

### PG SERIES ■ HIGH TEMPERATURE 125°C TYPE

#### KEY FEATURES



- **SOLID CONDUCTIVE POLYMER** ■ SMD type
- Especially for high temperature environments
- Endurance: 125°C ■ 2 000 hours
- Large permissible ripple current
- No dry-out effect guarantees extremely long life



#### SPECIFICATIONS

Items		Performance Characteristics
Operating Temperature Range		-55 ~ +125°C
Rated Voltage Range	$V_R$	6.3 ~ 50V DC
Surge Voltage	$V_S$	( $V_R \leq 20V$ ): $V_S = 1.15 \cdot V_R$ ( $V_R \geq 25V$ ): $V_S = 1.10 \cdot V_R$
Capacitance Range	$C_R$	10 ~ 1500 $\mu$ F
Cap. Tolerance	$\Delta C$	$\pm 20\%$ (120Hz ■ 20°C)
Leakage Current (20°C ■ $V_R$ applied)	$I_{LEAK}$	Not to exceed the values shown in standard ratings After 2 minutes
Dissipation Factor % (20°C ■ 120Hz)	$\tan\delta$	Not to exceed the values shown in standard ratings
Equivalent Series Resistance (20°C ■ 100kHz)	ESR	Not to exceed the values shown in standard ratings

Lifetime Test		
Endurance 125°C ( $V_R$ applied)	Test	<b>2 000 hours</b>
	$\Delta C/C_R$	Within $\pm 20\%$ of the initial value
	$\tan\delta$	Not to exceed 150% of the value specified
	ESR	Not to exceed 150% of the value specified
	$I_{Leak}$	Less than the specified value
Moisture Resistance stored at 60°C (RH 90 ~ 95%)	Test	<b>1 000 hours</b>
	$\Delta C/C_R$	Within $\pm 20\%$ of the initial value
	$\tan\delta$	Not to exceed 150% of the value specified
	ESR	Not to exceed 150% of the value specified
	$I_{Leak}$	Less than the specified value

#### MULTIPLIER $K_f$ for RIPPLE CURRENT vs. FREQUENCY

Frequency (Hz)	120 ≤ Freq. < 1k	1k ≤ Freq. < 10k	10k ≤ Freq. < 100k	100k ≤ Freq. < 300k
Coefficient $K_f$	0.05	0.3	0.7	1

