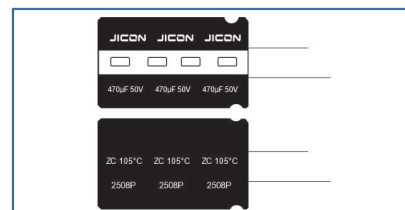


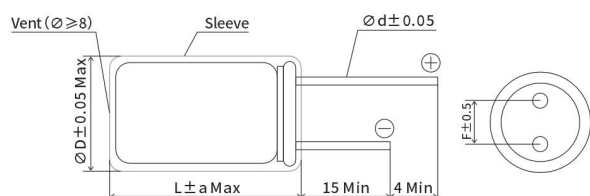
ZC 系列 SERIES

- 2000-3000h at 105°C
- Low impedance for high frequency
- Switching power supplies
- RoHS Compliant



Items	Characteristics								
Operating Temperature Range(°C)	-40~+105								
Voltage Range (V)	6.3~100								
Capacitance Range (μF)	0.47~18000								
Capacitance Tolerance(20°C, 120Hz)	±20%								
Leakage Current (μA)	6.3~100								
	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	2000	
	Leakage current	≤The initial specified value					φD>6.3	3000	
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)



ΦD	5	6.3	8	10	13	16	18	20	22
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5	7.5	10
Φd	0.5			0.6		0.8			
a	1.5					2.0			

◆ 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 ZC 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	100	0.650	155	5×11
	150	0.550	190	5×11
	220	0.400	255	6.3×12
	330	0.220	340	6.3×12
	470	0.190	400	6.3×15
	560	0.170	460	8×12
	680	0.130	640	8×12
	820	0.095	730	8×14
	1000	0.087	840	8×16
	1200	0.067	1050	8×16
	1500	0.052	1204	8×20
	1800	0.049	1318	10×16
	2200	0.045	1440	10×20
	2700	0.042	1700	10×20
	3300	0.040	1900	10×25
	3900	0.035	2230	13×16
	4700	0.030	2650	13×20
	5600	0.025	2880	13×25
	6800	0.022	2930	13×25
	8200	0.020	3450	13×30
10(13)1A	10000	0.018	3610	16×25
	12000	0.017	3800	16×30
	15000	0.016	4100	18×30
	18000	0.015	4220	18×35
	82	0.630	190	5×11
	100	0.580	210	5×11
	150	0.430	280	6.3×12
	220	0.220	340	6.3×12
	330	0.180	410	6.3×12
	470	0.130	640	6.3×15
	560	0.110	675	8×12
	680	0.087	840	8×14
	820	0.085	875	8×16
	1000	0.060	1210	8×20
	1200	0.050	1300	10×13
	1500	0.046	1440	10×16
	1800	0.044	1580	10×20
	2200	0.042	1750	10×25
	2700	0.040	1945	13×16
	3300	0.038	2230	13×20
16(20)1C	3900	0.033	2650	13×20
	4700	0.028	2880	13×25
	5600	0.022	2930	13×30
	6800	0.020	3450	16×25
	8200	0.018	3610	16×30
	10000	0.016	4080	18×25
	12000	0.015	4150	18×30
	47	0.580	175	5×11
	68	0.550	210	5×11
	82	0.500	230	5×11
	100	0.450	255	5×11
	150	0.380	312	6.3×12
	180	0.300	342	6.3×12
	220	0.200	405	6.3×12
	270	0.160	570	6.3×15
	330	0.130	640	8×12
	390	0.120	721	8×12
	470	0.110	840	8×14
	560	0.085	865	8×16
	680	0.069	1050	10×13
	820	0.058	1220	10×16
	1000	0.045	1400	10×16
	1200	0.042	1650	10×20
	1500	0.035	1900	10×25
	1800	0.032	2080	13×16
	2200	0.027	2230	13×20
	2700	0.024	2650	13×20
	3300	0.020	2880	13×25
	3900	0.018	3350	16×20
	4700	0.018	3450	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

