

## 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

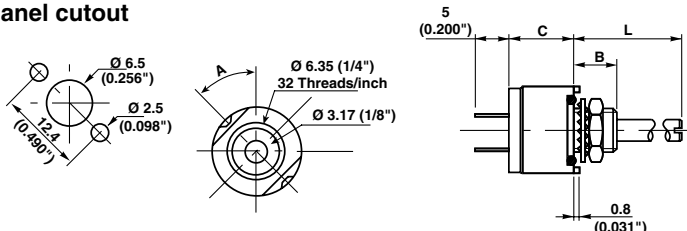
### DIMENSIONS in millimeters

PRV cermet PRV6

PARV conductive plastic PARV6

Shafts and bushings: 6 - 61 - 62

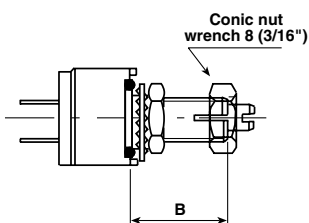
#### Panel cutout



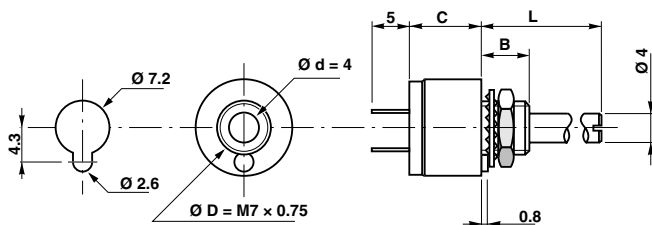
#### Locking shaft H option:

61H - 62H

61LCH - 62LCH



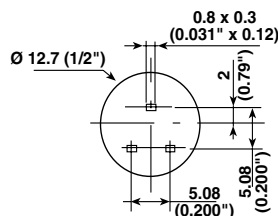
#### Shaft Dia 4 mm: 6Q - 61Q - 61QH



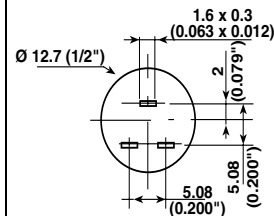
See ordering information for quotation

### Terminal options available on all types

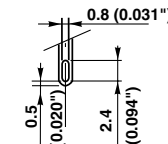
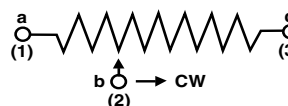
#### PCB pins W option



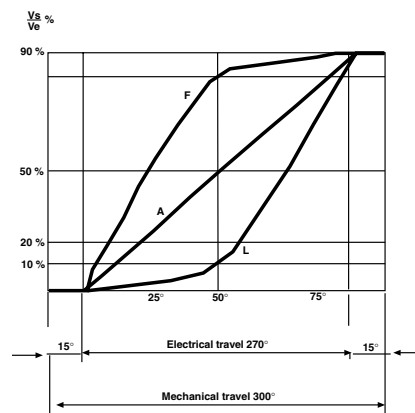
#### Solder lugs



### CIRCUIT DIAGRAM



### VARIATION LAWS



### TAPERS

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



<b>ELECTRICAL SPECIFICATIONS</b>			
		<b>PRV6</b>	<b>PARV6</b>
<b>Resistive Element</b>		cermet	conductive plastic
<b>Electrical Travel</b>		270° ± 15°	270° ± 15°
<b>Resistance Range</b>	<b>Linear Law (A)</b>	20 Ω to 10 MΩ	1 kΩ to 1 MΩ
	<b>Non Linear Laws (F-L)</b>	470 Ω to 1 MΩ	470 Ω to 500 kΩ (± 20 %)
<b>Tolerance</b>	<b>Standard</b>	± 20 % ± 10 %	± 20 %
	<b>On Request</b>	± 5 %	± 10 % (1 kΩ to 100 kΩ)
<b>Power Rating at + 70 °C</b>	<b>Linear</b>	1.5 W	0.75 W
	<b>Other Tapers</b>	0.75 W	0.4 W
<b>Temperature Coefficient</b>		± 100 ppm/°C	± 1000 ppm/°C
<b>Limiting Element Voltage</b>		350 V	350 V
<b>Contact Resist. Variation CRV</b>		2 % or 3 Ω	
<b>End Resistance (Typical)</b>		1 Ω	
<b>Dielectric Strength</b>		1750 VRMS (2000 VRMS on request)	
<b>Insulation Resistance (500 VDC)</b>		10 <sup>6</sup> MΩ	

