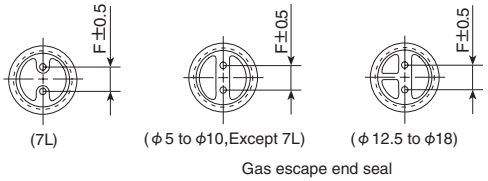
◆SPECIFICATIONS

Items	Characteristics									
Category Temperature Range	-40 to +105℃									
Rated Voltage Range	6.3 to 100V_{dc}									
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 (V_{dc})	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℃, 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	7L : 1,000hours φ5 & φ6.3 : 2,000hours φ8 : 3,000hours φ10 : 4,000hours φ12.5 to φ18 : 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								
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								
	D.F. (tan δ)	≦200% of the initial specified value								
	Leakage current	≦The initial specified value								

◆DIMENSIONS [mm]

●Terminal Code : E





Gas escape end seal

φD		5	6.3	8	10, 12.5	16, 18
φd	7L	0.45	0.45	0.45	—	—
	11L~	0.5	0.5	0.6	0.6	0.8
F		2.0	2.5	3.5	5.0	7.5
φD'		φD+0.5max.				
L'		L+1.5max.(7L : L+1.0max.)				

◆PART NUMBERING SYSTEM

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
E	K	Z	E				E						M				

Supplement code
Size code
Capacitance tolerance code
Capacitance code (ex. 6.8μF:6R8, 10μF:100, 1,000μF:102)
Lead forming·taping code
Terminal code
Voltage code (ex. 6.3V:6R3, 10V:100, 100V:101)
Series code
Category

