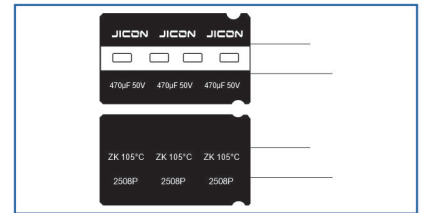


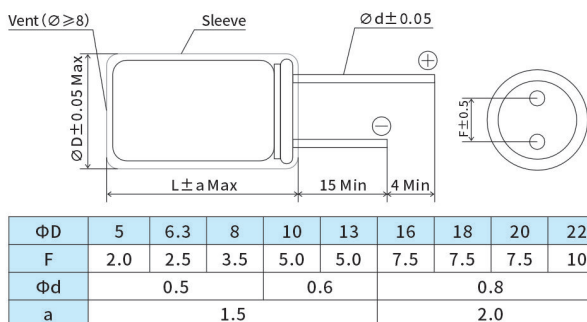
ZK 系列 SERIES

- 4000-7000h at 105°C
- Low impedance for high frequency
- Long life, High ripple current
- Switching power supplies
- RoHS Compliant



Items	Characteristics								
Operating Temperature Range(°C)	-40~+105								
Voltage Range (V)	6.3~100								
Capacitance Range (μF)	4.7~18000								
Capacitance Tolerance(20°C, 120Hz)	± 20%								
Leakage Current (μA)	6.3~100V								
	I ≤ 0.01CV or 3μA whichever is greater After 2 minute at 20°C application of rated voltage								
	I:Max. leakage current (μA) C:Nominal Capacitance (μF) V:Rated Voltage (V)								
Dissipation Factor (20°C, 120Hz)	Rated Voltage (V)	6.3	10	16	25	35	50	63	80~100
	Tanδ(max)	0.18	0.16	0.14	0.12	0.10	0.09	0.08	0.08
	For Capacitances > 1000μF add 0.02 to every 1000μF								
Low Temperature Characteristics (Max. Impedance Ratio at 120Hz)	Rated Voltage (V)	6.3	10~25	35~63	80~100				
	Z-40°C/Z+20°C	8	6	3	3				
Load Life	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 for the specified period of time at 105°C.								
	Capacitance change	≤ ± 20% of the initial value					Case Dia	Life time (h)	
	D.F.(Tanδ)	≤200% of specified value					φD≤6.3	4000	
	Leakage current	≤The initial specified value					φD=8	6000	
							φD>8	7000	
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied .								
	Capacitance change	≤ ± 20% of the initial value							
	D.F.(Tanδ)	≤200% of specified value							
	Leakage current	≤200% of specified value							

◆ Dimensions(mm)



◆ Frequency Coefficient

Frequency Cap(µF)	120HZ	1KHZ	10KHZ	100KHZ
≤ 180	0.40	0.75	0.90	1.00
220~560	0.50	0.83	0.93	1.00
680~1800	0.60	0.86	0.95	1.00
2200~3900	0.75	0.90	0.97	1.00
≥ 4700	0.85	0.95	0.98	1.00

◆ Temperature Coefficient

Temperature(°C)	+70	+85	+105
Coefficient	1.96	1.68	1.00

◆ Ratings for ZK Series

UR (Surge Voltage) Code (V)	Rated Capacitance (μF)	Max ESR 20°C 100kHz (Ω)	Rated Ripple Current 105°C100kHz (mA rms)	Size φD×L (mm)
6.3(8)0J	150	0.500	200	5×11
	220	0.380	265	6.3×12
	330	0.210	360	6.3×12
	470	0.180	410	6.3×15
	560	0.160	480	8×12
	680	0.120	660	8×12
	820	0.090	750	8×14
	1000	0.085	880	8×16
	1200	0.065	1100	8×16
	1500	0.050	1280	8×20
	1800	0.046	1360	10×16
	2200	0.043	1500	10×20
	2700	0.041	1750	10×20
	3300	0.039	1950	10×25
	3900	0.034	2300	13×16
	4700	0.029	2700	13×20
	5600	0.024	2930	13×25
	6800	0.021	3050	13×25
	8200	0.019	3520	13×30
	10000	0.018	3610	16×25
10(13)1A	100	0.560	230	5×11
	150	0.420	290	5×11
	220	0.210	360	6.3×12
	330	0.170	450	6.3×12
	470	0.120	680	6.3×15
	560	0.100	700	8×12
	680	0.085	870	8×14
	820	0.083	920	8×16
	1000	0.058	1260	8×20
	1200	0.048	1350	10×13
	1500	0.045	1480	10×16
	1800	0.043	1620	10×20
	2200	0.041	1780	10×25
	2700	0.038	2130	13×16
	3300	0.036	2350	13×20
	3900	0.032	2690	13×20
	4700	0.027	2920	13×25
	5600	0.021	3050	13×30
	6800	0.019	3550	16×25
	8200	0.018	3610	16×30
16(20)1C	82	0.480	250	5×11
	100	0.530	270	5×11
	150	0.350	320	6.3×12
	180	0.280	365	6.3×12
	220	0.180	450	6.3×12
	270	0.150	620	6.3×15
	330	0.120	700	8×12
	390	0.110	750	8×12
	470	0.100	860	8×14
	560	0.080	900	8×16
	680	0.065	1100	10×13
	820	0.056	1250	10×16
	1000	0.043	1450	10×16
	1200	0.041	1700	10×20
	1500	0.033	1950	10×25
	1800	0.031	2100	13×16
	2200	0.026	2300	13×20
	2700	0.023	2700	13×20
	3300	0.019	2950	13×25
	3900	0.018	3400	16×20
25(32)1E	4700	0.017	3550	16×25
	5600	0.016	3610	16×25
	6800	0.015	3880	16×30
	8200	0.014	4050	18×25
	10000	0.013	4200	18×30
	47	0.550	220	5×11
	56	0.460	240	5×11
	68	0.350	290	6.3×12
	82	0.280	320	6.3×12

