

PV SERIES ▀ LOW PROFILE TYPE

KEY FEATURES



- **SOLID CONDUCTIVE POLYMER** ▀ SMD type
- Low profile and high capacitance for space critical applications
- Endurance: 105°C ▀ 2 000 hours
- Large permissible ripple current
- No dry-out effect guarantees extremely long life



SPECIFICATIONS

Items		Performance Characteristics
Operating Temperature Range		-55 ~ +105°C
Rated Voltage Range	V_R	2.5 ~ 100V 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	6.8 ~ 2500 μ F
Cap. Tolerance	ΔC	$\pm 20\%$ (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 105°C (V_R applied)	Test	2 000 hours
	$\Delta C/C_R$	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	1 000 hours
	$\Delta C/C_R$	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)	$120 \leq \text{Freq.} < 1k$	$1k \leq \text{Freq.} < 10k$	$10k \leq \text{Freq.} < 100k$	$100k \leq \text{Freq.} < 300k$
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 (μF)	ø D (mm)	L (mm)	I _{LEAK} (μA, 2min)	tanδ +20°C • 120Hz (%)	Max. ESR +20°C • 100kHz (mΩ)	I _R • Max. Ripple Current +105°C • 100kHz (mA rms)	CapXon Part Number
2.5	560	8.0	7.7	280	8	20	3500	PV561M2R5F077PTR
	680	8.0	7.7	340	8	20	3500	PV681M2R5F077PTR
	820	8.0	7.7	410	8	20	3500	PV821M2R5F077PTR
	1000	8.0	8.7	500	8	11	4800	PV102M2R5F087PTR
	1200	10.0	8.7	600	8	20	3700	PV122M2R5G087PTR
	1500	10.0	8.7	750	10	20	3700	PV152M2R5G087PTR
	2200	10.0	10.5	1100	10	11	5500	PV222M2R5G105PTR
	2500	10.0	10.5	1250	10	11	5500	PV252M2R5G105PTR
4	330	8.0	7.7	264	8	20	3500	PV331M004F077PTR
	390	8.0	8.7	312	8	15	4200	PV391M004F087PTR
	470	8.0	8.7	376	8	15	4200	PV471M004F087PTR
	560	8.0	7.7	448	8	20	3500	PV561M004F077PTR
	560	8.0	8.7	448	8	11	4800	PV561M004F087PTR
	680	8.0	7.7	544	8	20	3500	PV681M004F077PTR
	680	8.0	8.7	544	8	11	4800	PV681M004F087PTR
	820	8.0	8.7	656	8	11	4800	PV821M004F087PTR
	820	10.0	10.5	656	8	11	5100	PV821M004G105PTR
	1000	8.0	10.5	800	10	11	5100	PV102M004F105PTR
	1200	10.0	10.5	960	10	11	5500	PV122M004G105PTR
	1500	10.0	10.5	1200	10	11	5500	PV152M004G105PTR
6.3	2000	10.0	10.5	1600	10	11	5500	PV202M004G105PTR
	220	8.0	7.7	277	8	20	3500	PV221M6R3F077PTR
	270	8.0	7.7	340	8	20	3500	PV271M6R3F077PTR
	330	8.0	7.7	416	8	20	3500	PV331M6R3F077PTR
	390	8.0	7.7	491	8	20	3500	PV391M6R3F077PTR
	470	8.0	7.7	592	8	20	3500	PV471M6R3F077PTR
	470	8.0	8.7	592	8	11	4800	PV471M6R3F087PTR
	680	8.0	8.7	856	10	11	4800	PV681M6R3F087PTR
	820	10.0	8.7	1033	10	20	3700	PV821M6R3G087PTR
	1000	10.0	8.7	1260	10	20	3700	PV102M6R3G087PTR
10	1200	10.0	10.5	1512	10	11	5500	PV122M6R3G105PTR
	1500	10.0	10.5	1890	10	11	5500	PV152M6R3G105PTR
	330	8.0	7.7	660	8	20	3500	PV331M010F077PTR
	390	8.0	7.7	780	8	20	3500	PV391M010F077PTR
	470	8.0	8.7	940	8	11	4800	PV471M010F087PTR
	560	10.0	8.7	1120	8	20	3700	PV561M010G087PTR
	560	10.0	10.5	1120	8	11	4800	PV561M010G105PTR
	680	10.0	8.7	1360	10	20	3700	PV681M010G087PTR
10	680	10.0	10.5	1360	10	11	4800	PV681M010G105PTR
	820	10.0	10.5	1640	10	11	5100	PV821M010G105PTR

