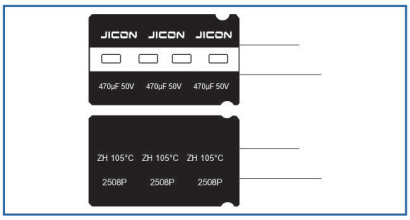
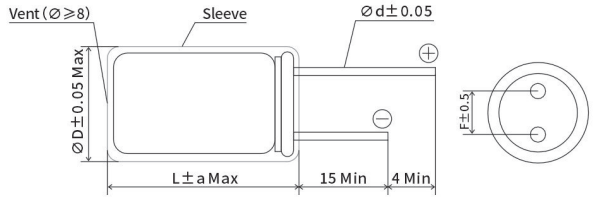
ZH 系 列 SERIES



- 4000-7000h at 105°C
- Ultra low impedance for high frequency
- Switching power supplies
- RoHS Compliant

Items	Characteristics
Operating Temperature(℃)	-40～+105
Voltage Range (V)	6.3～100
Capacitance Range (μF)	4.7～18000
Capacitance Tolerance(20℃,120Hz)	±20%
Leakage Current (μA)	6.3～100V I≤ 0.01CV or 3μA whichever is greater After 2 minute at 20℃ application of rated voltage I:Max. leakage current (μA) C:Nominal Capacitance (μF) V:Rated Voltage (V)
Dissipation Factor (20℃,120Hz)	Rated Voltage (V): 6.3 / 10 / 16 / 25 / 35 / 50 / 63 / 80~100 Tanδ(max): 0.22 / 0.19 / 0.16 / 0.14 / 0.12 / 0.10 / 0.09 / 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℃/Z+20℃: 8 / 6 / 3 / 3
Load Life	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 for the specified period of time at 105℃. Capacitance change: ≤± 20% of the initial value D.F.(Tanδ): ≤200% of specified value Leakage current: ≤The initial specified value Case Dia / Life time (h): φD≤6.3 / 4000; φD=8 / 6000; φD>8 / 7000
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃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(℃)	+70	+85	+105
Coefficient	1.96	1.68	1.00

◆ Ratings for ZH 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	0.400	250	5×11
	330	0.170	405	6.3×12
	470	0.150	530	6.3×15
	560	0.130	760	8×12
	680	0.100	820	8×12
	820	0.075	995	8×14
	1000	0.070	1030	8×16
	1500	0.042	1820	8×20
	1800	0.038	2000	10×16
	2200	0.043	2150	10×20
	3300	0.032	2360	10×25
	3900	0.028	2770	13×16
	4700	0.024	3290	13×20
	5600	0.022	3400	13×25
	6800	0.019	3510	13×25
	8200	0.018	3620	13×30
	10000	0.017	3800	16×25
	12000	0.016	3920	16×30
	15000	0.015	4200	18×30
	18000	0.014	4380	18×35
10(13)1A	100	0.420	250	5×11
	220	0.180	405	6.3×12
	470	0.100	760	6.3×15
	560	0.850	830	8×12
	680	0.070	995	8×14
	820	0.068	1150	8×16
	1000	0.048	1280	8×20
	1200	0.040	1820	10×13
	1500	0.038	2150	10×16
	1800	0.036	2250	10×20
	2200	0.034	2360	10×25
	2700	0.032	2520	13×16
	3300	0.030	2770	13×20
	4700	0.022	3400	13×25
	5600	0.020	3550	13×30
	6800	0.018	3610	16×25
	8200	0.017	3850	16×30
	10000	0.015	4210	18×25
	12000	0.014	4350	18×30
16(20)1C	82	0.400	300	5×11
	220	0.150	540	6.3×12
	270	0.120	680	6.3×15
	330	0.100	760	8×12
	470	0.083	995	8×14
	560	0.066	1120	8×16
	680	0.055	1250	10×13
	820	0.046	1550	10×16
	1000	0.035	1820	10×16
	1200	0.032	2150	10×20
	1500	0.028	2360	10×25
	1800	0.027	2550	13×16
	2200	0.025	2770	13×20
	3300	0.018	3400	13×25
	3900	0.017	3510	16×20
	4700	0.016	3630	16×25
	5600	0.015	3750	16×25
	6800	0.015	4050	16×30
	8200	0.014	4120	18×25
	10000	0.013	4250	18×30
25(32)1E	56	0.380	288	5×11
	100	0.210	405	6.3×12
	180	0.130	680	6.3×15
	220	0.110	760	8×12
	330	0.090	995	8×14
	390	0.085	1250	8×16
	470	0.073	1430	8×20
	560	0.062	1550	10×16
	680	0.053	1820	10×16
	820	0.040	2150	10×20
	1000	0.032	2360	10×25
	1200	0.029	2550	13×16
	1500	0.026	2770	13×20
	1800	0.024	3290	13×25
	2200	0.023	3400	13×25