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	47	0.580	210	5×11
	56	0.480	230	5×11
	68	0.360	280	6.3×12
	82	0.300	300	6.3×12
	100	0.270	340	6.3×12
	120	0.240	370	6.3×12
	150	0.200	405	6.3×12
	180	0.170	570	6.3×15
	220	0.150	640	8×12
	270	0.140	750	8×14
	330	0.130	840	8×14
	390	0.110	1010	8×16
	470	0.100	1210	8×20
	560	0.078	1220	10×16
	680	0.065	1400	10×16
	820	0.050	1450	10×20
	1000	0.040	1730	10×25
	1200	0.036	1936	13×16
	1500	0.033	2230	13×20
	1800	0.030	2430	13×25
35(44)1V	2200	0.026	2880	13×25
	2700	0.020	2930	13×30
	3300	0.018	3450	16×25
	3900	0.017	3610	16×30
	4700	0.016	4080	18×25
	5600	0.015	4100	18×30
	6800	0.014	4200	18×35
	33	0.580	210	5×11
	39	0.530	230	5×11
	47	0.480	250	6.3×12
	56	0.360	275	6.3×12
	68	0.280	350	6.3×12
	82	0.240	380	6.3×12
	100	0.200	405	6.3×15
	120	0.180	500	8×12
	150	0.170	640	8×12
	180	0.150	716	8×14
	220	0.120	840	8×16
	270	0.110	1050	8×16
	330	0.100	1210	10×13
50(63)1H	390	0.092	1300	10×16
	470	0.082	1400	10×20
	560	0.065	1650	10×20
	680	0.060	1910	10×25
	820	0.052	1938	13×16
	1000	0.038	2230	13×20
	1200	0.035	2650	13×25
	1500	0.034	2880	13×30
	1800	0.032	3350	16×25
	2200	0.028	3450	16×30
	2700	0.026	3610	16×35
	3300	0.024	4080	18×30
	3900	0.022	4280	18×35
	0.47	5.500	17	5×11
	1	4.000	30	5×11
	2.2	2.500	43	5×11
	3.3	2.200	53	5×11
	4.7	1.900	88	5×11
	6.8	1.700	91	5×11
	8.2	1.600	96	5×11
	10	1.500	100	5×11
	18	1.100	140	5×11
	22	0.900	155	5×11
	33	0.620	230	6.3×12
	47	0.450	260	6.3×12
	56	0.390	296	6.3×12
	68	0.310	360	6.3×15
	82	0.270	439	8×12
	100	0.220	560	8×14
	120	0.210	640	8×14
	150	0.200	730	8×16
	180	0.170	880	8×20
	220	0.150	1050	10×16
	270	0.130	1280	10×16

◆ Ratings for ZC 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)
50(63)1H	330	0.120	1450	10×20
	390	0.110	1550	10×25
	470	0.100	1660	13×16
	560	0.086	1950	13×20
	680	0.070	2320	13×25
	820	0.055	2510	13×25
	1000	0.040	2560	13×30
	1200	0.038	3050	16×25
	1500	0.035	3150	16×30
	1800	0.032	3410	18×30
	2200	0.030	3680	18×35
63(79)1J	2700	0.028	3800	18×40
	10	2.800	95	5×11
	12	2.500	120	5×11
	15	2.200	145	5×11
	18	2.000	155	5×11
	22	1.850	170	6.3×12
	33	1.000	250	6.3×12
	39	0.900	280	6.3×12
	47	0.800	300	6.3×15
	56	0.500	450	8×12
	68	0.480	500	8×12
	82	0.450	570	8×14
	100	0.430	620	8×14
	120	0.380	680	8×16
	150	0.310	720	10×16
	180	0.250	760	10×16
	220	0.160	850	10×20
	330	0.100	1320	10×25
	390	0.098	1460	10×30
	470	0.095	1610	13×20
	560	0.083	1720	13×25
	680	0.071	1900	13×30
	820	0.065	2300	16×25
	1000	0.048	2770	16×30
	1200	0.045	3180	18×25
	1500	0.036	3350	18×30
	1800	0.035	3500	18×35
80(100)1K	4.7	4.500	75	5×11
	6.8	3.600	91	5×11
	10	2.400	110	5×11
	12	2.200	135	5×11
	15	2.000	160	6.3×12
	18	1.700	170	6.3×12
	22	1.500	180	6.3×12
	27	1.200	230	6.3×12
	33	1.000	280	6.3×15
	39	0.880	300	8×12
	47	0.750	320	8×12
	56	0.480	430	8×14
	68	0.400	480	8×16
	82	0.350	510	10×13
	100	0.300	550	10×16
	120	0.280	580	10×16
	150	0.230	630	10×20
	180	0.200	720	10×25
	220	0.150	800	10×25
	270	0.130	980	13×20
	330	0.095	1150	13×25
	390	0.090	1230	13×25
	470	0.083	1320	13×30
	560	0.078	1440	16×25
	680	0.070	1650	16×30
	820	0.060	1750	18×25
	1000	0.045	2200	18×30
	1200	0.042	2680	18×35
	1500	0.035	2890	18×40

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)
100(125) 2A	1	5.900	37	5×11
	2.2	5.300	55	5×11
	4.7	4.300	80	5×11
	5.6	3.900	90	5×11
	6.8	3.500	95	5×11
	8.2	2.900	105	6.3×12
	10	2.200	120	6.3×12
	12	2.000	145	6.3×12
	15	1.800	170	6.3×12
	18	1.400	185	6.3×12
	22	1.100	200	6.3×15
	27	0.950	230	8×12
	33	0.800	250	8×14
	39	0.700	300	8×16
	47	0.600	350	10×13
	56	0.550	410	10×16
	68	0.500	470	10×16
	82	0.430	530	10×20
	100	0.350	600	10×20
	120	0.330	650	10×20
	150	0.300	700	10×25
	180	0.220	800	13×20
	220	0.130	900	13×25
	270	0.110	1050	13×25
	330	0.095	1180	13×30
	390	0.085	1420	16×25
	470	0.075	1650	16×30
	560	0.060	1920	16×35
	680	0.050	2020	18×30
	820	0.048	2180	18×35
	1000	0.043	2330	18×40