**STANDARD RATINGS**

Part number shows blister tape on paper reel

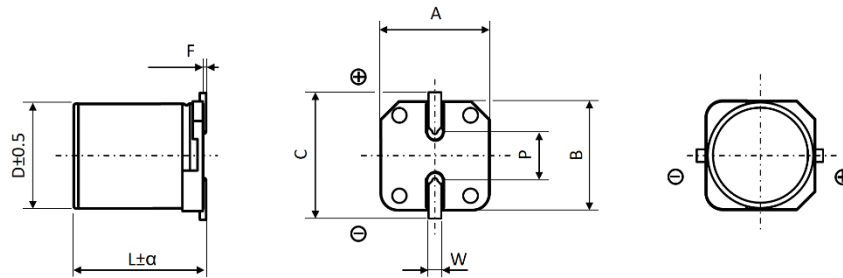
$V_R$ (V)	$C_R$ ( $\mu$ F)	$\phi$ D (mm)	L (mm)	$I_{LEAK}$ ( $\mu$ A, 2min)	$\tan\delta$ +20°C • 120Hz (%)	Max. ESR +20°C • 100kHz (m $\Omega$ )	$I_R$ • Max. Ripple Cur- rent +105°C • 100kHz (mA rms)	$I_R$ • Max. Ripple Cur- rent +125°C • 100kHz (mA rms)	CapXon Part Number
6.3	100	6.3	5.8	300	8	35	2200	695	PG101M6R3E058PTR
	270	6.3	7.7	340	8	25	2800	885	PG271M6R3E077PTR
	470	8.0	7.7	592	8	25	3500	1100	PG471M6R3F077PTR
	820	8.0	11.7	1033	8	15	4700	1490	PG821M6R3F117PTR
	1000	10.0	10.5	1260	8	18	4400	1390	PG102M6R3G105PTR
	1500	10.0	12.4	1890	8	15	5100	1610	PG152M6R3G124PTR
10	56	6.3	5.8	300	8	35	2200	695	PG560M010E058PTR
	120	6.3	7.7	300	8	25	2800	885	PG121M010E077PTR
	150	6.3	7.7	300	8	25	2800	885	PG151M010E077PTR
	180	6.3	7.7	360	8	25	2800	885	PG181M010E077PTR
	270	8.0	7.7	540	8	25	3000	950	PG271M010F077PTR
	330	10.0	8.7	660	8	25	3500	1100	PG331M010G087PTR
	470	8.0	11.7	940	8	15	4200	1330	PG471M010F117PTR
	560	10.0	10.5	1120	8	18	4000	1265	PG561M010G105PTR
	820	10.0	12.4	1640	8	15	4500	1420	PG821M010G124PTR
16	47	6.3	5.8	400	10	50	1600	505	PG470M016E058PTR
	82	6.3	7.7	400	10	30	2200	695	PG820M016E077PTR
	100	6.3	7.7	400	10	30	2200	695	PG101M016E077PTR
	120	8.0	7.7	400	12	30	2800	885	PG121M016F077PTR
	150	8.0	8.7	480	12	28	3000	950	PG151M016F087PTR
	150	10.0	8.7	480	12	35	3000	930	PG151M016G087PTR
	180	8.0	11.7	576	12	20	3800	1200	PG181M016F117PTR
	180	10.0	8.7	576	12	35	3000	930	PG181M016G087PTR
	220	8.0	11.7	704	12	20	3800	1200	PG221M016F117PTR
	270	10.0	10.5	864	12	25	3500	1105	PG271M016G105PTR
	330	10.0	10.5	1056	12	25	3500	1105	PG331M016G105PTR
	390	10.0	12.4	1248	12	20	4000	1265	PG391M016G124PTR
	560	10.0	12.4	1792	12	20	4000	1265	PG561M016G124PTR
20	22	6.3	5.8	600	10	50	1600	505	PG220M020E058PTR
	33	6.3	5.8	600	10	50	1600	505	PG330M020E058PTR
	47	6.3	7.7	600	10	35	2200	695	PG470M020E077PTR
	56	6.3	7.7	600	10	35	2200	695	PG560M020E077PTR
	68	6.3	7.7	600	10	35	2200	695	PG680M020E077PTR
	82	8.0	7.7	600	12	35	2800	885	PG820M020F077PTR
	120	8.0	7.7	600	12	35	2800	885	PG121M020F077PTR
	150	8.0	11.7	600	12	25	3800	1200	PG151M020F117PTR
	180	8.0	11.7	720	12	25	3800	1200	PG181M020F117PTR
	180	10.0	10.5	720	12	27	3500	1105	PG181M020G105PTR
	220	10.0	10.5	880	12	27	3500	1105	PG221M020G105PTR
	330	10.0	12.4	1320	12	25	4000	1265	PG331M020G124PTR

