

Fully Sealed Potentiometers Cermet (PRV6) Conductive Plastic (PARV6)



FEATURES

- PRV6 high power rating 1.5 Watt at 70 °C
- PARV6 0.75 Watt at 70 °C
- CECC 41300
- Military performances
- Low cost
- Fully sealed and panel sealed
- Compatible RV6 (MIL R 94)
- Mechanical life 50 000 cycles



RoHS
COMPLIANT

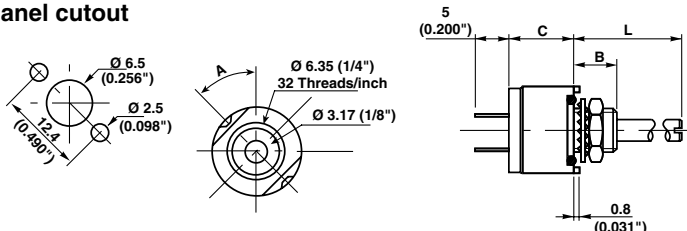
DIMENSIONS in millimeters

PRV cermet PRV6

PARV conductive plastic PARV6

Shafts and bushings: 6 - 61 - 62

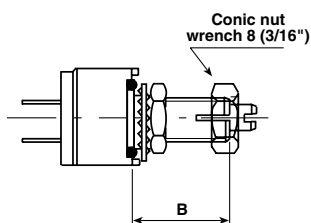
Panel cutout



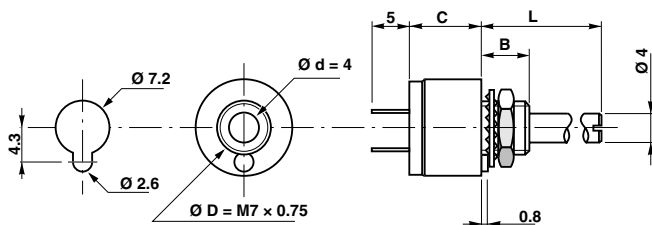
Locking shaft H option:

61H - 62H

61LCH - 62LCH



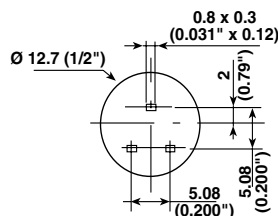
Shaft Dia 4 mm: 6Q - 61Q - 61QH



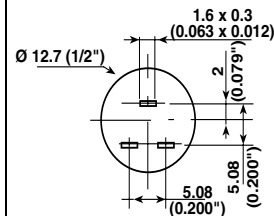
See ordering information for quotation

Terminal options available on all types

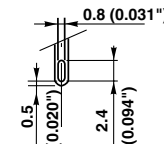
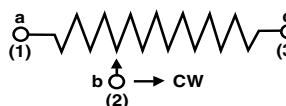
PCB pins W option



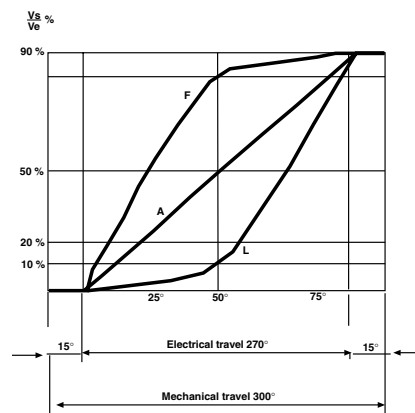
Solder lugs



CIRCUIT DIAGRAM



VARIATION LAWS



TAPERS

Tapers A - L - F - are measured between the wiper (2) and the ccw terminal (1).



ELECTRICAL SPECIFICATIONS		
Resistive Element		PRV6 cermet
Electrical Travel		PARV6 conductive plastic
Resistance Range	Linear Law (A)	20 Ω to 10 MΩ
	Non Linear Laws (F-L)	470 Ω to 1 MΩ
Tolerance	Standard	± 20 % ± 10 %
	On Request	± 5 %
Power Rating at + 70 °C	Linear	1.5 W
	Other Tapers	0.75 W
Temperature Coefficient		± 100 ppm/°C
Limiting Element Voltage		350 V
Contact Resist. Variation CRV		2 % or 3 Ω
End Resistance (Typical)		1 Ω
Dielectric Strength		1750 VRMS (2000 VRMS on request)
Insulation Resistance (500 VDC)		10 ⁶ MΩ

