



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

**FEATURES**

- PRV6 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)
- High power rating (cermet)
- High stability
- Mechanical life 50,000 cycles



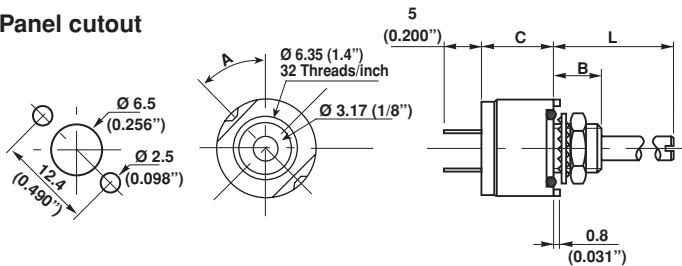
**DIMENSIONS** in millimeters [inches]

**PRV cermet PRV6  
PARV conductive plastic PARV6**

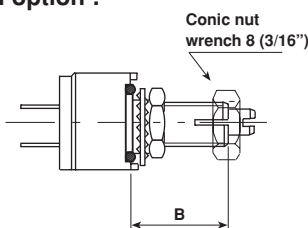
Shafts and bushings : 6 - 61 - 62

6LC - 61LC - 62LC

**Panel cutout**

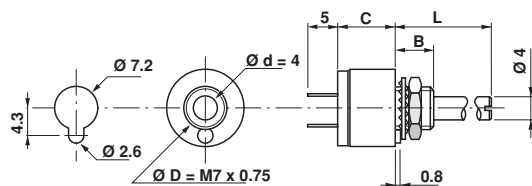


**Locking shaft H option :  
61H - 62H  
61LCH - 62LCH**



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

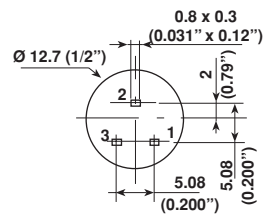
6QLC - 61QLC - 61QLCH



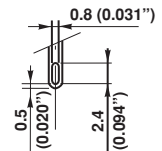
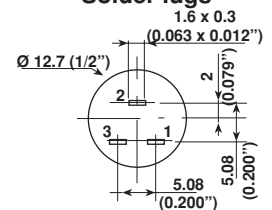
See ordering information for quotation

**Terminal options available  
on all types**

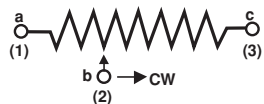
**PCB pins  
W option**



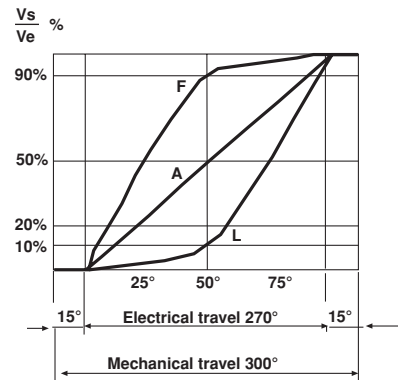
**Solder lugs**



**CIRCUIT DIAGRAM**



**VARIATION LAWS**



**TAPERS**

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

# PRV6, PARV6

Vishay Sfernice

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



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

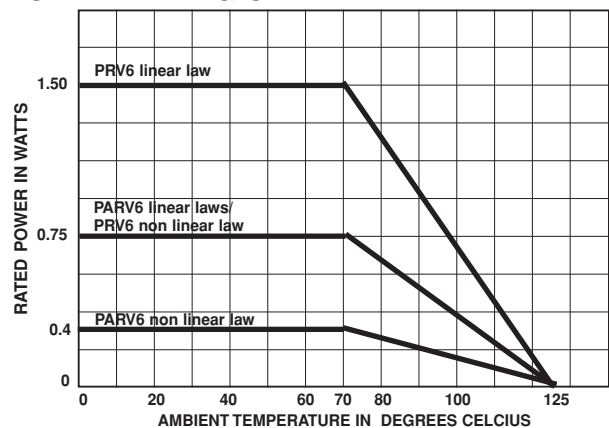
## MECHANICAL SPECIFICATIONS

|                       |                 |
|-----------------------|-----------------|
| 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 + 125°C                                  | - 40°C + 125°C |
| Climatic Category | 55/125/56                                       | 40/125/56      |
| Sealing           | fully sealed container<br>IP67 and panel sealed |                |

