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

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### 6539/6639 - Precision Potentiometer

#### Electrical Characteristics

**6539 Servo Mount**
- Standard Resistance Range: 1 K to 100 K ohms
- Total Resistance Tolerance: ±15 %
- Independent Linearity: ±2.0 %
- Effective Electrical Angle: +30° * (+3°)
- Total Resistance Shift: ±15 %
- Output Smoothness: 0.1 %
- Dielectric Withstanding Voltage (MIL-STD-202, Method 301): 3.170 x 0.003 = 0.0096 volts
- Interface: DIA. SHAFT

**6639 Bushing Mount**
- Standard Resistance Range: 1 K to 100 K ohms
- Total Resistance Tolerance: ±15 %
- Independent Linearity: ±2.0 %
- Effective Electrical Angle: +30° * (+3°)
- Total Resistance Shift: ±15 %
- Output Smoothness: 0.1 %
- Dielectric Withstanding Voltage (MIL-STD-202, Method 301): 3.170 x 0.003 = 0.0096 volts
- Interface: DIA. SHAFT

#### Environmental Characteristics

**Operating Temperature Range**
- +1 °C to +125 °C
- -40 °C to +125 °C

**Over Storage Temperature Range**
- ±500 ppm/°C max
- ±500 ppm/°C max

**Vibration**
- ±0.5 %
- ±0.5 %

**Shock**
- 0.1 millisecond max
- 0.1 millisecond max

**Total Resistance Shift**
- ±15 % max
- ±15 % max

**Rotational Life (No Load)**
- 10,000,000 revolutions
- 10,000,000 revolutions

**Power Ratings** (Voltage Limited By Power Dissipation or 300 VAC, Whichever is Less)
- 750 VAC minimum
- 750 VAC minimum

**Dielectric Withstanding Voltage (MIL-STD-202, Method 301)**
- 19.050 x 0.000-0.012 = 0.00006000 volts
- 19.050 x 0.000-0.012 = 0.00006000 volts

#### Mechanical Characteristics

**Continuous Turn**
- 340 ° to +3 °
- 340 ° to +3 °

**Wiper Bounce**
- 0.1 millisecond max
- 0.1 millisecond max

**Voltage Ratio Shift**
- ±0.5 %
- ±0.5 %

**Total Resistance Shift**
- ±5 %
- ±5 %

#### Mounting Conditions

**Continuous Turn**
- 0.40 N-cm (0.05 oz.-in.) max
- 1.19 N-cm (0.15 oz.-in.) max

**Wave Soldering**
- 96.5Sn/3.0Ag/0.5Cu solid wire or no-clean rosin coated wire
- 260 °C (500 °F) max for 5 seconds

**Wash Processes**
- Not recommended

**Recommended Part Numbers**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Resistance (Ω)</th>
<th>Continuous Turn</th>
<th>Mechanical Stops</th>
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<tbody>
<tr>
<td>6539S-1-102</td>
<td>1,000</td>
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<tr>
<td>6539S-1-562</td>
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Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications.
Panel Thickness Dimensions

(For Bushing Mount Only)

Panel thickness and hole diameters are recommended for best fit. However, customers may adjust the dimensions to suit their specific application.

<table>
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<th>DIMENSIONS:</th>
<th>MM</th>
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<tr>
<td>DIA.</td>
<td>10.44 ± 0.07</td>
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<td>TOLERANCES:</td>
<td>± 0.127</td>
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REW. 10/11
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