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

KZE Series

◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	Impedance (Ω max./100kHz) 20℃	Impedance (Ω max./100kHz) -10℃	Rated ripple current (mArms/105℃, 100kHz)	Part No.
6.3	68	5×7	0.43	1.3	210	EKZE6R3E□□680ME07D
	150	5×11	0.30	1.0	250	EKZE6R3E□□151ME11D
	150	6.3×7	0.23	0.69	300	EKZE6R3E□□151MF07D
	220	8×7	0.15	0.45	380	EKZE6R3E□□221MH07D
	330	6.3×11	0.13	0.41	405	EKZE6R3E□□331MF11D
	560	8×11.5	0.072	0.22	760	EKZE6R3E□□561MHB5D
	820	8×15	0.056	0.17	995	EKZE6R3E□□821MH15D
	1,000	10×12.5	0.053	0.16	1,030	EKZE6R3E□□102MJC5S
	1,200	8×20	0.041	0.13	1,250	EKZE6R3E□□122MH20D
	1,200	10×16	0.038	0.12	1,430	EKZE6R3E□□122MJ16S
	1,500	10×20	0.023	0.069	1,820	EKZE6R3E□□152MJ20S
	2,200	10×25	0.022	0.066	2,150	EKZE6R3E□□222MJ25S
	3,300	12.5×20	0.021	0.053	2,360	EKZE6R3E□□332MK20S
	3,900	12.5×25	0.018	0.045	2,770	EKZE6R3E□□392MK25S
	4,700	12.5×30	0.016	0.041	3,290	EKZE6R3E□□472MK30S
	5,600	12.5×35	0.015	0.039	3,400	EKZE6R3E□□562MK35S
	5,600	16×20	0.018	0.045	3,140	EKZE6R3E□□562ML20S
	6,800	16×25	0.016	0.043	3,460	EKZE6R3E□□682ML25S
10	56	5×7	0.44	1.4	210	EKZE100E□□560ME07D
	100	5×11	0.30	1.0	250	EKZE100E□□101ME11D
	120	6.3×7	0.23	0.69	300	EKZE100E□□121MF07D
	180	8×7	0.15	0.45	380	EKZE100E□□181MH07D
	220	6.3×11	0.13	0.41	405	EKZE100E□□221MF11D
	470	8×11.5	0.072	0.22	760	EKZE100E□□471MHB5D
	680	8×15	0.056	0.17	995	EKZE100E□□681MH15D
	680	10×12.5	0.053	0.16	1,030	EKZE100E□□681MJC5S
	1,000	8×20	0.041	0.13	1,250	EKZE100E□□102MH20D
	1,000	10×16	0.038	0.12	1,430	EKZE100E□□102MJ16S
	1,200	10×20	0.023	0.069	1,820	EKZE100E□□122MJ20S
	1,500	10×25	0.022	0.066	2,150	EKZE100E□□152MJ25S
	2,200	12.5×20	0.021	0.053	2,360	EKZE100E□□222MK20S
	3,300	12.5×25	0.018	0.045	2,770	EKZE100E□□332MK25S
	3,900	12.5×30	0.016	0.041	3,290	EKZE100E□□392MK30S
	3,900	16×20	0.018	0.045	3,140	EKZE100E□□392ML20S
	4,700	12.5×35	0.015	0.039	3,400	EKZE100E□□472MK35S
	5,600	16×25	0.016	0.043	3,460	EKZE100E□□562ML25S
16	33	5×7	0.45	1.4	210	EKZE160E□□330ME07D
	56	5×11	0.30	1.0	250	EKZE160E□□560ME11D
	68	6.3×7	0.24	0.72	300	EKZE160E□□680MF07D
	120	6.3×11	0.13	0.41	405	EKZE160E□□121MF11D
	120	8×7	0.15	0.45	380	EKZE160E□□121MH07D
	330	8×11.5	0.072	0.22	760	EKZE160E□□331MHB5D
	470	8×15	0.056	0.17	995	EKZE160E□□471MH15D
	470	10×12.5	0.053	0.16	1,030	EKZE160E□□471MJC5S
	680	8×20	0.041	0.13	1,250	EKZE160E□□681MH20D
	680	10×16	0.038	0.12	1,430	EKZE160E□□681MJ16S
	1,000	10×20	0.023	0.069	1,820	EKZE160E□□102MJ20S
	1,200	10×25	0.022	0.066	2,150	EKZE160E□□122MJ25S
	1,500	12.5×20	0.021	0.053	2,360	EKZE160E□□152MK20S
	2,200	12.5×25	0.018	0.045	2,770	EKZE160E□□222MK25S
	2,700	12.5×30	0.016	0.041	3,290	EKZE160E□□272MK30S
	2,700	16×20	0.018	0.045	3,140	EKZE160E□□272ML20S
	3,300	12.5×35	0.015	0.039	3,400	EKZE160E□□332MK35S
	3,900	16×25	0.016	0.043	3,460	EKZE160E□□392ML25S
25	27	5×7	0.46	1.4	210	EKZE250E□□270ME07D
	47	5×11	0.30	1.0	250	EKZE250E□□470ME11D
	56	6.3×7	0.24	0.72	300	EKZE250E□□560MF07D
	100	6.3×11	0.13	0.41	405	EKZE250E□□101MF11D
	100	8×7	0.15	0.45	380	EKZE250E□□101MH07D
	220	8×11.5	0.072	0.22	760	EKZE250E□□221MHB5D
	330	8×15	0.056	0.17	995	EKZE250E□□331MH15D
	330	10×12.5	0.053	0.16	1,030	EKZE250E□□331MJC5S
	470	8×20	0.041	0.13	1,250	EKZE250E□□471MH20D
