

GPC Series, 105°C Standard

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

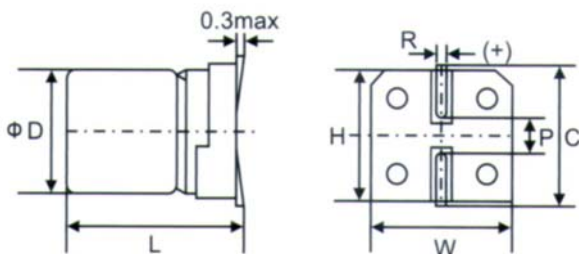


• Specifications

Item	Performance Characteristics	
Operating Temperature range	-55 + 105°C	
Rated Voltage Range	2.5V ~ 25V	
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±0.4	W±0.2	H±0.2	C±0.2	R	P±0.2
6.3	5.7	6.6	6.6	7.3	0.5~0.8	2.1
8	6.9	8.3	8.3	9	0.6~0.8	3.2
8	9.7	8.3	8.3	9	0.8~1.1	3.2
10	12.6	10.3	10.3	11	0.8~1.1	4.6

• 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 (mA _{rms} /105°C,100 KHz)	Part Number
2.5V	390	6.3 x 5.7	0.10	300	15	3,160	GPC390M2.5-0605TR
	560	6.3 x 5.7	0.10	300	16	3,160	GPC560M2.5-0605TR
	680	8 x 6.9	0.10	500	20	3,370	GPC680M2.5-0806TR
	820	8 x 9.7	0.10	500	10	4,880	GPC820M2.5-0809TR
	1500	10 x 12.6	0.10	750	10	5,440	GPC152M2.5-1012TR
6.3V	220	6.3 x 5.7	0.10	300	15	3,160	GPC220M6.3-0605TR
	330	6.3 x 5.7	0.10	300	17	3,160	GPC330M6.3-0605TR
	390	8 x 6.9	0.10	491	22	3,220	GPC390M6.3-0806TR
	560	8 x 9.7	0.10	800	10	5,000	GPC560M6.3-0809TR
10	220	6.3 x 5.7	0.10	440	17	3,160	GPC220M010-0605TR
16V	82	6.3 x 5.7	0.10	300	25	2,490	GPC082M016-0605TR
	100	6.3 x 5.7	0.10	320	25	2,490	GPC100M016-0605TR
	120	8 x 6.9	0.10	500	27	2,900	GPC120M016-0806TR
	180	8 x 9.7	0.10	600	16	3,890	GPC180M016-0809TR
	330	8 x 9.7	0.10	1,056	16	3,890	GPC330M016-0809TR
	330	10 x 12.6	0.10	1,056	16	4,720	GPC330M016-1012TR
25V	27	6.3 x 5.7	0.10	135	40	2,100	GPC027M025-0605TR
	47	6.3 x 5.7	0.10	235	30	2,500	GPC047M025-0605TR

• 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