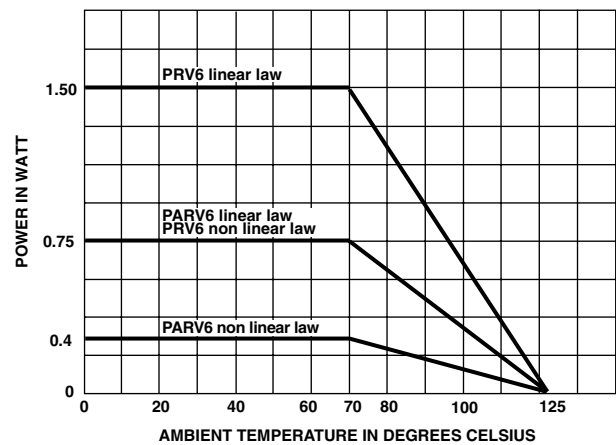
MECHANICAL SPECIFICATIONS

Mechanical Travel	300° ± 5°
Operating Torque	0.5 to 2 Ncm
	or 0.7 to 3 oz.in.
End Stop Torque max	35 Ncm
	or 3 lb.in.
Tightening Torque max	150 Ncm
	or 13 lb.in.

ENVIRONMENTAL SPECIFICATIONS

	PRV6	PARV6
Temperature Range	- 55 °C to + 125 °C	- 40 °C to + 125 °C
Climatic Category	55/125/56	40/125/56
Sealing	fully sealed container IP67 and panel sealed	

POWER RATING CHART



PERFORMANCE						
CECC 41 300 and/or MIL R 94					TYPICAL VALUES AND DRIFTS	
TESTS	CONDITIONS	$\frac{\Delta RT}{RT}$ (%)	REQUIREMENTS	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)	$\frac{\Delta RT}{RT}$ (%)	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
Load Life	1000 h at rated power 90/30' - temperature 70 °C	± 10 %	CRV < 7 % Rn		± 1 %	CRV < 3 % Rn
Climatic Sequence	Phase A dry heat 100 °C Phase B damp heat Phase C cold - 55 °C Phase D damp heat 5 cycles	± 10 %		± 10 %	± 0.5 %	± 1 %
Long Term Damp Heat	56 days	± 10 %		± 10 %	± 0.5 %	± 1 %
Rapid Temperature Change	5 cycles - 55 °C at + 125 °C	± 3 %			± 0.5 %	
Vibration	10 g 55 to 2000 Hz 2 h each direction	± 2 %	no CUT > 0.1 ms ± 5 %		± 0.1 %	± 0.2 %
Shock	100 g 6 ms 20 shocks	± 2 %		± 5 %	± 0.1 %	± 0.2 %
Rotational Life	50 000 cycles	± 10 %	CRV < 7 % Rn		± 3 %	CRV < 2 % Rn

STANDARD RESISTANCE ELEMENT DATA							
STANDARD RESISTANCE VALUES	PRV6 LINEAR LAW			PRV6 NON-LINEAR LAWS			TCR -55 °C +125 °C
	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. WIPER CUR.	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. WIPER CUR.	
Ω	W	V	mA	W	V	mA	ppm/°C
20 50	1.5	5.48 8.66	274 173				0 +200
100 200 500 1K 2K 5K 10K 20K 50K 100K 200K 500K 1M 2M 5M 10M	↓ 1.5 1.22 0.61 0.25 0.12 0.06 0.025 0.012	12.2 17.3 27.4 38.7 54.8 86.6 122.5 173 274 350 350 350 350 350 350 350	122 87 55 38.7 27.4 17.3 12.2 8.26 5.65 3.5 1.75 0.7 0.35 0.17 0.07 0.035	0.75 ↓ 0.75 0.61 0.25	27.3 38.2 61.2 87 122 194 273 350 350	27.4 19.3 12.2 8.7 6.1 3.9 2.74 1.75 0.7	PRV6 ±100

PACKAGING
Carton box of 50, code: BO50

PANEL SEALING

Except for dia. 4 mm shaft, an O-ring is supplied with the potentiometer. This O-ring should be placed into the groove of the body and ensures the panel sealing.
For dia. 4 mm shaft please see note "P" in ordering information.

SHAFTS

Shaft lengths are measured from the mounting face to the free end of the shaft. Special shafts are available if the customer supplies a drawing. The shaft slot is aligned to the wiper within ± 10°.

