

GPL Series, Radial Lead, 125°C Standard

- Low ESR & high ripple current capability
- Compliant to the RoHS directive
- Suitable for LED Lighting, telecommunication & power unit applications.

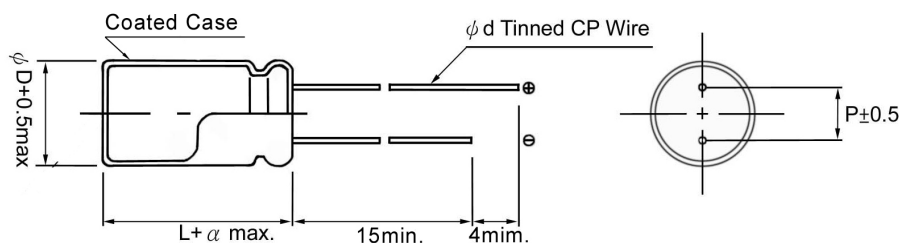


• Specifications

Item	Performance Characteristics	
Operating Temperature range	-55 + 125°C	
Rated Voltage Range	16V ~ 160V	
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 16V~25V 2,000 hours, ≥ 35V 1,500 hours at 125°C.	
	Capacitance change	≤ ± 30% of the initial value
	D. F. (Tan δ)	≤ 300% of initial specified value
	ESR	≤ 300% 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 125°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 125°C)	

* In case of any doubt arises, measure the leakage current after voltage applied for 120 minutes at 125°C.

• Dimension



(mm)

φ D +0.5max	8	10
φ d ± 0.05	0.6	0.6
P	3.5	5
α (max)	1.5	1.5

• 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,100 KHz)		Part Number
						Tx ≤ 105°C	105°C < Tx ≤ 125°C	
16V	330	8 x 8	0.12	1,056	15	4,300	1,720	GPL330M016-0808B
	470	8 x 8	0.12	1,504	15	4,300	1,720	GPL470M016-0808B
	470	8 x 12	0.12	1,504	13	4,650	1,860	GPL470M016-0812B
	820	8 x 12	0.12	2,624	13	4,650	1,860	GPL820M016-0812B
	820	10 x 12	0.12	2,624	12	5,600	2,240	GPL820M016-1012B
	1,000	10 x 12	0.12	3,200	12	5,600	2,240	GPL102M016-1012B
	1,200	10 x 12	0.12	3,840	12	5,600	2,240	GPL122M016-1012B
25V	150	10 x 12	0.12	4,800	12	5,600	2,240	GPL152M016-1012B
	100	8 x 8	0.12	500	24	2,900	1,160	GPL100M025-0808B
	150	8 x 8	0.12	750	24	2,900	1,160	GPL150M025-0808B
	220	8 x 12	0.12	1,100	18	4,250	1,700	GPL220M025-0812B
	330	8 x 12	0.12	1,650	18	4,250	1,700	GPL330M025-0812B
	470	8 x 12	0.12	2,350	18	4,250	1,700	GPL470M025-0812B
	470	10 x 12	0.12	2,350	16	4,700	1,880	GPL470M025-1012B
35V	560	10 x 12	0.12	2,800	16	4,700	1,880	GPL560M025-1012B
	680	10 x 12	0.12	3,400	16	4,700	1,880	GPL680M025-1012B
	47	8 x 8	0.12	329	30	2,600	1,040	GPL047M035-0808B
	68	8 x 8	0.12	476	30	2,600	1,040	GPL068M035-0808B
	100	8 x 12	0.12	700	26	2,950	1,180	GPL100M035-0812B
	150	8 x 12	0.12	1,050	26	2,950	1,180	GPL150M035-0812B
	180	8 x 12	0.12	1,260	26	2,950	1,180	GPL180M035-0812B
50V	220	8 x 12	0.12	1,540	26	2,950	1,180	GPL220M035-0812B
	220	10 x 12	0.12	1,540	24	3,400	1,360	GPL220M035-1012B
	330	10 x 12	0.12	2,310	24	3,400	1,360	GPL330M035-1012B
	390	10 x 12	0.12	2,730	24	3,400	1,360	GPL390M035-1012B
	47	8 x 12	0.12	470	32	2,250	900	GPL047M050-0812B
	68	8 x 12	0.12	680	32	2,250	900	GPL068M050-0812B
	82	8 x 12	0.12	820	32	2,250	900	GPL082M050-0812B
63V	120	8 x 12	0.12	1,200	32	2,250	900	GPL120M050-0812B
	120	10 x 12	0.12	1,200	28	2,620	1,040	GPL120M050-1012B
	180	10 x 12	0.12	1,800	28	2,620	1,040	GPL180M050-1012B
	220	10 x 12	0.12	2,200	28	2,620	1,040	GPL220M050-1012B
	82	8 x 12	0.12	1,033	32	2,100	840	GPL082M100-0812B
	100	8 x 12	0.12	1,260	32	2,100	840	GPL100M063-0812B
	150	10 x 12	0.12	1,890	28	2,550	1,020	GPL150M063-1012B
100V	180	10 x 12	0.12	2,268	28	2,550	1,020	GPL180M063-1012B
	15	8 x 12	0.12	300	40	1,850	740	GPL015M100-0812B
	22	8 x 12	0.12	440	40	1,850	740	GPL022M100-0812B
	33	10 x 12	0.12	660	38	2,100	840	GPL033M100-1012B
160V	47	10 x 12	0.12	940	38	2,100	840	GPL047M100-1012B
	4.7	8 x 12	0.12	150	130	720	280	GPL4R7M160-0812B
	6.8	8 x 12	0.12	217	130	720	280	GPL6R8M160-0812B
	12	10 x 12	0.12	384	130	960	380	GPL012M160-1012B

• 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