	470	10×16	0.038	0.12	1,430	EKZE250E□□471MJ16S
	680	10×20	0.023	0.069	1,820	EKZE250E□□681MJ20S
25	820	10×25	0.022	0.066	2,150	EKZE250E□□821MJ25S
	1,000	12.5×20	0.021	0.053	2,360	EKZE250E□□102MK20S
	1,500	12.5×25	0.018	0.045	2,770	EKZE250E□□152MK25S
	1,800	12.5×30	0.016	0.041	3,290	EKZE250E□□182MK30S
	1,800	16×20	0.018	0.045	3,140	EKZE250E□□182ML20S
	2,200	12.5×35	0.015	0.039	3,400	EKZE250E□□222MK35S
	2,700	16×25	0.016	0.043	3,460	EKZE250E□□272ML25S
35	18	5×7	0.47	1.5	210	EKZE350E□□180ME07D
	33	5×11	0.30	1.0	250	EKZE350E□□330ME11D
	39	6.3×7	0.25	0.75	300	EKZE350E□□390MF07D
	56	6.3×11	0.13	0.41	405	EKZE350E□□560MF11D
	56	8×7	0.16	0.48	380	EKZE350E□□560MH07D
	150	8×11.5	0.072	0.22	760	EKZE350E□□151MHB5D
	220	8×15	0.056	0.17	995	EKZE350E□□221MH15D
	220	10×12.5	0.053	0.16	1,030	EKZE350E□□221MJC5S
	270	8×20	0.041	0.13	1,250	EKZE350E□□271MH20D
	330	10×16	0.038	0.12	1,430	EKZE350E□□331MJ16S
	470	10×20	0.023	0.069	1,820	EKZE350E□□471MJ20S
	560	10×25	0.022	0.066	2,150	EKZE350E□□561MJ25S
	680	12.5×20	0.021	0.053	2,360	EKZE350E□□681MK20S
	1,000	12.5×25	0.018	0.045	2,770	EKZE350E□□102MK25S
	1,200	12.5×30	0.016	0.041	3,290	EKZE350E□□122MK30S
	1,200	16×20	0.018	0.045	3,140	EKZE350E□□122ML20S
	1,500	12.5×35	0.015	0.039	3,400	EKZE350E□□152MK35S
	1,800	16×25	0.016	0.043	3,460	EKZE350E□□182ML25S
50	10	5×7	0.50	1.5	210	EKZE500E□□100ME07D
	22	5×11	0.34	1.18	238	EKZE500E□□220ME11D
	22	6.3×7	0.26	0.78	300	EKZE500E□□220MF07D
	33	8×7	0.17	0.51	380	EKZE500E□□330MH07D
	56	6.3×11	0.14	0.50	385	EKZE500E□□560MF11D
	100	8×11.5	0.074	0.22	724	EKZE500E□□101MHB5D
	120	8×15	0.061	0.18	950	EKZE500E□□121MH15D
	150	10×12.5	0.061	0.18	979	EKZE500E□□151MJC5S
	180	8×20	0.046	0.14	1,190	EKZE500E□□181MH20D
	220	10×16	0.042	0.12	1,370	EKZE500E□□221MJ16S
	270	10×20	0.030	0.090	1,580	EKZE500E□□271MJ20S
	330	10×25	0.028	0.085	1,870	EKZE500E□□331MJ25S
	470	12.5×20	0.027	0.068	2,050	EKZE500E□□471MK20S
	560	12.5×25	0.023	0.059	2,410	EKZE500E□□561MK25S
	680	12.5×30	0.021	0.052	2,860	EKZE500E□□681MK30S
	820	12.5×35	0.019	0.051	2,960	EKZE500E□□821MK35S
	820	16×20	0.023	0.059	2,730	EKZE500E□□821ML20S
	1,000	16×25	0.021	0.056	3,010	EKZE500E□□102ML25S
63	15	5×11	0.88	3.5	165	EKZE630E□□150ME11D
	33	6.3×11	0.35	1.4	265	EKZE630E□□330MF11D
	56	8×11.5	0.22	0.88	500	EKZE630E□□560MHB5D
	82	8×15	0.16	0.64	665	EKZE630E□□820MH15D
	82	10×12.5	0.11	0.44	690	EKZE630E□□820MJC5S
	120	8×20	0.12	0.48	820	EKZE630E□□121MH20D
	120	10×16	0.076	0.31	950	EKZE630E□□121MJ16S
	180	10×20	0.056	0.23	1,150	EKZE630E□□181MJ20S
	180	12.5×16	0.072	0.29	1,150	EKZE630E□□181MK16S
	220	10×25	0.046	0.19	1,350	EKZE630E□□221MJ25S
	270	12.5×20	0.041	0.13	1,500	EKZE630E□□271MK20S
	390	12.5×25	0.031	0.093	1,900	EKZE630E□□391MK25S
	470	12.5×30	0.028	0.084	2,300	EKZE630E□□471MK30S
	470	16×20	0.032	0.096	2,000	EKZE630E□□471ML20S
	560	12.5×35	0.024	0.072	2,500	EKZE630E□□561MK35S
	680	12.5×40	0.021	0.063	2,800	EKZE630E□□681MK40S
	680	16×25	0.025	0.075	2,600	EKZE630E□□681ML25S
	680	18×20	0.030	0.090	2,500	EKZE630E□□681MM20S
	820	16×31.5	0.021	0.063	2,850	EKZE630E□□821MLN3S
	820	18×25	0.024	0.072	2,800	EKZE630E□□821MM25S
	1,000	16×35.5	0.019	0.057	2,900	EKZE630E□□102MLP1S
	1,200	16×40	0.018	0.054	3,400	EKZE630E□□122ML40S

