

GPF Series, 105°C Low Impedance



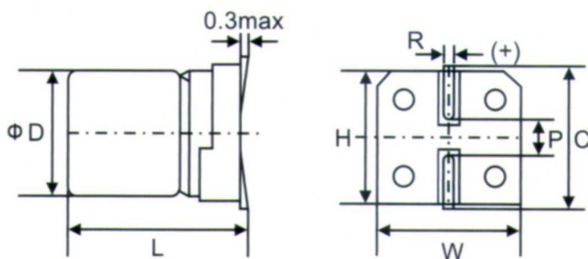
- Ultra Low ESR & high ripple current capability
- Endurance: 2,000 hours at 105°C
- Compliant to the RoHS directive

• Specifications

Item	Performance Characteristics	
Operating Temperature range	-55 + 105°C	
Rated Voltage Range	2.5V ~ 6.3V	
Capacitance Tolerance	± 20% (at 120 Hz / 20°C)	
Surge Voltage	Rated Voltage x 1.15	
Leakage Current	Within the specified value as in standard rating	
Dissipation Factor (tan δ)	Less than or equal to the specified value at 20°C, 120 Hz	
Temperature Characteristics (Impedance ratio at 100 KHz)	Z (-25°C) / Z (+20°C)	≤ 1.15
	Z (-55°C) / Z (+20°C)	≤ 1.25
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 2,000 hours, at 105°C.	
	Capacitance change	≤ ± 20% of the initial value
	D. F. (Tan δ)	≤ 150% of initial specified value
	ESR	≤ 150% of initial specified value
	Leakage current	Initial specified value or less
Bias Humidity Test	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them at 60°C, 90 to 95% RH for 1,000 hours.	
	Capacitance change	≤ ± 20% of the initial value
	D. F. (Tan δ)	≤ 150% of initial specified value
	ESR	≤ 150% of initial specified value
	Leakage current	Initial specified value or less
Surge Voltage Test	The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltage specified at 105°C for 30 seconds through a protective resistor (R=1KΩ) and discharge for 5 minutes 30 seconds.	
	Capacitance change	≤ ± 20% of the initial value
	D. F. (Tan δ)	≤ 150% of initial specified value
	ESR	≤ 150% of initial specified value
	Leakage current	Initial specified value or less
Failure Rate	0.5% per 1,000 hours maximum (Confidence level 60% at 105°C)	

* In case of any doubt arises, measure the leakage current after voltage applied for 120 minutes at 105°C.

• Dimension



Dφ ±0.5	L ±0.3	W ±0.2	H ±0.2	C ±0.2	R	P ±0.2
5.3	5.7	5.3	5.3	5.9	0.5-0.8	1.5
6.3	5.7	6.6	6.6	7.3	0.5-0.8	2.1

• **Standard Products Table**

Rated voltage (V.DC)	Rated Capacitance (μF)	Case Size D x L (mm)	tan δ	Leakage Current (μA)	ESR mΩ max./ 20°C 100KHz to 300KHz	Rated ripple current (mArms/105°C,100 KHz)	Part Number
2.5V	390	5.3x5.7	0.10	700	10	3,900	GPF390M2.5-0507TR
	390	6.3x5.7	0.10	500	10	3,870	GPF390M2.5-0607TR
	560	6.3x5.7	0.10	500	10	3,870	GPF560M2.5-0607TR
6.3V	220	5.3x5.7	0.10	693	12	3,500	GPF220M6.3-0507TR
	330	6.3x5.7	0.10	300	15	3,160	GPF330M6.3-0605TR

• Frequency coefficient of allowable ripple current

Frequency	120 Hz ≤ f < 1 KHz	1 KHz ≤ f < 10 KHz	10 KHz ≤ f < 100 KHz	100 KHz ≤ f ≤ 300 KHz
Coefficient	0.05	0.30	0.70	1.00