HARDWARE

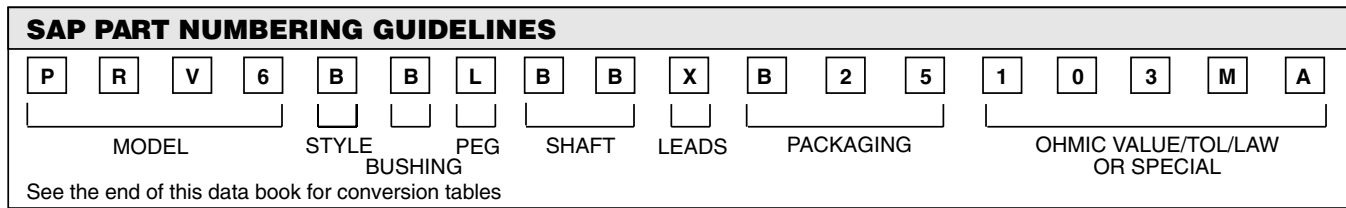
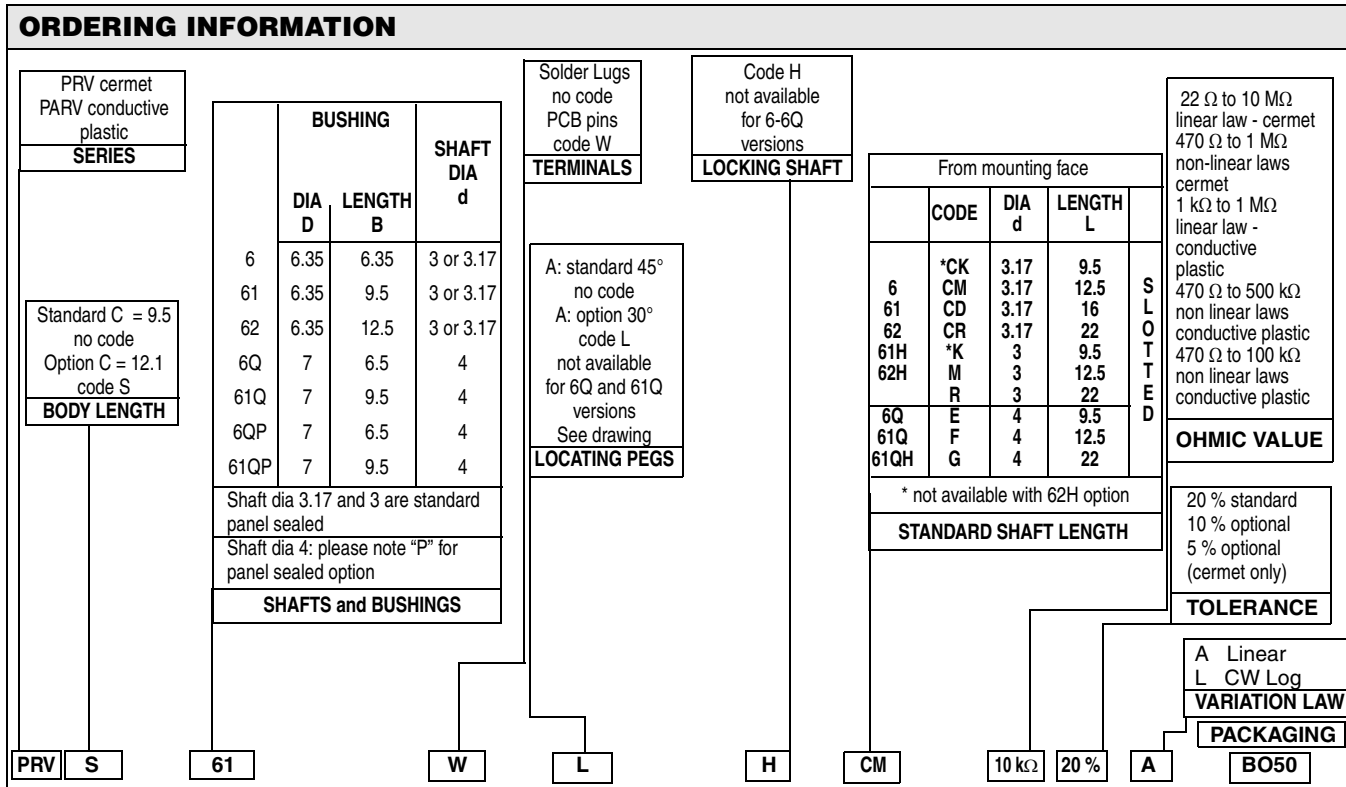
Nuts, washer and O-ring are **separately supplied** (not mounted on the potentiometer), in a small bag placed in the packaging.

LOCATING PEG

Except for dia. 4 mm shaft, the potentiometers are delivered with 2 opposite locating pegs orientated at 45°. These 2 pegs can be easily broken-off by the customer. On request, the orientation of the pegs can be at 30° instead of 45°. Order Designation: PRV6 L (see ordering information)

MARKING

VISHAY trademark, series, style, ohmic value (in Ω, kΩ or MΩ), tolerance in %, taper code, manufacturing date (4 digits: 2 for year, 2 for week), terminal 1.





Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.