STANDARD RATINGS

Part number shows blister tape on paper reel

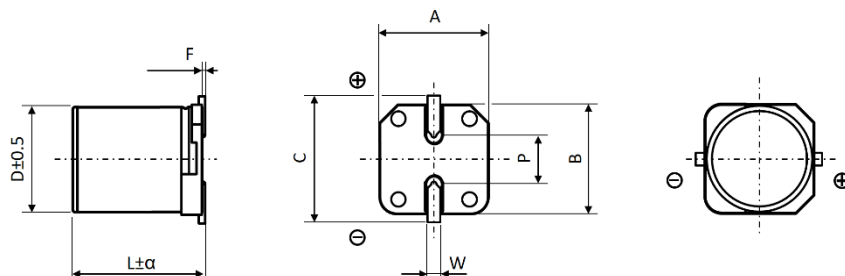
V _R (V)	C _R (μF)	ø D (mm)	L (mm)	I _{LEAK} (μA, 2min)	tanδ +20°C • 120Hz (%)	Max. ESR +20°C • 100kHz (mΩ)	I _R • Max. Ripple Current +105°C • 100kHz (mA rms)	CapXon Part Number
16	68	8.0	7.7	218	8	25	3300	PV680M016F077PTR
	150	8.0	7.7	480	8	25	3300	PV151M016F077PTR
	180	8.0	7.7	576	8	23	3500	PV181M016F077PTR
	180	8.0	8.7	576	8	16	4800	PV181M016F087PTR
	220	8.0	7.7	704	8	23	3500	PV221M016F077PTR
	220	8.0	8.7	704	8	16	4800	PV221M016F087PTR
	270	8.0	8.7	864	10	16	4800	PV271M016F087PTR
	270	10.0	10.5	864	10	16	5100	PV271M016G105PTR
	330	10.0	8.7	1056	10	23	3700	PV331M016G087PTR
	330	10.0	10.5	1056	10	16	5100	PV331M016G105PTR
	390	10.0	8.7	1248	10	23	3700	PV391M016G087PTR
	390	10.0	10.5	1248	10	16	5100	PV391M016G105PTR
	470	10.0	10.5	1504	10	16	5100	PV471M016G105PTR
20	27	8.0	8.7	400	10	25	3300	PV270M020F087PTR
	68	8.0	8.7	272	10	22	3500	PV680M020F087PTR
	82	8.0	8.7	328	10	22	3500	PV820M020F087PTR
	100	8.0	8.7	400	10	22	3500	PV101M020F087PTR
	120	10.0	8.7	480	10	30	2800	PV121M020G087PTR
	150	8.0	8.7	600	10	22	3500	PV151M020F087PTR
	150	10.0	8.7	600	10	27	3100	PV151M020G087PTR
	180	10.0	8.7	720	10	27	3100	PV181M020G087PTR
	180	10.0	10.5	720	10	22	3700	PV181M020G105PTR
	220	10.0	8.7	880	10	27	3100	PV221M020G087PTR
	220	10.0	10.5	880	10	22	3700	PV221M020G105PTR
	270	10.0	10.5	1080	10	22	3700	PV271M020G105PTR
	330	10.0	10.5	1320	10	22	3700	PV331M020G105PTR
25	47	10.0	8.7	400	10	30	2800	PV470M025G087PTR
	68	8.0	8.7	340	10	22	3500	PV680M025F087PTR
	82	8.0	8.7	410	10	22	3500	PV820M025F087PTR
	82	10.0	8.7	410	10	27	3100	PV820M025G087PTR
	100	8.0	8.7	500	10	22	3500	PV101M025F087PTR
	100	10.0	8.7	500	10	27	3100	PV101M025G087PTR
	120	8.0	8.7	600	10	22	3500	PV121M025F087PTR
	150	8.0	8.7	750	10	25	3300	PV151M025F087PTR
	180	10.0	10.5	900	10	22	3700	PV181M025G105PTR
	270	10.0	10.5	1350	10	25	3500	PV271M025G105PTR
35	56	8.0	7.7	392	12	40	2200	PV560M035F077PTR
	68	8.0	7.7	476	12	35	2400	PV680M035F077PTR
	82	8.0	8.7	574	12	35	2600	PV820M035F087PTR
	100	8.0	8.7	700	12	30	3000	PV101M035F087PTR
	100	10.0	10.5	700	12	30	3200	PV101M035G105PTR
	120	10.0	10.5	840	12	30	3200	PV121M035G105PTR
	150	10.0	10.5	1050	12	30	3200	PV151M035G105PTR