**STANDARD RATINGS**

Part number shows blister tape on paper reel

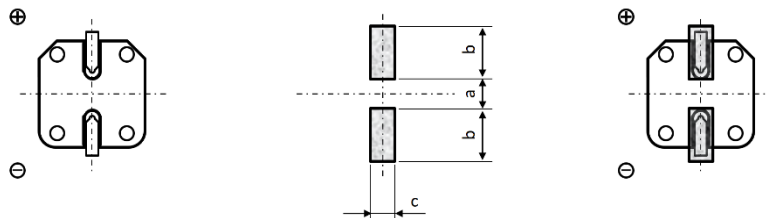
$V_R$ (V)	$C_R$ ( $\mu F$ )	$\phi D$ (mm)	L (mm)	$I_{LEAK}$ ( $\mu A$ , 2min)	$\tan\delta$ +20°C • 120Hz (%)	Max. ESR +20°C • 100kHz (m $\Omega$ )	$I_R$ - Max. Ripple Cur- rent +105°C • 100kHz (mA rms)	$I_R$ - Max. Ripple Cur- rent +125°C • 100kHz (mA rms)	CapXon Part Number
25	10	6.3	5.8	600	10	60	1500	474	PG100M025E058PTR
	22	6.3	5.8	600	10	60	1500	474	PG220M025E058PTR
	39	6.3	7.7	600	10	35	2200	695	PG390M025E077PTR
	47	6.3	7.7	600	10	35	2200	695	PG470M025E077PTR
	47	8.0	11.7	600	12	25	3500	1100	PG470M025F117PTR
	56	8.0	7.7	600	12	35	2800	885	PG560M025F077PTR
	68	8.0	7.7	600	12	35	2800	885	PG680M025F077PTR
	68	8.0	11.7	600	12	25	3800	1200	PG680M025F117PTR
	82	8.0	8.7	600	12	30	3000	950	PG820M025F087PTR
	82	8.0	11.7	600	12	25	3800	1200	PG820M025F117PTR
	82	10.0	8.7	600	12	35	2800	885	PG820M025G087PTR
	100	8.0	11.7	600	12	25	3800	1200	PG101M025F117PTR
	120	8.0	11.7	600	12	25	3800	1200	PG121M025F117PTR
	120	10.0	10.5	600	12	27	3500	1105	PG121M025G105PTR
	150	10.0	12.4	750	12	25	4000	1265	PG151M025G124PTR
180	10.0	12.4	900	12	25	4000	1265	PG181M025G124PTR	
35	10	6.3	5.8	600	12	75	980	310	PG100M035E058PTR
	18	6.3	7.7	600	12	60	1400	450	PG180M035E077PTR
	22	8.0	11.7	600	12	35	2300	730	PG220M035F117PTR
	27	6.3	7.7	600	12	60	1400	450	PG270M035E077PTR
	33	8.0	11.7	600	12	35	2300	730	PG330M035F117PTR
	39	8.0	8.7	600	12	40	1800	570	PG390M035F087PTR
	56	8.0	11.7	600	12	35	2300	730	PG560M035F117PTR
	68	10.0	10.5	600	12	32	2500	800	PG680M035G105PTR
	100	10.0	10.5	700	12	32	2500	800	PG101M035G105PTR
	100	10.0	12.4	700	12	30	3100	980	PG101M035G124PTR
150	8.0	11.7	1050	12	25	4800	1650	PG151M035F117PTR	
180	10.0	10.5	1260	12	30	4400	1390	PG181M035G105PTR	
50	10	8.0	7.7	100	12	75	1400	450	PG100M050F077PTR
	12	6.3	7.7	120	12	75	1400	450	PG120M050E077PTR
	22	8.0	8.7	220	12	50	1800	570	PG220M050F087PTR
	22	8.0	11.7	220	12	40	2400	760	PG220M050F117PTR
	22	10.0	8.7	220	12	55	1800	570	PG220M050G087PTR
	27	8.0	11.7	270	12	40	2400	760	PG270M050F117PTR
	33	10.0	10.5	330	12	42	2200	700	PG330M050G105PTR
	33	10.0	12.4	330	12	30	2800	885	PG330M050G124PTR
	47	10.0	12.4	470	12	30	2800	885	PG470M050G124PTR
	100	10.0	12.4	1000	12	30	2800	885	PG101M050G124PTR
	180	10.0	12.4	1800	12	24	3000	950	PG181M050G124PTR

### DIMENSIONS STANDARD PACKAGE ▀ All dimensions in mm



∅ D	L	α	A ± 0.2	B ± 0.2	C ± 0.2	F	P ± 0.2	W
6.3	5.8	0.3	6.6	6.6	7.2	0.3 max.	2.2	0.5 to 0.8
6.3	7.7	0.3	6.6	6.6	7.2	0.3 max.	2.2	0.5 to 0.8
8.0	7.7	0.3	8.3	8.3	9.0	0.3 max.	3.1	0.7 to 1.1
8.0	8.7	0.3	8.3	8.3	9.0	0.3 max.	3.1	0.7 to 1.1
8.0	11.7	0.3	8.3	8.3	9.0	0.3 max.	3.1	0.7 to 1.1
10.0	8.7	0.3	10.3	10.3	11.0	0.3 max.	4.5	0.7 to 1.1
10.0	10.5	0.3	10.3	10.3	11.0	0.3 max.	4.5	0.7 to 1.1
10.0	12.4	0.3	10.3	10.3	11.0	0.3 max.	4.5	1.0 to 1.4

