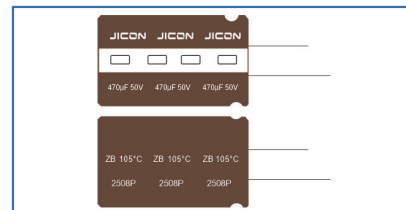


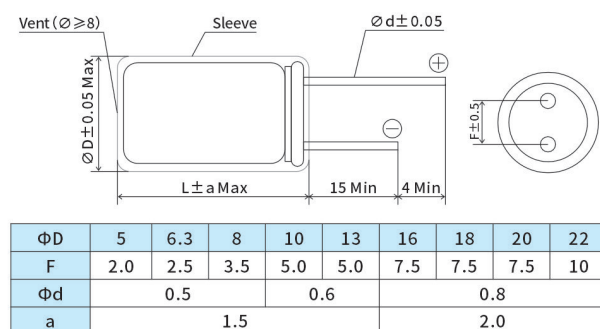
ZB 系列 SERIES

- 2000-7000h at 105°C
- GBL™ system, -55°C ultra low temperature resistance
- Long life for input filtering
- RoHS Compliant



Items	Characteristics							
Operating Temperature Range(°C)	-55~+105							
Voltage Range (V)	6.3~63							
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
	Tanδ(max)	0.22	0.20	0.18	0.16	0.14	0.14	0.12
	For Capacitances > 1000μF add 0.02 to every 1000μF							
Low Temperature Characteristics (Max. Impedance Ratio at 120Hz)	Rated Voltage (V)	6.3			10~35		50~63	
	Z-55°C/Z+20°C	5			4		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	3000
	Leakage current	≤The initial specified value					φD=8	5000
							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 ZB 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	1.700	178	5×11
	220	0.750	255	6.3×12
	330	0.630	290	6.3×12
	470	0.450	400	6.3×15
	560	0.420	460	8×12
	680	0.390	550	8×12
	820	0.240	730	8×14
	1000	0.220	750	8×16
	1200	0.180	810	8×16
	1500	0.140	1220	8×20
	1800	0.130	1181	10×16
	2200	0.120	1440	10×20
	2700	0.110	1690	10×20
	3300	0.100	1780	10×25
	3900	0.078	1950	13×16
	4700	0.069	2310	13×20
	5600	0.060	2510	13×25
	6800	0.052	2870	13×25
	8200	0.048	3010	13×30
	10000	0.042	3150	16×25
10(13)1A	100	1.740	175	5×11
	150	1.500	260	5×11
	220	0.660	290	6.3×12
	330	0.550	410	6.3×12
	470	0.390	555	6.3×15
	560	0.300	675	8×12
	680	0.240	730	8×14
	820	0.210	875	8×16
	1000	0.200	1050	8×20
	1200	0.140	1220	10×13
	1500	0.130	1440	10×16
	1800	0.120	1550	10×20
	2200	0.100	1660	10×25
	2700	0.095	1780	13×16
	3300	0.078	1950	13×20
	3900	0.069	2310	13×20
	4700	0.060	2510	13×25
	5600	0.055	2870	13×30
	6800	0.048	3010	16×25
	8200	0.045	3150	16×30
16(20)1C	82	1.500	200	5×11
	100	1.050	255	5×11
	150	0.850	350	6.3×12
	180	0.720	380	6.3×12
	220	0.570	405	6.3×12
	270	0.450	480	6.3×15
	330	0.360	555	8×12
	390	0.300	680	8×12
	470	0.250	730	8×14
	560	0.220	810	8×16
	680	0.200	1050	10×13
	820	0.150	1160	10×16
	1000	0.130	1220	10×16
	1200	0.120	1440	10×20
	1500	0.100	1660	10×25
	1800	0.084	1810	13×16
	2200	0.078	1950	13×20
	2700	0.069	2310	13×20
	3300	0.060	2510	13×25
	3900	0.052	2870	16×20
25(32)1E	4700	0.048	3010	16×25
	5600	0.045	3150	16×25
	6800	0.043	3710	16×30
