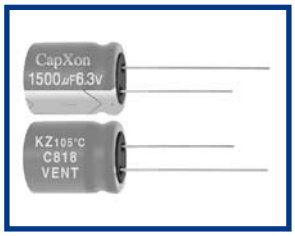
KZ Series Low Impedance



Features

- ◆ Used in communication equipments, switching power supply, industrial measuring instruments, etc.
- ◆ Load life 1000~2000hrs.
- ◆ Safety vent construction design.
- ◆ For detail specifications, please refer to Engineering Bulletin NO. E144
- ◆ RoHS Compliant

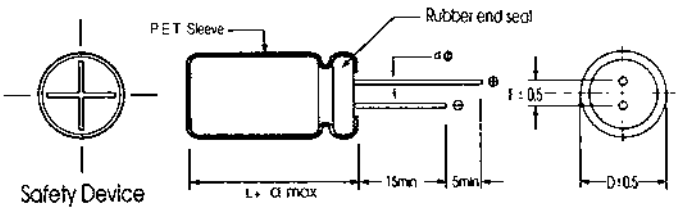
Specifications

Item	Performance Characteristics
Operating Temperature Range	-40 to +105℃
Rated Voltage Range	6.3 to 50 VDC
Capacitance Range	0.47 to 6800μF
Capacitance Tolerance	±20%(120Hz,+20℃)
Leakage Current (+20℃,max.)	I≦0.01 CV or 3 (μA) After 2 minutes whichever is greater measured with rated working voltage applied.
Dissipation Factor (tanδ，at 20℃，120Hz)	Working Voltage(VDC): 6.3, 10, 16, 25, 35, 50 D.F. (%)max.: 18, 16, 14, 12, 10, 9 For capacitance ＞1000 μF, add 2% per another 1000uF.
Low Temperature Characteristics (at 120Hz)	Impedance ratio max Working Voltage(VDC): 6.3, 10, 16, 25, 35, 50 Z-25℃／Z+20℃: 4, 3, 3, 3, 3, 3 Z-40℃／Z+20℃: 8, 6, 4, 3, 3, 3 For capacitance ＞1000 μF, add 0.5 per another 1000uF for -25℃ / +20℃ add 1 per another 1000uF for -40℃ / +20℃
Load Life	Test conditions Duration time : as right Ambient temperature : +105℃ Applied voltage : Rated DC working voltage After test requirement at +20℃ Capacitance change : ≦ ±20% of the initial measured value Dissipation factor : ≦ 200% of the initial specified value Leakage current : ≦ The initial specified value D φ / Life hours: 5 - 6.3 φ: 1000; ≧ 8 φ: 2000
Shelf Life	Test conditions Duration time : 1000Hrs Ambient temperature : +105℃ Applied voltage : None After test requirement at +20℃: Same limits as Load life. Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.

Multiplier for Ripple Current vs. Frequency

CAP(μF)＼Frequency(Hz)	50(60)	120	400	1K	10K	50K-100K
CAP≦10	0.47	0.59	0.76	0.85	0.97	1
10＜CAP≦100	0.52	0.62	0.80	0.89	0.97	1
100＜CAP≦1000	0.58	0.72	0.84	0.90	0.98	1
1000＜CAP	0.63	0.78	0.87	0.91	0.98	1

Diagram of Dimensions:(unit:mm)



Dφ	5	6.3	8		10	13	16	18
F	2.0	2.5	3.5		5.0	5.0	7.5	7.5
dφ	0.5		L＜20: 0.5	L≧20: 0.6	0.6		0.8	

α	D＜18	D＝18		D＞18
		L＜35.5	L≧35.5	
	1.5	1.5	2.0	2.0

Radial

Case Size

ϕ DxL(mm)