### PAD LAYOUT STANDARD PACKAGE ▀ All dimensions in mm



Bottom view





Recommended land patterns

Capacitor mounted on pads

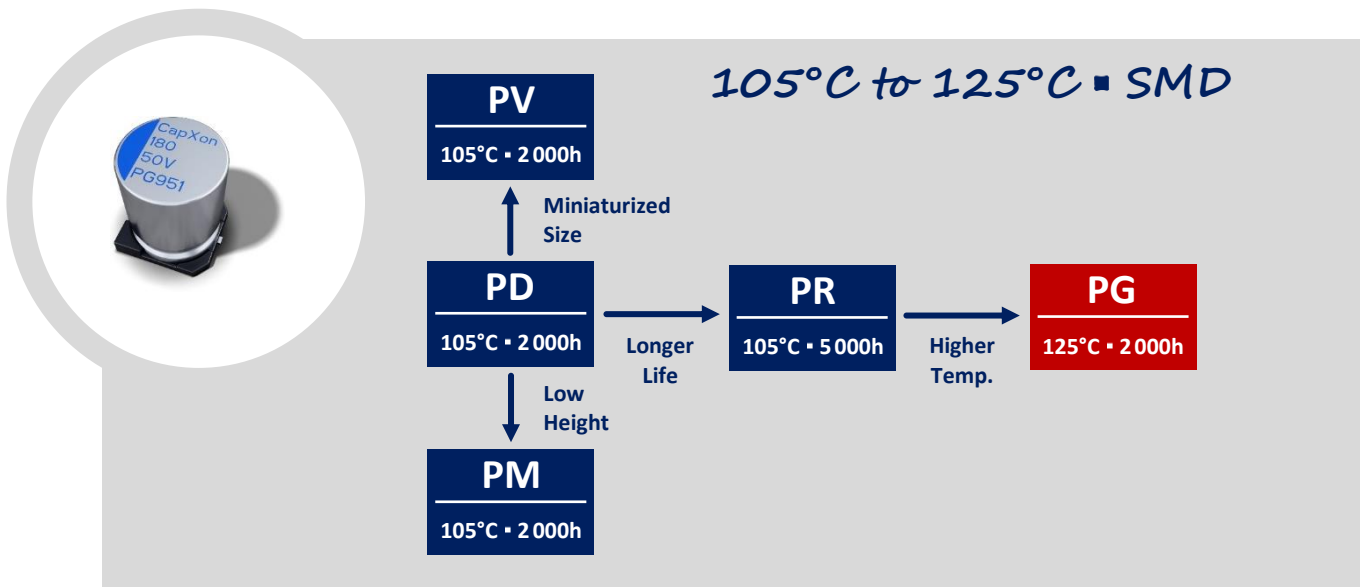
∅ D	L	a	b	c
6.3	5.8	2.1	3.5	1.6
6.3	7.7	2.1	3.5	1.6
8.0	7.7	2.8	4.2	1.9
8.0	8.7	2.8	4.2	1.9
8.0	11.7	2.8	4.2	1.9
10.0	8.7	4.3	4.4	1.9
10.0	10.5	4.3	4.4	1.9
10.0	12.4	4.3	4.4	1.9

### PRECAUTIONS, GUIDELINES AND PACKAGING INFORMATION

Unless otherwise agreed in individual specifications, all products are subject to our “General Precautions and Guidelines” as well as our “Packaging Information”. Please refer to the following links in the table.

			
<a href="#">General Precautions &amp; Guidelines</a>	<a href="#">Packaging Information</a>	<a href="#">3D Models</a>	<a href="#">Reliability Tests</a>

### GROUP CHART



#### DISCLAIMER

All product related data (e.g. specification, statements and general information) are subject to change without any notice. It is necessary that the customer observes all product related technical / application information and handling instructions.

CapXon products are designed and manufactured according to severe quality and safety standards. Under no circumstance, CapXon warrants that any CapXon product is suitable for the purposes intended for your application, even CapXon knows the application. It is customer's duty and obligation to check and make sure that CapXon products are suitable for the purposes intended and select the correct and proper CapXon product. Customers are requested to perform a sufficient validation and reliability evaluation to assure needed safety level and reliability performance by suitable designs and to apply proper safeguards (e.g. redundancies, protective circuits).

Particular operating conditions (ambient temperature, ripple current, voltage, thermal resistance, etc.) as well as storage, production or assembly may affect the performance and the lifetime of the capacitor. Please consult CapXon for lifetime estimation, failure mode considerations or worst-case scenarios according to the product technology, product tolerances / deviations or change of the characteristics of the capacitor due to shipment, storage, handling, production and usage.

For aerospace or military application, life-saving, life-sustaining, safety critical applications or any application where failure may cause severe personal injury or death, please consult us before design-in the capacitor in your application.

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