UR (Surge Voltage) Code (V)	Rated Capacitance (μF)	Max ESR 20°C 100kHz (Ω)	Rated Ripple Current 105°C100kHz (mA rms)	Size φD×L (mm)
25 (32)1E	100	0.260	350	6.3×12
	120	0.230	380	6.3×12
	150	0.180	450	6.3×12
	180	0.160	620	6.3×15
	220	0.140	680	8×12
	270	0.130	800	8×14
	330	0.120	860	8×14
	390	0.100	1050	8×16
	470	0.088	1260	8×20
	560	0.075	1310	10×16
	680	0.063	1450	10×16
	820	0.048	1550	10×20
	1000	0.038	1820	10×25
	1200	0.035	2050	13×16
	1500	0.032	2260	13×20
	1800	0.029	2500	13×25
	2200	0.025	2920	13×25
	2700	0.019	3060	13×30
	3300	0.018	3450	16×25
	3900	0.017	3610	16×30
35(44)1V	4700	0.016	4080	18×25
	5600	0.015	4100	18×30
	6800	0.014	4200	18×35
	33	0.550	220	5×11
	39	0.500	240	5×11
	47	0.450	260	6.3×12
	56	0.350	290	6.3×12
	68	0.260	360	6.3×12
	82	0.220	400	6.3×12
	100	0.180	480	6.3×15
	120	0.170	550	8×12
	150	0.160	680	8×12
	180	0.140	750	8×14
	220	0.110	880	8×16
	270	0.100	1100	8×16
	330	0.095	1250	10×13
	390	0.090	1350	10×16
	470	0.080	1500	10×20
	560	0.060	1760	10×20
	680	0.058	1820	10×25
50 (63)1H	820	0.050	2050	13×16
	1000	0.036	2310	13×20
	1200	0.034	2710	13×25
	1500	0.033	2950	13×30
	1800	0.031	3400	16×25
	2200	0.027	3500	16×30
	2700	0.025	3650	16×35
	3300	0.024	4080	18×30
	3900	0.022	4280	18×35
	4.7	1.800	90	5×11
	10	1.500	100	5×11
	22	0.900	160	5×11
	33	0.600	250	6.3×12
	47	0.450	270	6.3×12
	56	0.380	310	6.3×12
	68	0.300	380	6.3×15
	82	0.260	450	8×12
	100	0.210	580	8×14
	150	0.200	730	8×16
	180	0.170	900	8×20
	220	0.140	1100	10×16
	270	0.120	1310	10×16
	330	0.110	1480	10×20
	390	0.100	1620	10×25
	470	0.098	1700	13×16
	560	0.085	1980	13×20
	680	0.068	2350	13×25
	820	0.053	2550	13×25
	1000	0.038	2620	13×30
	1200	0.036	3080	16×25
	1500	0.034	3180	16×30
	1800	0.032	3410	18×30
	2200	0.030	3680	18×35
	2700	0.028	3800	18×40

◆ Ratings for ZK Series

UR (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C100kHz	Rated Ripple Current 105°C100kHz	Size φD×L
(V)	(μF)	(Ω)	(mA rms)	(mm)
63(79)1J	15	2.000	155	5×11
	22	1.800	180	6.3×12
	33	0.900	265	6.3×12
	39	0.850	290	6.3×15
	47	0.750	350	8×12
	56	0.480	500	8×12
	68	0.450	550	8×14
	82	0.420	610	8×16
	100	0.400	660	8×20
	150	0.300	780	10×20
	220	0.150	880	10×25
	330	0.095	1380	10×30
	390	0.092	1520	13×20
	470	0.090	1650	13×25
	560	0.080	1780	13×25
	680	0.070	1950	13×30
	820	0.062	2350	16×25
	1000	0.046	2800	16×30
	1200	0.043	3250	18×30
80(100)1K	10	2.200	130	5×11
	15	1.800	170	6.3×12
	22	1.300	200	6.3×12
	33	0.900	300	6.3×15
	39	0.850	320	8×12
	47	0.700	350	8×14
	56	0.450	450	8×14
	68	0.380	500	8×16
	82	0.330	520	10×16
	100	0.280	580	10×16
	150	0.210	650	10×20
	220	0.140	850	10×25
	270	0.120	1020	13×20
	330	0.093	1180	13×25
	390	0.088	1310	13×25
	470	0.080	1410	13×30
	560	0.075	1520	16×25
	680	0.068	1660	16×30
	820	0.058	1820	16×35
100(125)2A	1000	0.043	2250	18×30
	1200	0.040	2760	18×35
	1500	0.033	2980	18×40
	4.7	4.000	90	5×11
	10	2.000	130	6.3×12
	22	1.000	220	8×12
	33	0.750	270	8×14
	39	0.650	320	8×16
	47	0.580	360	10×13
	56	0.530	430	10×16
	68	0.480	490	10×16
	82	0.420	550	10×20
	100	0.330	660	10×20
	150	0.280	750	10×25
	220	0.120	1050	13×25
	330	0.090	1260	13×30
	470	0.073	1710	16×30
	560	0.058	1980	16×35
	680	0.048	2120	18×30
	820	0.045	2250	18×35
	1000	0.041	2460	18×40