	8200	0.042	3820	18×25
	10000	0.038	3900	18×30
	47	1.700	175	5×11
	56	1.500	200	5×11
	68	1.200	230	6.3×12
	82	1.000	260	6.3×12
25(32)1E	100	0.630	290	6.3×12
	120	0.540	350	6.3×12
	150	0.480	405	6.3×12
	180	0.420	480	6.3×15
	220	0.360	555	8×12
	270	0.300	640	8×14
	330	0.260	730	8×14
	390	0.230	900	8×16
	470	0.210	1050	8×20
	560	0.180	1160	10×16
	680	0.140	1220	10×16
	820	0.120	1440	10×20
	1000	0.100	1660	10×25
	1200	0.090	1936	13×16
	1500	0.078	2100	13×20
	1800	0.072	2300	13×25
	2200	0.060	2510	13×25
	2700	0.054	2870	13×30
	3300	0.048	3010	16×25
	3900	0.045	3150	16×30
35(44)1V	4700	0.039	3710	18×25
	5600	0.033	3820	18×30
	6800	0.032	3900	18×35
	33	1.600	180	5×11
	39	1.300	200	5×11
	47	1.100	215	6.3×12
	56	0.630	280	6.3×12
	68	0.570	350	6.3×12
	82	0.510	380	6.3×12
	100	0.450	405	6.3×15
	120	0.420	485	8×12
	150	0.390	555	8×12
	180	0.320	650	8×14
	220	0.250	730	8×16
	270	0.220	880	8×16
	330	0.180	1050	10×13
	390	0.160	1130	10×16
	470	0.130	1220	10×20
	560	0.120	1440	10×20
	680	0.090	1690	10×25
50(63)1H	820	0.087	1938	13×16
	1000	0.084	1950	13×20
	1200	0.069	2310	13×25
	1500	0.060	2510	13×30
	1800	0.055	2760	16×25
	2200	0.048	3010	16×30
	2700	0.045	3150	16×35
	3300	0.039	3710	18×30
	3900	0.036	3800	18×35
	4.7	9.000	80	5×11
	10	3.600	105	5×11
	22	1.900	155	5×11
	33	1.600	215	6.3×12
	47	1.050	220	6.3×12
	56	0.840	285	6.3×12
	68	0.740	350	6.3×15
	82	0.650	410	8×12
	100	0.550	485	8×14
	150	0.500	635	8×16
	180	0.460	840	8×20
50(63)1H	220	0.420	1050	10×16
	270	0.390	1160	10×16
	330	0.360	1250	10×20
	390	0.330	1360	10×25
	470	0.300	1480	13×16
	560	0.230	1840	13×20
	680	0.210	2220	13×25
	820	0.160	2350	13×25
	1000	0.120	2500	13×30
	1200	0.100	2700	16×25
	1500	0.089	2800	16×30
	1800	0.085	2950	18×30
	2200	0.081	3100	18×35
	2700	0.070	3400	18×40

◆ Ratings for ZB 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	6.100	180	5×11
	22	4.500	240	6.3×12
	33	3.300	280	6.3×12
	39	2.500	330	6.3×15
	47	1.900	350	8×12
	56	1.700	380	8×12
	68	1.600	405	8×14
	82	1.200	480	8×16
	100	0.980	535	8×20
	150	0.750	690	10×20
	220	0.500	1050	10×25
	330	0.330	1300	10×30
	390	0.300	1720	13×20
	470	0.280	2090	13×25
	560	0.230	2160	13×25
	680	0.190	2270	13×30
	820	0.150	2560	16×25
	1000	0.110	2770	16×30
	1200	0.098	2850	18×30
	1500	0.092	3100	18×35
	1800	0.090	3210	18×40