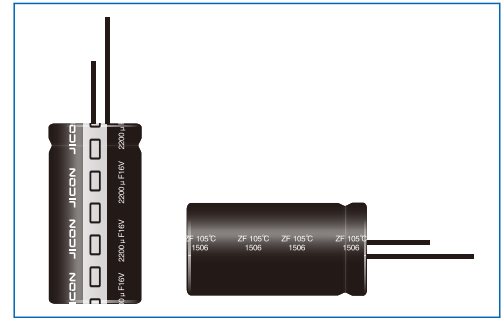


ZF 系列 SERIES

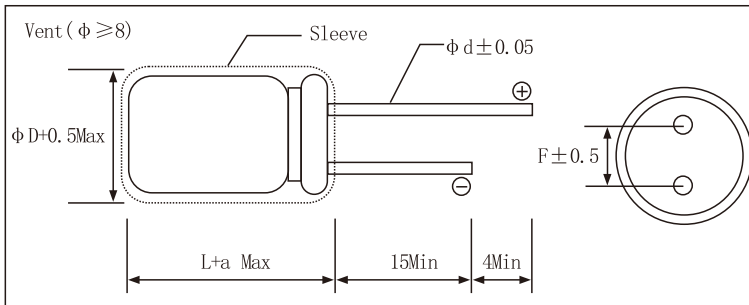
- 2000-5000h at 105°C
- lowest impedance
- high ripple current
- switching power supplies

◆ SPECIFICATION



Items	Characteristics		
Operating Temperature Range(°C)	-40~+105		
Voltage range (V)	6.3~100		
Capacitance Range (μF)	6.8~6800		
Capacitance Tolerance	±20% (at 20°C, 120Hz)		
leakage current (μA)	After 2 minute at 20°C application of rated voltage, leakage current is not more than 0.01CV or 3μA, whichever is greater . C:Nominal Capacitance (μF) V :Rated Voltage (V)		
Dissipation Factor(Tan δ)	WV(V)	6.3 10 16 25 35 50 63 100	
	Tan δ (max)	0.22 0.19 0.16 0.14 0.12 0.10 0.09 0.08	
For Capacities >1000 μF add 0.02 to every 1000 μF (at 20°C, 120Hz)			
Low Temperature Characteristics	Rated Voltage (V)	6.3~100	
	Z-25°C/Z+20°C	2	
	Z-40°C/Z+20°C	3	
(at 120Hz)			
Load Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated rippled current is applied for 2000~5000 hours at 105°C		
	Capacitance change	Within ±25%initial value	Case Dia Life time(hours)
	D. F. (Tan δ)	Not more than 200% of specified value	ΦD≤6.3 2000
	leakage current	Not more than specified value	ΦD=8 3000
			ΦD=10 4000
			ΦD>10 5000
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 .Before the measurement , the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4.		
	Capacitance change	Within ±20%initial value	
	D. F. (Tan δ)	Not more than 200% of specified value	
	leakage current	Not more than specified value	

◆ DIMENSIONS(mm)



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

◆ Temperature Coefficient

Temperature (°C)	≤65	+85	+105
Coefficient	2.0	1.7	1.0

◆ Frequency Coefficient

Frequency	120Hz	1KHz	10KHz	100KHz
Cap (μF)				
6.8~33	0.42	0.70	0.90	1.00
39~270	0.50	0.73	0.92	1.00
330~680	0.55	0.88	0.98	1.00
820~1800	0.66	0.90	0.99	1.00
2200~6800	0.70	0.92	1.00	1.00