STANDARD RATINGS

Part number shows blister tape on paper reel

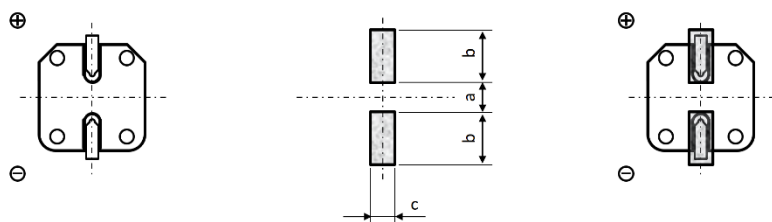
V_R (V)	C_R (μF)	ϕD (mm)	L (mm)	I_{LEAK} (μA , 2min)	$\tan\delta$ +20°C • 120Hz (%)	Max. ESR +20°C • 100kHz (m Ω)	I_R • Max. Ripple Current +105°C • 100kHz (mA rms)	CapXon Part Number
50	10	8.0	8.7	100	12	45	1500	PV100M050F087PTR
	33	8.0	8.7	330	12	40	1900	PV330M050F087PTR
	47	8.0	10.5	470	12	35	2200	PV470M050F105PTR
	47	10.0	10.5	470	12	35	2500	PV470M050G105PTR
	68	10.0	10.5	680	12	35	2600	PV680M050G105PTR
63	10	8.0	8.7	126	12	45	1500	PV100M063F087PTR
	22	8.0	8.7	277	12	40	1700	PV220M063F087PTR
	27	8.0	8.7	340	12	40	1900	PV270M063F087PTR
	33	8.0	8.7	416	12	40	1900	PV330M063F087PTR
	33	10.0	10.5	416	12	35	2200	PV330M063G105PTR
	47	10.0	10.5	592	12	35	2200	PV470M063G105PTR
80	10	8.0	8.7	160	12	45	1600	PV100M080F087PTR
	15	10.0	10.5	240	12	40	1900	PV150M080G105PTR
100	6.8	8.0	8.7	136	12	48	1500	PV6R8M100F087PTR
	12	10.0	10.5	240	12	45	1900	PV120M100G105PTR
	15	8.0	8.7	300	12	48	1500	PV150M100F087PTR

DIMENSIONS STANDARD PACKAGE ▪ All dimensions in mm



ϕD	L	α	$A \pm 0.2$	$B \pm 0.2$	$C \pm 0.2$	F	$P \pm 0.2$	W
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	10.5	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

PAD LAYOUT STANDARD PACKAGE ▀ All dimensions in mm



Bottom view

Recommended land patterns

Capacitor mounted on pads

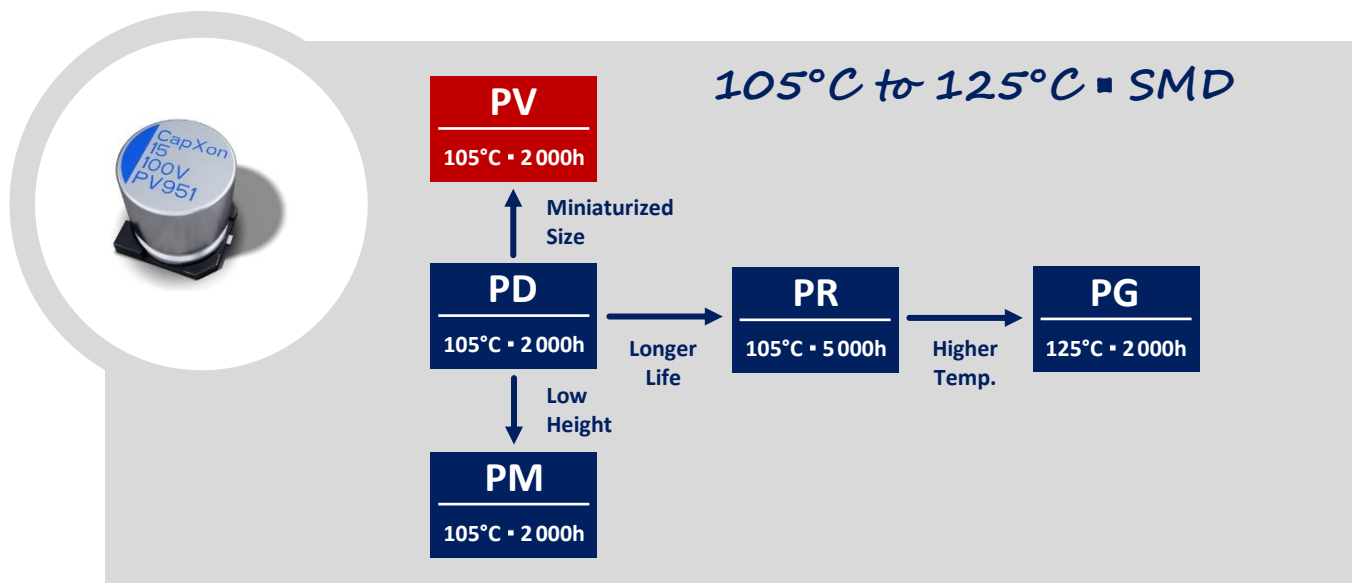
∅ D	L	a	b	c
8.0	7.7	2.8	4.2	1.9
8.0	8.7	2.8	4.2	1.9
8.0	10.5	2.8	4.2	1.9
10.0	8.7	4.3	4.4	1.9
10.0	10.5	4.3	4.4	1.9

PRECAUTIONS, GUIDELINES AND PACKAGING INFORMATION

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

General Precautions & Guidelines	Packaging Information	3D Models	Reliability Tests

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.

Except for the written expressed warranties, CapXon does not impliedly, by assumption or whatever else, warrant, undertake, promise any other warranty or guaranty for any CapXon product.

For further information, please visit our website www.capxongroup.com or contact CapXon directly.