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	2700	0.018	3460	13×30
	3300	0.017	3610	16×25
	3900	0.017	3820	16×30
	4700	0.016	4120	18×25
	5600	0.015	4250	18×30
	6800	0.014	4310	18×35
35(44)1V	33	0.450	250	5×11
	68	0.210	435	6.3×12
	100	0.150	576	6.3×15
	150	0.130	760	8×12
	180	0.120	878	8×14
	220	0.100	995	8×16
	330	0.080	1430	10×13
	390	0.075	1625	10×16
	470	0.066	1820	10×20
	560	0.050	2150	10×20
	680	0.048	2360	10×25
	820	0.041	2560	13×16
	1000	0.034	2770	13×20
	1200	0.032	3140	13×25
	1500	0.031	3400	13×30
	1800	0.030	3460	16×25
	2200	0.027	3550	16×30
	2700	0.025	3780	16×35
	3300	0.024	4150	18×30
	3900	0.022	4320	18×35
50 (63)1H	22	0.750	238	5×11
	47	0.370	325	6.3×12
	68	0.250	456	6.3×15
	82	0.210	540	8×12
	100	0.180	724	8×14
	150	0.170	979	8×16
	180	0.140	1196	8×20
	220	0.110	1370	10×16
	330	0.092	1870	10×20
	390	0.083	1960	10×25
	470	0.080	2050	13×16
	560	0.070	2410	13×20
	680	0.056	2860	13×25
	820	0.044	2960	13×25
	1000	0.035	3010	13×30
	1200	0.034	3180	16×25
	1500	0.032	3360	16×30
	1800	0.030	3650	18×30
	2200	0.028	3800	18×35
	2700	0.027	3950	18×40
63(79)1J	15	1.500	165	5×11
	33	0.750	265	6.3×12
	39	0.850	290	6.3×15
	56	0.400	500	8×12
	68	0.350	660	8×14
	82	0.290	820	8×16
	100	0.330	792	8×20
	150	0.250	936	10×20
	220	0.120	1300	10×25
	330	0.078	1850	10×30
	390	0.076	2050	13×20
	470	0.075	2250	13×25
	560	0.066	2450	13×25
	680	0.058	2780	13×30
	820	0.050	2810	16×25
	1000	0.038	2950	16×30
	1200	0.035	3310	18×30
	1500	0.030	3420	18×35
	1800	0.028	3760	18×40
80(100)1K	10	2.000	150	5×11
	22	1.200	220	6.3×12
	33	0.900	300	6.3×15
	39	0.850	320	8×12
	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

◆ Ratings for ZH Series

UR (Surge Voltage) Code	Rated Capaci-tance	Max ESR 20°C100kHz	Rated Ripple Current 105°C100kHz	Size ϕD×L
(V)	(μF)	(Ω)	(mA rms)	(mm)
80(100)1K	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
	1000	0.043	2250	18×30
	1200	0.040	2760	18×35
	1500	0.033	2980	18×40
100(125)2A	4.7	3.200	110	5×11
	10	1.600	155	6.3×12
	22	0.850	265	8×12
	33	0.062	325	8×14
	39	0.540	355	8×16
	47	0.480	450	10×13
	56	0.440	565	10×16
	68	0.400	580	10×16
	82	0.350	750	10×20
	100	0.270	880	10×20
	150	0.230	1150	10×25
	220	0.100	1410	13×25
	330	0.075	1700	13×30
	470	0.060	1890	16×30
	560	0.048	2080	16×35
	680	0.040	2570	18×30
	820	0.038	2660	18×35
	1000	0.035	2780	18×40