WV(SV) / Cap(μF)	6.3 (8)			10 (13)			16 (20)		
	Size	Ripple	Impedance	Size	Ripple	Impedance	Size	Ripple	Impedance
10							5x11	80	4
22	5x11	80	3	5x11	90	2.5	5x11	110	2.0
33	5x11	90	2.0	5x11	105	2.0	5x11	114	1.8
47	5x11	140	1.5	5x11	155	1.3	5x11	160	1.0
56	5x11	150	1.5	5x11	165	1.2	5x11	180	0.8
68	5x11	160	1.1	5x11	175	1.0	5x11	200	0.65
100	5x11	170	1.0	5x11	215	0.75	5x11	255	0.55
120	5x11	173	0.9	6.3x11	240	0.73	6.3x11	270	0.45
150	5x11	178	0.85	6.3x11	225	0.60	6.3x11	292	0.40
180	6.3x11	215	0.72	6.3x11	280	0.58	6.3x11	380	0.32
220	6.3x11	295	0.62	6.3x11	300	0.43	6.3x11	430	0.25
270	6.3x11	320	0.50	8x11.5	405	0.28	8x11.5	480	0.20
330	6.3x11	380	0.45	8x11.5	465	0.25	8x11.5	595	0.15
470	8x11.5	460	0.22	8x11.5	500	0.22	8x11.5	650	0.15
560	8x11.5	490	0.22	8x11.5	620	0.17	8x11.5	730	0.12
680	8x11.5	520	0.19	8x11.5	750	0.12	10x12.5	890	0.09
820	8x11.5	605	0.19	10x12.5	805	0.10	10x12.5	980	0.085
1000	8x11.5	680	0.18	10x12.5	1050	0.08	10x16	1180	0.07
1200	10x12.5	750	0.15	10x16	1150	0.065	10x20	1320	0.06
1500	10x12.5	820	0.14	10x16	1210	0.062	10x20	1450	0.056
1800	10x16	920	0.12	10x20	1280	0.06	10x20	1510	0.053
2200	10x20	1150	0.10	10x20	1520	0.05	13x20	1820	0.04
2700	10x20	1500	0.075	13x20	1580	0.048	13x20	2050	0.035
3300	10x20	1620	0.06	13x20	1700	0.043	13x25	2300	0.033
3900	13x25	1820	0.058	13x25	1860	0.040	16x25	2550	0.033
4700	13x25	1920	0.04	13x25	1950	0.038	16x25	2580	0.032
5600	13x30	2210	0.038	16x25	2290	0.033	16x31.5	2650	0.030
6800	16x25	2380	0.032	16x25	2480	0.028	16x31.5	2900	0.024

Ripple Current (mA, rms) at 105℃ 100KHz

Max Impedance (Ω) at 20℃ 100KHz

WV(SV) / Cap(μF)	25 (32)			35 (44)			50 (63)		
	Size	Ripple	Impedance	Size	Ripple	Impedance	Size	Ripple	Impedance
0.47							5x11	28	5.0
1							5x11	42	3.8
2.2							5x11	55	2.8
3.3							5x11	62	2.0
4.7	5x11	72	3.5	5x11	87	3.5	5x11	90	2.0
5.6	5x11	75	3.5	5x11	95	3.0	5x11	108	1.8
6.8	5x11	83	2.8	5x11	98	2.7	5x11	112	1.8
10	5x11	87	2.5	5x11	107	2.2	5x11	120	1.75
22	5x11	118	1.8	5x11	150	1.5	5x11	150	1.5
33	5x11	155	1.4	5x11	180	1.2	6.3x11	233	0.78
47	5x11	183	0.9	5x11	257	0.75	6.3x11	270	0.65
56	5x11	207	0.83	6.3x11	283	0.6	6.3x11	290	0.6
68	5x11	210	0.69	6.3x11	290	0.55	6.3x11	310	0.5
100	6.3x11	378	0.34	6.3x11	430	0.26	8x11.5	480	0.17
120	6.3x11	380	0.33	8x11.5	470	0.20	10x12.5	500	0.1638
150	8x11.5	390	0.325	8x11.5	510	0.2	10x12.5	560	0.16
180	8x11.5	430	0.25	8x11.5	570	0.18	10x12.5	580	0.14
220	8x11.5	550	0.15	8x11.5	620	0.13	10x16	640	0.09
270	8x11.5	620	0.15	10x12.5	850	0.12	10x16	905	0.08
330	8x11.5	710	0.13	8x16	1050	0.08	10x16	1050	0.07
470	8x11.5	980	0.078	10x16	1100	0.065	13x20	1450	0.05
	8x16	1050	0.07						
560	10x16	1080	0.065	13x20	1300	0.06	13x20	1510	0.05
680	10x16	1100	0.065	13x20	1570	0.056	13x20	1750	0.05
820	10x20	1350	0.05	13x20	1700	0.048	13x25	1980	0.04
1000	10x20	1580	0.045	13x20	1820	0.042	13x25	2000	0.04
1200	13x20	1720	0.04	13x25	2130	0.038	16x25	2200	0.038
1500	13x20	1780	0.04	13x25	2150	0.038	16x25	2300	0.038
1800	13x20	1980	0.035	13x25	2450	0.035	16x31.5	2610	0.036
2200	13x25	2000	0.033	16x25	2650	0.034	16x31.5	2900	0.033
2700	13x25	2250	0.032	16x31.5	2690	0.030	18x35.5	3000	0.028
3300	16x25	2580	0.027	16x35.5	2750	0.027	18x35.5	3050	0.026
4700	16x31.5	2850	0.025	18x35.5	2940	0.025			
5600	16x35.5	3000	0.025	18x35.5	3050	0.024			
6800	18x35.5	3550	0.025						

Ripple Current (mA, rms) at 105℃ 100KHz

Max Impedance (Ω) at 20℃ 100KHz