

## Features

- Bushing mount
- Shaft supported by front sleeve bearing
- Non-standard features and specifications available

# 6657 - Precision Potentiometer

### Electrical Characteristics<sup>1</sup>

|   |                       |
|---|-----------------------|
| Standard Resistance Range.....  | 1 K to 100 K ohms     |
| Total Resistance Tolerance .....  | ±10 %                 |
| Independent Linearity .....   | ±1 %                  |
| Effective Electrical Angle.....   | 340° ±3°              |
| End Voltage .....   | 0.5 % maximum         |
| Output Smoothness.....  | 0.1 %                 |
| Dielectric Withstanding Voltage (MIL-STD-202, Method 301)                         |                       |
| Sea Level.....  | 750 VAC minimum       |
| Power Rating (Voltage Limited By Power Dissipation or 300 VAC, Whichever is Less) |                       |
| +70 °C .....  | 1.5 watts             |
| +125 °C.....  | 0 watt                |
| Insulation Resistance (500 VDC).....  | 1,000 megohms minimum |
| Resolution .....  | Essentially infinite  |

### Environmental Characteristics<sup>1</sup>

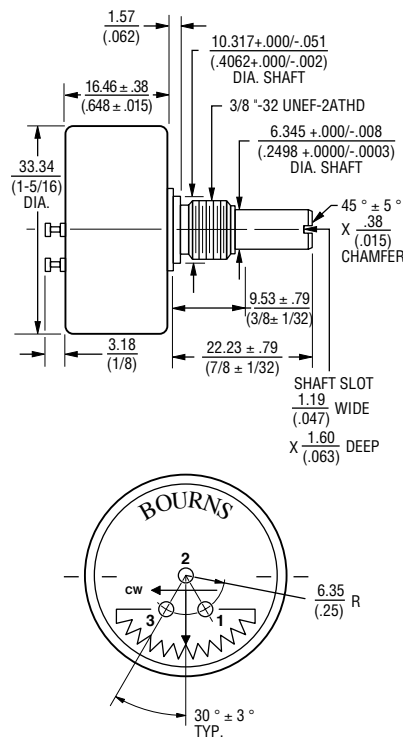
|   |                              |
|---|------------------------------|
| Operating Temperature Range .....                           | -40 °C to +125 °C            |
| Storage Temperature Range.....                              | -65 °C to +125 °C            |
| Temperature Coefficient Over Storage Temperature Range..... | ±500 ppm/°C maximum          |
| Vibration .....   | 15 G                         |
| Wiper Bounce.....   | 0.1 millisecond maximum      |
| Total Resistance Shift .....                                | ±5 % maximum                 |
| Voltage Ratio Shift .....                                   | ±0.5 % maximum               |
| Shock .....   | 50 G                         |
| Wiper Bounce.....   | 0.1 millisecond maximum      |
| Total Resistance Shift .....                                | ±5 % maximum                 |
| Voltage Ratio Shift .....                                   | ±0.5 % maximum               |
| Load Life.....  | 1,000 hours, 1.5 watts       |
| Total Resistance Shift .....                                | ±10 % maximum                |
| Rotational Life (No Load) .....                             | 10,000,000 shaft revolutions |
| Total Resistance Shift .....                                | ±10 % maximum                |
| Moisture Resistance (MIL-STD-202, Method 106)               |                              |
| Total Resistance Shift .....                                | ±15 % maximum                |
| IP Rating .....   | IP 40                        |

