

# GF series

## Features

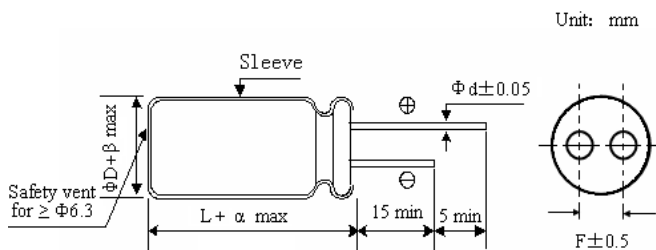
- ◆ Low impedance for high ripple current , 2000 to 4000 hours at 105°C.
- ◆ Used in communication equipments ,switching power supply, industrial measuring instruments, etc.
- ◆ RoHS Compliant .



## Specifications

Item	Performance Characteristics									
Temperature Range	-40~+105°C									
Rated Voltage Range	6.3~100Vdc									
Capacitance Range	2.2~4700μF									
Capacitance Tolerance	±20% (120Hz, +20°C)									
Leakage Current (+20°C,max.)	I≤0.01CV 或 3 (μA) After 2 minutes, whichever is greater measured with rated working voltage applied									
Dissipation Factor (tgδ) 120Hz, +20°C	Working Voltage(Vdc)	6.3	10	16	25	35	50	63	100	
	D.F (%) max.	22	19	16	14	12	10	9	8	
For capacitance>1000μF , Add 2% per another 1000μF ( 120Hz, +20°C)										
Low Temperature Characteristics (120Hz)	Impedance ratio max.									
	Working Voltage(Vdc)	6.3	10	16	25	35	50	63	100	
	Z-25°C/ Z+20°C	4	3	2	2	2	2	2	2	
Z-40°C/ Z+20°C	8	6	4	3	3	3	3	3		
Endurance	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									
	Time	Φ5 to Φ6.3:2000hours , Φ8 to Φ10:3000hours, ≥Φ13:4000hours								
	Rated Voltage	6.3 to 10Vdc			16 to 100Vdc					
	Capacitance Change	≤±30% of the initial value				≤±25% of the initial value				
	D.F.( tgδ )	≤200% of the initial specified value								
	Leakage Current	≤The initial specified value								
Shelf Life	After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the load life characteristics listed above.									
Others	JISC-5101(IEC 60384)									

## Diagram of Dimensions



## Frequency Multipliers

μF \ Hz	120	1K	10K	100K
<220	0.40	0.75	0.90	1.00
220~470	0.50	0.85	0.94	1.00
680~1500	0.60	0.87	0.95	1.00
2200~3900	0.75	0.90	0.95	1.00
4700	0.85	0.95	0.98	1.00

ΦD	5	6.3	8	10	13	16	18	22
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0
Φd	0.5	0.5	0.5	0.6	0.6	0.8	0.8	0.8
α	(L< 20) + 1.5				(L≥20) + 2.0			
β	(D< 20) + 0.5				(D≥20) + 1.0			

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## Standard Ratings

Voltage	6.3V			10V			16V			25V		
Cap(μF)	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
22										5×11	1.03	157
33										5×11	0.69	192
47							5×11	0.58	210	5×11	0.49	229
100	5×11	0.58	210	5×11	0.58	210	6.3×11	0.22	340	6.3×11	0.22	340
150	5×11	0.58	210	6.3×11	0.22	340	6.3×11	0.22	340	8×12	0.13	640
220	6.3×11	0.22	340	6.3×11	0.22	340	8×12	0.13	640	8×12	0.13	640
330	6.3×11	0.22	340	6.3×11	0.22	340	8×12	0.13	640	8×12	0.13	640
470	8×12	0.13	640	8×12	0.13	640	8×12	0.13	640	8×16	0.087	840
560	8×12	0.13	640	8×12	0.13	640	8×16	0.087	840	10×17	0.060	1210
680	8×12	0.13	640	8×12	0.13	640	8×16	0.087	840	10×17	0.060	1210
820	8×12	0.13	640	10×12	0.080	865	10×17	0.060	1210	10×20	0.046	1400
1000	8×12	0.13	640	8×16	0.087	840	10×17	0.060	1210	10×20	0.046	1400
1500	8×20	0.069	1050	10×20	0.046	1400	10×20	0.046	1400	13×20	0.040	1680
2200	10×20	0.046	1400	10×20	0.046	1400	13×20	0.035	1900	13×25	0.030	2124
3300	13×20	0.035	1900	13×25	0.030	2124	13×25	0.030	2124	16×25	0.028	
3900	13×20	0.035	1900	13×25	0.030	2124						
4700	13×25	0.030	2124									

Voltage	35V			50V			63V			100V		
Cap(μF)	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current	Case Size	Impedance	Ripple Current
2.2				5×11	3.0	56						
3.3				5×11	3.0	60						
4.7				5×11	3.0	75						
6.8				5×11	3.0	100						
10				5×11	1.40	110	5×11	1.20	90	6.3×11	0.96	115
22	5×11	0.59	207	5×11	0.75	130	6.3×11	0.96	115	8×12	0.504	232
33	5×11	0.39	254	6.3×11	0.30	295	6.3×11	0.96	115	10×12	0.330	287
47	6.3×11	0.22	340	6.3×11	0.30	295	8×12	0.504	232	10×12	0.344	314
68	6.3×11	0.22	340	8×12	0.17	555	8×12	0.504	232	10×17	0.248	357
100	8×12	0.13	640	10×12	0.12	760	8×16	0.360	300	10×20	0.168	466
150	8×12	0.13	640	10×17	0.084	1050	8×20	0.264	362	10×20	0.168	466
220	8×12	0.13	640	10×17	0.084	1050	10×20	0.168	466	13×25	0.096	922
270	8×16	0.087	840	10×25	0.055	1440	13×20	0.128	690	13×25	0.096	922
330	8×20	0.069	1050	13×20	0.045	1660	13×20	0.128	690	16×25	0.085	1440
470	10×17	0.060	1210	13×25	0.034	1950	13×25	0.096	922	16×30	0.080	1650
680	10×20	0.046	1400	13×30	0.030	2124	16×25	0.065	1150	16×40	0.075	1790
1000	13×20	0.035	1900	16×25	0.028	2300	16×30	0.053	1620	18×40	0.070	1840
1500	13×30	0.032	2130	16×35	0.026	2750	16×40	0.043	1950	22×40	0.065	1930
2200	16×30	0.030	2780	16×40	0.024	3040	18×40	0.034	2350			
3300	16×40	0.026	3100	18×40	0.022	3100						

Max Allowable Ripple Current (mA,rms) at 105℃ 100KHz, Max Impedance(Ω) at 20℃ 100 KHz,Case Size ΦD×L(mm).

Above size is the standard size for our product. If you need special size please contact our sales offices.