

## 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

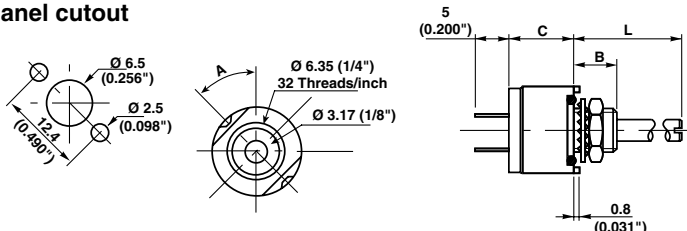
### DIMENSIONS in millimeters

PRV cermet PRV6

PARV conductive plastic PARV6

Shafts and bushings: 6 - 61 - 62

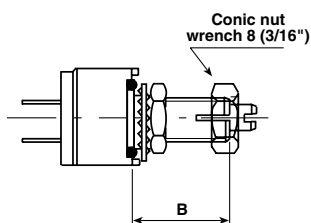
#### Panel cutout



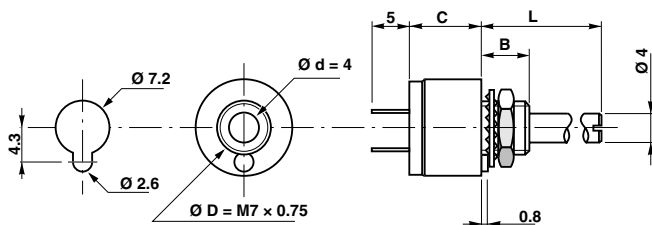
#### Locking shaft H option:

61H - 62H

61LCH - 62LCH



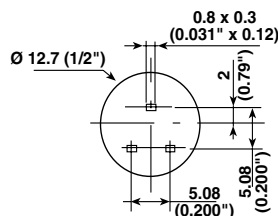
#### Shaft Dia 4 mm: 6Q - 61Q - 61QH



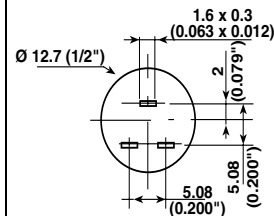
See ordering information for quotation

### Terminal options available on all types

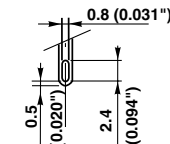
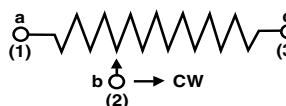
#### PCB pins W option



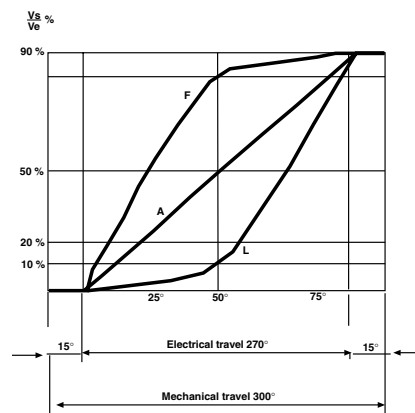
#### Solder lugs



### 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 <sup>6</sup> MΩ

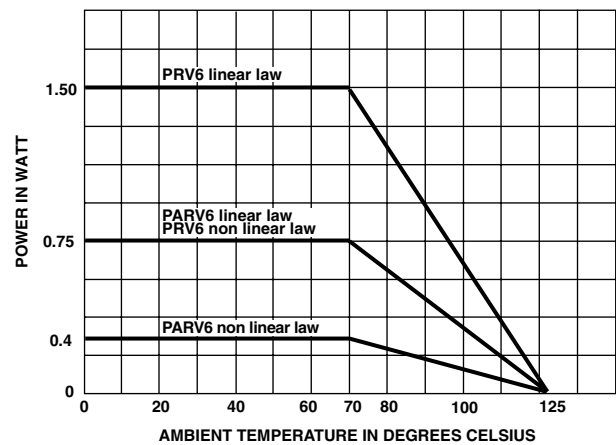
**MECHANICAL SPECIFICATIONS**

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	↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	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 ↓ 0.25	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

