

Features

- Essentially infinite resolution
- Excellent rotational life
- High quality, rugged construction
- General purpose applications
- Non-standard features available
- Cost and space saving

6539/6639 - Precision Potentiometer

Electrical Characteristics ¹	6539 Servo Mount	6639 Bushing Mount
Standard Resistance Range		
Total Resistance Tolerance	±15 %	±15 %
Independent Linearity		
Effective Electrical Angle		
End Voltage		
Output Smoothness		0.1 %
Dielectric Withstanding Voltage (MII		
Sea Level		
Power Rating (Voltage Limited By P		
+70 °C		
+125 °C		
Insulation Resistance (500 VDC)		
Resolution	Essentially infinite	Essentially infinite

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

Mechanical Characteristics¹

Mechanical Angle	
Ston Strongth (applies to 201 with me	echanical stops only)22.6 N-cm (2 lbin.)
210h 2116113111 (abblies 10 -201 Milli Ille	chanical stops only)
iorque (Starting & Running) ²	
Mounting	
Shaft Runout	0.13 mm (0.005 in.) T.I.R.
Lateral Runout	
Chaft End Dlay	0.10 mm (0.005 in.) T.I.D.
Shaft Radial Play	0.13 mm (0.005 in.) T.I.R.
Pilot Diameter Runout	
Backlash	
Weight	
Terminals	Rear Turret Type
Soldering Condition	96.5Sn/3.0Ag/0.5Cu solid wire or no-clean rosin cored wire
Manual Coldoring	06 ESp/2 0Aa/0 ECu colid wire or no clean regin cored wire
Maridal Soldering	90.3311/3.0Ag/0.3Cu soliu wile oi 110-cleaii 105iii coleu wile
Wave Soldering	
	260 °C (500 °F) max. for 5 seconds
Wash processes	Not recommended
Marking	. Manufacturer's name and part number, resistance value and
iviai kiriy	Manufacturer 5 name and part number, resistance value and
	tolerance, linearity tolerance, wiring diagram, and date code.
Ganging (Multiple Section Pots)	1 cup maximum
Hardware (6639 only)	One lockwasher (H-37-2) and one mounting nut (H-38-2)
	is shipped with potentiometer.

 ^1At room ambient: +25 °C nominal and 50 % relative humidity nominal, except as noted. $^2\text{2.82 N-cm}$ (4.0 oz.-in.) max. at -40 °C.



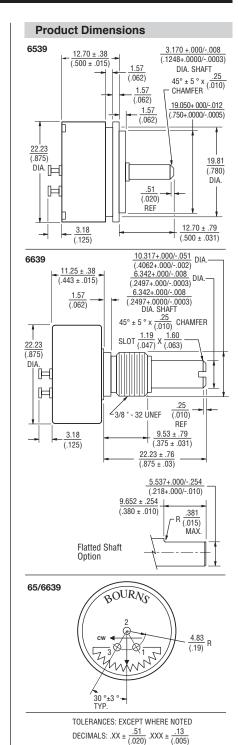
WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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FRACTIONS: ±1/64

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

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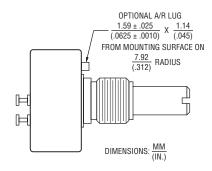
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Recommended Part Numbers

Part Number	Resistance (Ω)
6539S-1-102	1,000
6539S-1-502	5,000
6539S-1-103	10,000

BOLDFACE LISTINGS ARE IN STOCK AND READILY AVAILABLE THROUGH DISTRIBUTION. FOR OTHER OPTIONS CONSULT FACTORY.

	1	r	
Part Number	Mechanical Stop	A/R Lug	Shaft
6639S-1-RC	No	No	Slotted
6639S-2-RC	No	No	Flatted
6639S-3-RC	No	Yes	Slotted
6639S-4-RC	No	Yes	Flatted
6639S-5-RC	Yes	Yes	Slotted
6639S-6-RC	Yes	Yes	Flatted
6639S-7-RC	Yes	No	Slotted
6639S-8-RC	Yes	No	Flatted

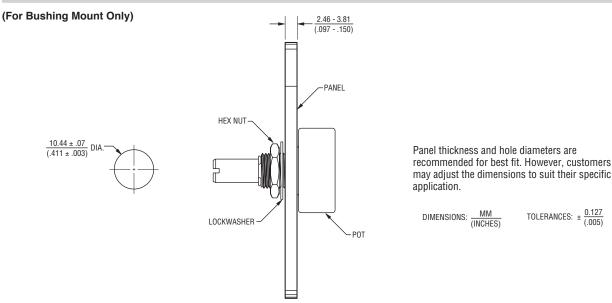


Standard Resistance Table

Resistance (Ohms)	Resistance Code
1,000	102
2,000	202
5,000	502
10,000	103
20,000	203
50,000	503
100,000	104

Schematic

Panel Thickness Dimensions



REV. 06/20

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