ZF 系列
SERIES

◆ STANDARD RATINGS

UR (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C100kHz	Rated Ripple Current 105°C100kHz	Size ΦD×L
(V)	(μF)	(Ω)	(mA rms)	(mm)
6.3 (8) 0J	150	0.30	250	5×11
	330	0.13	405	6.3×12
	560	0.072	760	8×12
	820	0.056	995	8×16
	1000	0.053	1030	10×12.5
	1200	0.041	1250	8×20
		0.038	1430	10×16
	1500	0.023	1820	10×20
	2200	0.022	2150	10×25
	3300	0.021	2360	13×20
	3900	0.018	2770	13×25
	4700	0.016	3290	13×30
	5600	0.015	3400	13×35
		0.018	3140	16×20
6800	0.016	3460	16×25	
10 (13) 1A	100	0.30	250	5×11
	220	0.13	405	6.3×12
	470	0.072	760	8×12
	680	0.056	995	8×16
		0.053	1030	10×12.5
	1000	0.041	1250	8×20
		0.038	1430	10×16
	1200	0.023	1820	10×20
	1500	0.022	2150	10×25
	2200	0.021	2360	13×20
	3300	0.018	2770	13×25
	3900	0.016	3290	13×30
		0.018	3140	16×20
	4700	0.015	3400	13×35
5600	0.016	3460	16×25	
16 (20) 1C	56	0.30	250	5×11
	120	0.13	405	6.3×12
	330	0.072	760	8×12
	470	0.056	995	8×16
		0.053	1030	10×12.5
	680	0.041	1250	8×20
		0.038	1430	10×16
	1000	0.023	1820	10×20
	1200	0.022	2150	10×25
	1500	0.021	2360	13×20
	2200	0.018	2770	13×25
	2700	0.016	3290	13×30
		0.018	3140	16×20
	3300	0.015	3400	13×35
3900	0.016	3460	16×25	
25 (32) 1E	47	0.30	250	5×11
	100	0.13	405	6.3×12
	220	0.072	760	8×12
	330	0.056	995	8×16
		0.053	1030	10×12.5
	470	0.041	1250	8×20
		0.038	1430	10×16
	680	0.023	1820	10×20
	820	0.022	2150	10×25
	1000	0.021	2360	13×20
	1500	0.018	2770	13×25

ZF 系列
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◆ STANDARD RATINGS

UR (Surge Voltage) Code	Rated Capacitance	Max ESR 20°C100kHz	Rated Ripple Current 105°C100kHz	Size ΦD×L
(V)	(μF)	(Ω)	(mA rms)	(mm)
25 (32) 1E	1800	0.016	3290	13×30
		0.018	3140	16×20
	2200	0.015	3400	13×35
	2700	0.016	3460	16×25
35 (44) 1V	33	0.30	250	5×11
	56	0.13	405	6.3×12
	150	0.072	760	8×12
	220	0.056	995	8×16
		0.053	1030	10×12.5
	270	0.041	1250	8×20
	330	0.038	1430	10×16
	470	0.023	1820	10×20
	560	0.022	2150	10×25
	680	0.021	2360	13×20
	1000	0.018	2770	13×25
	1200	0.016	3290	13×30
		0.018	3140	16×20
	1500	0.015	3400	13×35
1800	0.016	3460	16×25	
50 (63) 1H	22	0.34	238	5×11
	56	0.14	385	6.3×12
	100	0.074	724	8×12
	120	0.061	950	8×16
	150	0.061	979	10×12.5
	180	0.046	1190	8×20
	220	0.042	1370	10×16
	270	0.030	1580	10×20
	330	0.028	1870	10×25
	470	0.027	2050	13×20
	560	0.023	2410	13×25
	680	0.021	2860	13×30
	820	0.019	2960	13×30
		0.023	2730	16×20
1000	0.021	3010	16×25	
63 (79) 1J	15	0.88	165	5×11
	33	0.35	265	6.3×12
	56	0.22	500	8×12
	82	0.16	665	8×16
		0.15	685	10×12.5
	120	0.12	820	8×20
		0.11	945	10×16
	180	0.080	1100	10×20
		0.082	1135	13×16
	220	0.073	1300	10×25
	270	0.060	1495	13×20
	330	0.043	1850	13×25
	470	0.039	2250	13×30
		0.045	1990	16×20
	560	0.033	2450	13×35
		0.032	2550	16×25
	680	0.029	2780	13×40
		0.038	2450	18×20
	820	0.026	2810	16×31.5
0.031		2780	18×25	

ZF 系列
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◆ STANDARD RATINGS

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	1000	0.021	2835	16×35.5	
		0.025	3270	18×31.5	
	1200	0.019	3340	16×40	
		0.020	3310	18×35.5	
		0.018	3420	18×40	
100 (125) 2A	6.8	1.40	125	5×11	
	15	0.57	205	6.3×12	
	27	0.36	355	8×12	
	39	0.25	450	8×16	
	47	0.24	450	10×12.5	
	56	0.19	565	8×20	
	68	82	0.18	580	10×16
			0.13	750	10×20
	100	100	0.13	735	13×16
			0.12	880	10×25
	120	0.094	1045	13×20	
	180	220	0.071	1195	13×25
			0.063	1410	13×30
	270	270	0.071	1295	16×20
			0.052	1560	13×35
			0.053	1600	16×25
	330	330	0.069	1470	18×20
			0.046	1700	13×40
	390	390	0.041	1750	16×31.5
			0.049	1620	18×25
	470	470	0.033	1890	16×35.5
			0.039	1775	18×31.5
	560	560	0.030	2080	16×40
0.031			2060	18×35.5	
680	680	0.028	2570	18×40	

Customer products are available on request