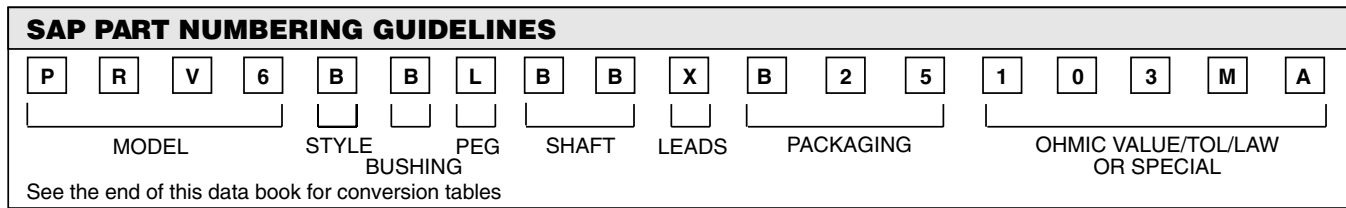
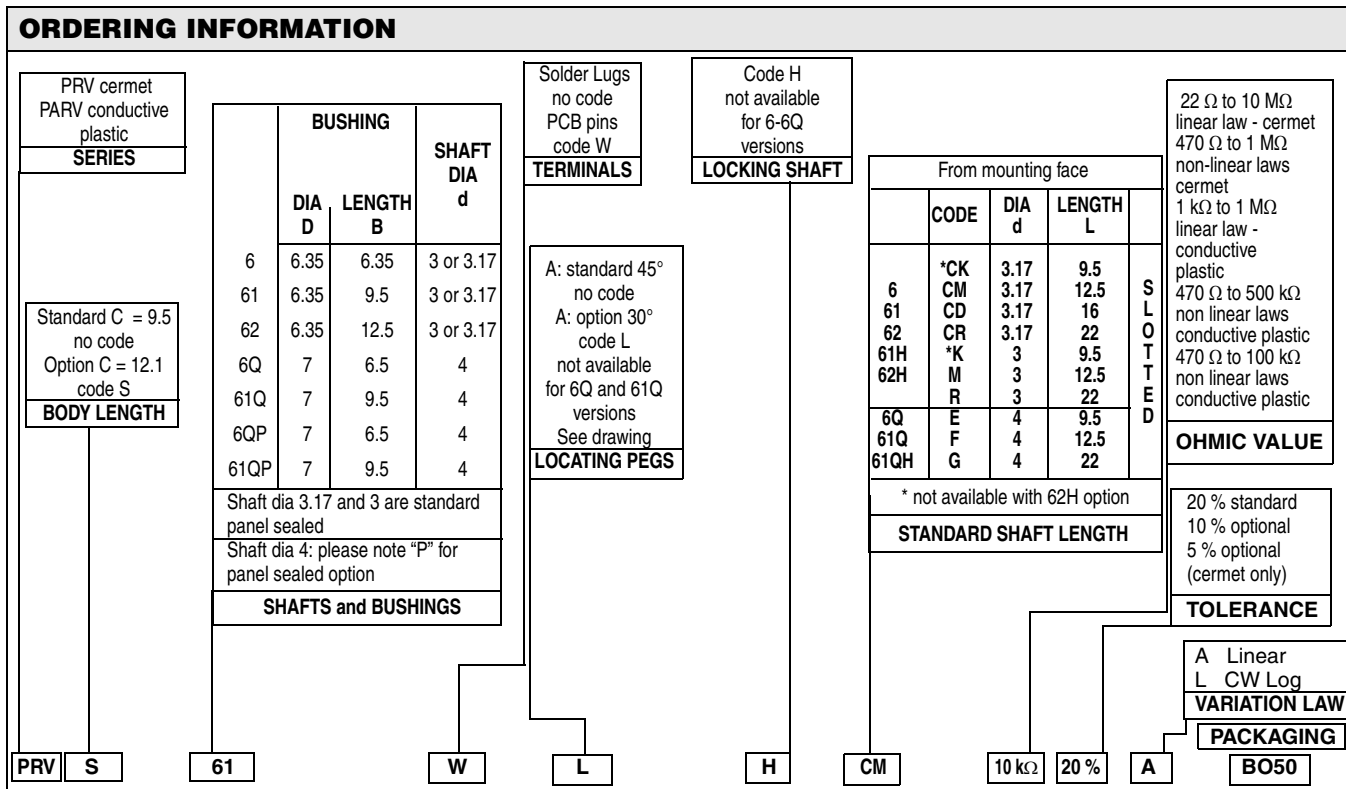
Nuts, washer and O-ring are **separately supplied** (not mounted on the potentiometer), in a small bag placed in the packaging.

### 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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