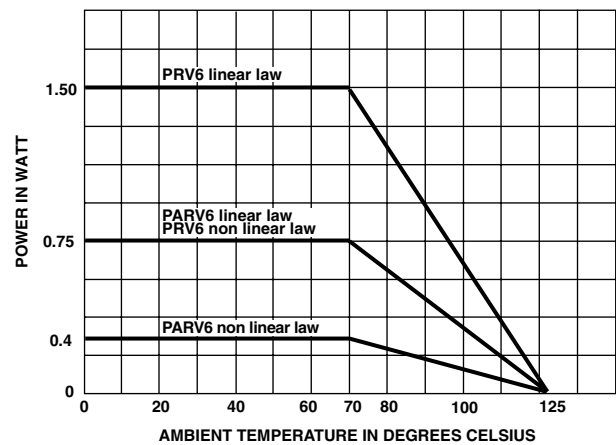
**MECHANICAL SPECIFICATIONS**

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

**ENVIRONMENTAL SPECIFICATIONS**

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

**POWER RATING CHART**



<b>PERFORMANCE</b>						
<b>CECC 41 300 and/or MIL R 94</b>					<b>TYPICAL VALUES AND DRIFTS</b>	
<b>TESTS</b>	<b>CONDITIONS</b>	$\frac{\Delta RT}{RT}$ (%)	<b>REQUIREMENTS</b>	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)	$\frac{\Delta RT}{RT}$ (%)	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
<b>Load Life</b>	1000 h at rated power 90/30' - temperature 70 °C	± 10 %	CRV < 7 % Rn		± 1 %	CRV < 3 % Rn
<b>Climatic Sequence</b>	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 %
<b>Long Term Damp Heat</b>	56 days	± 10 %		± 10 %	± 0.5 %	± 1 %
			Insulation resist. > 100 MΩ			Insulation resist. > 10 <sup>4</sup> MΩ
<b>Rapid Temperature Change</b>	5 cycles - 55 °C at + 125 °C	± 3 %			± 0.5 %	
<b>Vibration</b>	10 g 55 to 2000 Hz 2 h each direction	± 2 %	no CUT > 0.1 ms ± 5 %		± 0.1 %	± 0.2 %
<b>Shock</b>	100 g 6 ms 20 shocks	± 2 %		± 5 %	± 0.1 %	± 0.2 %
<b>Rotational Life</b>	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

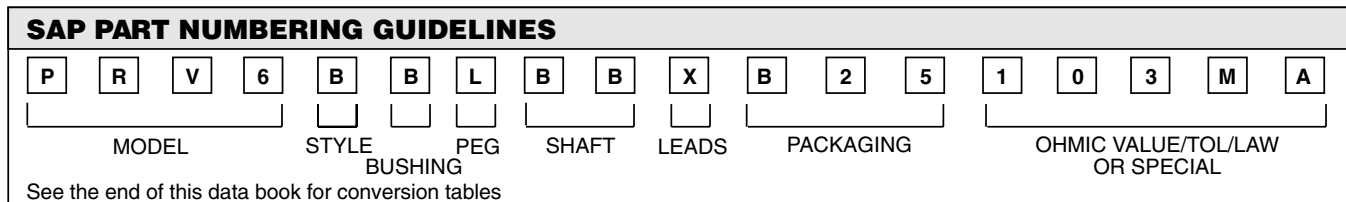
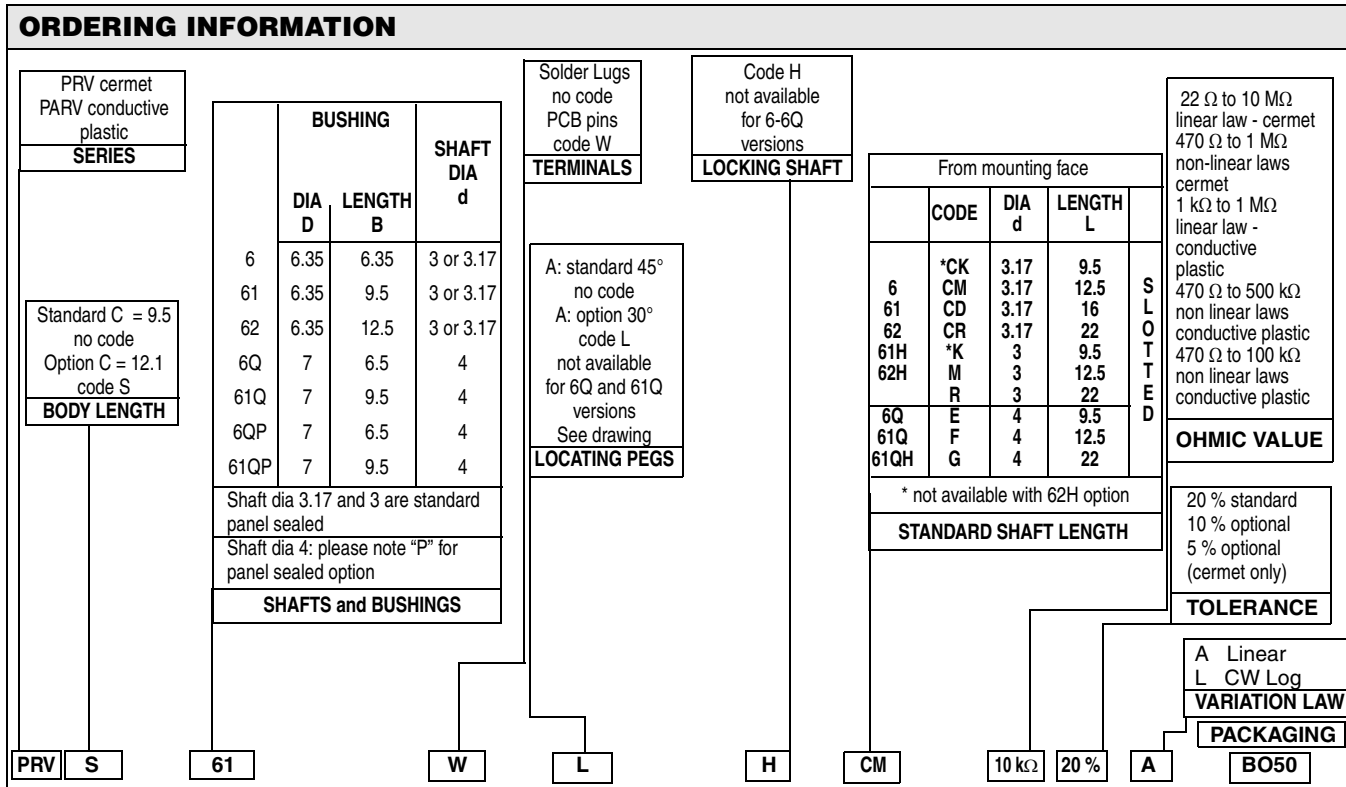
Nuts, washer and O-ring are **separately supplied** (not mounted on the potentiometer), in a small bag placed in the packaging.

### 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

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