### Mechanical Characteristics<sup>1</sup>

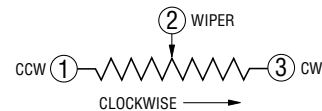
|  |  |
|--|--|
| Mechanical Angle.....                          | Continuous   |
| Torque (Starting & Running).....               | 0.40 N-cm (0.5 oz.-in.) maximum  |
| Mounting.....                                  | 170-200 N-cm (15-18 lb.-in.) maximum   |
| Shaft Runout.....                              | 0.025 mm (0.001 in.) T.I.R.  |
| Shaft End Play.....                            | 0.13 mm (0.005 in.) T.I.R.   |
| Shaft Radial Play .....                        | 0.13 mm (0.005 in.) T.I.R.   |
| Backlash .....                                 | 0.1° maximum   |
| Weight.....                                    | 32 gm  |
| Terminals.....                                 | Rear turret type   |
| Soldering Condition                            |  |
| Manual Soldering.....                          | 96.5Sn/3.0Ag/0.5Cu solid wire or no-clean rosin cored wire<br>370 °C (700 °F) max. for 3 seconds                         |
| Wave Soldering .....                           | 96.5Sn/3.0Ag/0.5Cu solder with no-clean flux<br>260 °C (500 °F) max. for 5 seconds                                       |
| Wash processes .....                           | Not recommended  |
| Marking .....                                  | Manufacturer's name and part number, resistance value and tolerance, linearity tolerance, wiring diagram, and date code. |
| Ganging (Multiple Section Potentiometers)..... | 1 cup maximum  |
| Hardware .....                                 | One lockwasher (H-37-2) and one mounting nut (H-38-2)<br>is shipped with each potentiometer.                             |

<sup>1</sup>At room ambient: +25 °C nominal and 50 % relative humidity, except as noted.

### Product Dimensions



TOLERANCES: EXCEPT WHERE NOTED  
 DECIMALS: .XX ± .51 (.02), .XXX ± .13 (.005)  
 FRACTIONS: ±1/64  
 DIMENSIONS: MM (IN.)



### Recommended Part Numbers

| Part Number*       | Resistance (Ω) |
|--------------------|----------------|
| <b>6657S-1-102</b> | <b>1,000</b>   |
| <b>6657S-1-202</b> | <b>2,000</b>   |
| <b>6657S-1-502</b> | <b>5,000</b>   |
| <b>6657S-1-103</b> | <b>10,000</b>  |

**BOLDFACE** LISTINGS ARE IN STOCK AND READILY AVAILABLE THROUGH DISTRIBUTION.

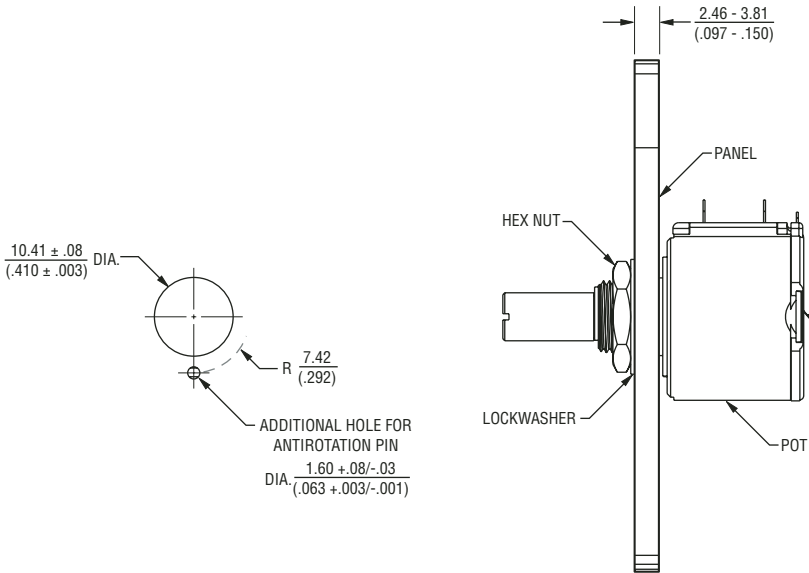
FOR OTHER OPTIONS CONSULT FACTORY.

\*RoHS Directive 2002/95/EC Jan 27 2003 including Annex Specifications are subject to change without notice. Customers should verify actual device performance in their specific applications.

# 6657 - Precision Potentiometer

**BOURNS®**

## Panel Thickness Dimensions



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

TOLERANCES:  $\pm \frac{0.127}{(.005)}$