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

KZE Series

◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	Impedance (Ω max./100kHz) 20℃	Impedance (Ω max./100kHz) -10℃	Rated ripple current (mArms/105℃, 100kHz)	Part No.
63	1,200	18×31.5	0.020	0.060	3,300	EKZE630E□□122MMN3S
	1,500	18×35.5	0.018	0.054	3,400	EKZE630E□□152MMP1S
	1,800	18×40	0.017	0.051	3,500	EKZE630E□□182MM40S
80	68	10×12.5	0.17	0.66	480	EKZE800E□□680MJC5S
	100	10×16	0.11	0.47	600	EKZE800E□□101MJ16S
	120	10×20	0.084	0.34	800	EKZE800E□□121MJ20S
	150	10×25	0.069	0.28	900	EKZE800E□□151MJ25S
	150	12.5×16	0.11	0.34	750	EKZE800E□□151MK16S
	220	12.5×20	0.062	0.18	1,100	EKZE800E□□221MK20S
	330	12.5×25	0.047	0.14	1,250	EKZE800E□□331MK25S
	330	16×20	0.048	0.15	1,350	EKZE800E□□331ML20S
	390	12.5×30	0.042	0.13	1,500	EKZE800E□□391MK30S
	470	12.5×35	0.036	0.11	1,650	EKZE800E□□471MK35S
	470	16×25	0.038	0.12	1,700	EKZE800E□□471ML25S
	470	18×20	0.045	0.14	1,500	EKZE800E□□471MM20S
	560	12.5×40	0.032	0.095	1,800	EKZE800E□□561MK40S
	680	16×31.5	0.032	0.095	1,850	EKZE800E□□681MLN3S
	680	18×25	0.036	0.11	1,750	EKZE800E□□681MM25S
	820	16×35.5	0.029	0.086	2,000	EKZE800E□□821MLP1S
	820	18×31.5	0.030	0.090	1,900	EKZE800E□□821MMN3S
	1,000	16×40	0.027	0.081	2,200	EKZE800E□□102ML40S
	1,000	18×35.5	0.027	0.081	2,200	EKZE800E□□102MMP1S
	1,200	18×40	0.026	0.077	2,700	EKZE800E□□122MM40S

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

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

◆RATED RIPPLE CURRENT MULTIPLIERS

◉Frequency Multipliers

7L

Capacitance(μF) \ Frequency(Hz)	120	1k	10k	100k
10 to 33	0.42	0.70	0.90	1.00
39 to 220	0.50	0.73	0.92	1.00

11L to 40L

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℃ rise. When long life performance is required in actual use, the rms ripple current has to be reduced.