



## Features

- 7/8 " (22 mm) diameter single-turn conductive plastic
  - Bushing mount
  - Excellent resolution
  - High rotational life – ball bearing shaft support

- Non-standard features and specifications available

## **6638 - 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 % maximum
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 watt
+125 °C.....	0 watt
Insulation Resistance (500 VDC).....	1,000 megohms minimum
Resolution.....	Essentially infinite

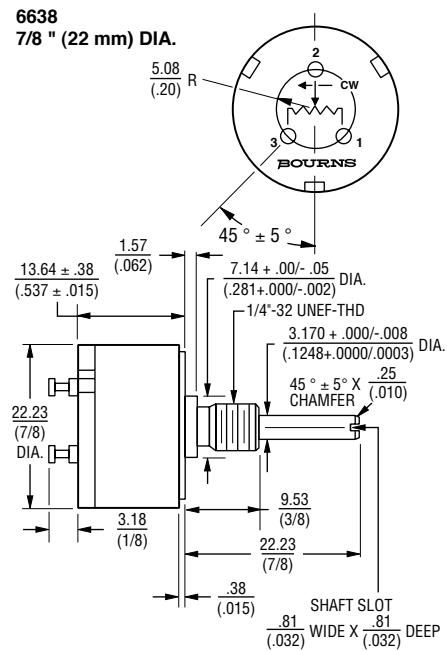
## **Environmental Characteristics<sup>1</sup>**

Operating Temperature Range.....	+1 °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 watt
Total Resistance Shift.....	±10 % maximum
Rotational Life (No Load) .....	20,000,000 shaft revolutions
Total Resistance Shift.....	±10 % maximum
Moisture Resistance (MIL-STD-202, Method 106)	
Total Resistance Shift .....	±10 % maximum

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

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

## Product Dimensions

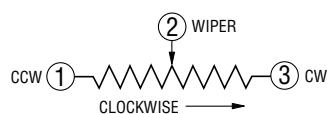


TOLERANCES: EXCEPT WHERE NOTED

DECIMALS:  $.XX \pm \frac{.51}{(.02)}$ ,  $.XXX \pm \frac{.127}{(.005)}$

## FRACTIONS: $\pm 1/64$

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



## **Recommended Part Numbers**

Part Numbers	Resistance (Ω)
6638S-1-102	1,000
6638S-1-502	5,000
6638S-1-103	10,000

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

FOR OTHER OPTIONS CONSULT FACTORY.

REV. 10/08

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