## POWER RATING CHART



| PERFORMANCE (PRV6)          |   |   |  |
|-----------------------------|---|---|--|
| 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<br>90°/30' - temperature 70°C   | ± 10%<br>CRV < 7% Rn                    | ± 1%<br>CRV < 3% Rn  |
| Climatic Sequence           | Phase A dry heat 100°C<br>Phase B damp heat<br>Phase C cold -55°C<br>Phase D damp heat 5 cycles | ± 10%                                   | ± 10%<br>± 0.5%<br>± 1%  |
| Long Term Damp Heat         | 56 days   | ± 10%<br>Insulation resist. > 100MΩ     | ± 10%<br>± 0.5%<br>Insulation resist. > 10 <sup>4</sup> MΩ   |
| Rapid Temperature Change    | 5 cycles - 55°C at + 125°C  | ± 3%                                    | ± 0.5%   |
| Vibration                   | 10g 55 to 2000 Hz<br>2 h each direction   | ± 2% no CUT > 0.1 ms                    | ± 5%<br>± 0.1%<br>± 0.2 %  |
| Shock                       | 100 g 6 ms 20 shocks  | ± 2%                                    | ± 5%<br>± 0.1%<br>± 0.2 %  |
| Rotational Life             | 50.000 cycles   | ± 10%<br>CRV < 7 % Rn                   | ± 3%<br>CRV < 2% Rn  |



# PRV6, PARV6

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

## 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. 4mm 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).

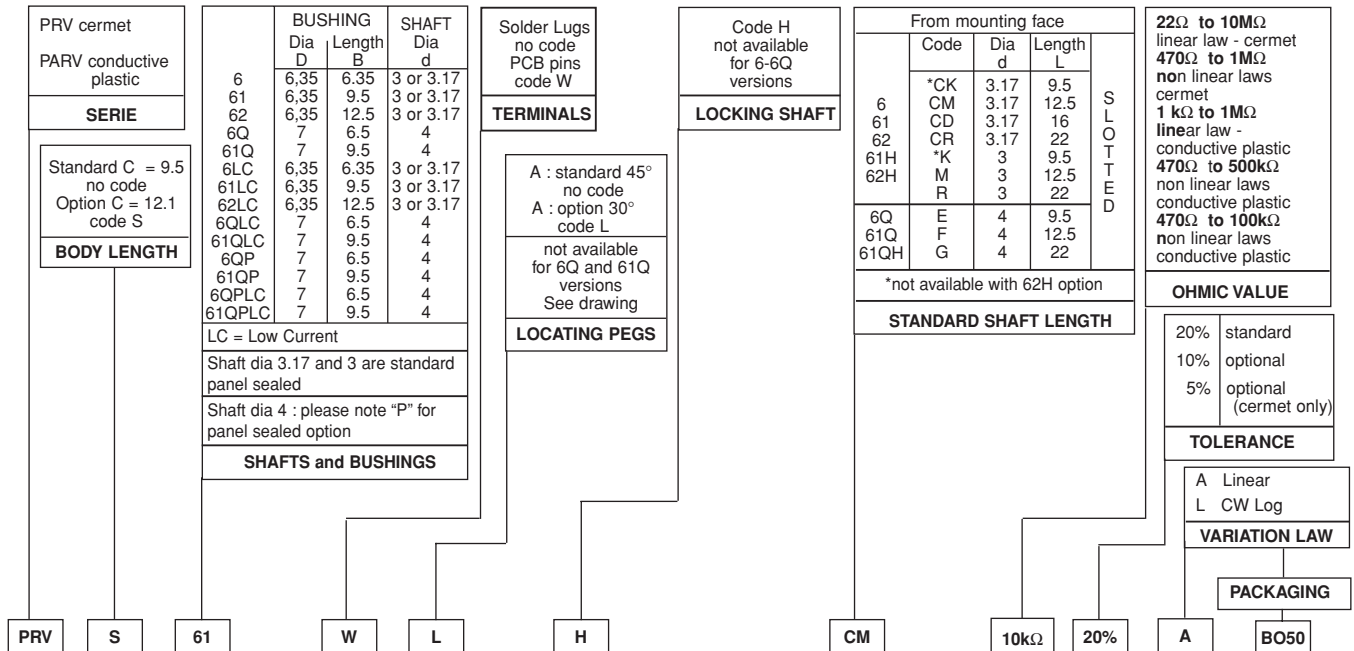
## MARKING

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.

## PACKAGING

Carton box of 50, code: BO50

## ORDERING INFORMATION



## "LC" OPTION LOW CURRENT

For sensitive applications, when the current going through the wiper of the potentiometer is very low (less than 1 μ Amp) or when the climatic conditions of use are tightened up, we recommend to use the Low Current (LC) option of the PRV6 and PARV6 series. The general characteristics of this model are identical with the standard PRV6/PARV6 characteristics but it gives exceptional results in matter of stability when used in extreme climatic conditions and/or current close to 0 Amp.