

## Features

- Carbon element
- Standard surface mount profile compatibility
- Assorted resistances and tapers
- Flatted and knurled shaft styles
- Wide operating temperature range
- RoHS compliant\*



This series is currently available but not recommended for new designs.

# PRS11S - 11 mm SMD Potentiometer

### Electrical Characteristics

|                                       |                     |
|---------------------------------------|---------------------|
| Standard Resistance Range.....        | 1K ohms to 1 megohm |
| Standard Resistance Tolerance         |                     |
| R < 250K ohms .....                   | ±20 %               |
| R ≥ 250K ohms .....                   | ±30 %               |
| End Resistance                        |                     |
| R < 50K ohms .....                    | 30 ohms max.        |
| R ≥ 50K ohms .....                    | 0.1 % of TR max.    |
| Insulation Resistance @ 250 VDC ..... | 100 megohms min.    |
| Dielectric Withstanding Voltage ..... | 300 VAC             |
| Standard Taper .....                  | Linear, audio       |
| Power Rating                          |                     |
| Linear .....                          | 0.05 watts          |
| Audio .....                           | 0.025 watts         |
| Slider Noise .....                    | 100 mV max.         |
| Max. Operating Voltage .....          | 50 VAC / 30 VDC     |

### Environmental Characteristics

|                                   |                  |
|-----------------------------------|------------------|
| Rotational Life.....              | 15,000 cycles    |
| TR Shift .....                    | ±15 %            |
| Operating Temperature Range ..... | -10 °C to +70 °C |
| Storage Temperature .....         | -40 °C to +85 °C |
| IP Rating .....                   | IP 40            |

### Mechanical Characteristics

|                                |  |
|--------------------------------|--|
| Mechanical Angle .....         | 300 ° +10 °, -5 °  |
| Running Torque .....           | 20 to 150 gf-cm  |
| Stop Strength .....            | 5.1 kgf-cm min.  |
| Shaft Push/Pull Strength ..... | 10.2 kgf max.  |
| Weight .....                   | 5 gm (0.17 oz.) max.   |
| Terminals .....                | Printed circuit board surface mount  |
| Soldering Condition            |  |
| Reflow Soldering.....          | Sn 95.5 / Ag 2.8 / Cu 0.7 solder with no clean flux (see solder profiles for recommended time and temperature) |
| Manual Soldering .....         | Not recommended  |
| Hardware .....                 | No hardware supplied with this potentiometer   |
| Packaging .....                | 40 pcs./tube   |

### How To Order

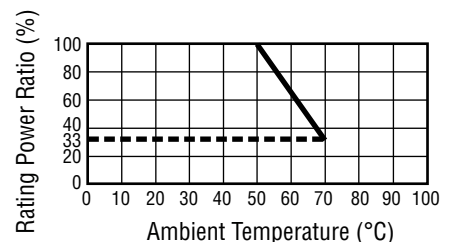
**PRS11S - N 20 K - 103 B1**

|                                       |  |
|---------------------------------------|--|
| Model Number                          |  |
| Designator                            |  |
| PRS11S = 11 mm SMD Potentiometer      |  |
| Switch Option                         |  |
| N = No switch                         |  |
| Shaft Length (FMS)                    |  |
| 20 = 20 mm                            |  |
| Shaft Style                           |  |
| F = Flatted Metal                     |  |
| K = Knurled Metal (18 tooth)          |  |
| Resistance Code                       |  |
| (See Standard Resistance Table)       |  |
| Resistance Taper (See Taper Charts)   |  |
| Taper Series followed by Curve Number |  |

### Standard Resistance Table

| Resistance (Ohms) | Resistance Code |
|-------------------|-----------------|
| 1,000             | 102             |
| 5,000             | 502             |
| 10,000            | 103             |
| 25,000            | 253             |
| 50,000            | 503             |
| 100,000           | 104             |
| 250,000           | 254             |
| 300,000           | 304             |
| 500,000           | 504             |
| 1,000,000         | 105             |

### Derating Curve



**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

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

Specifications are subject to change without notice.

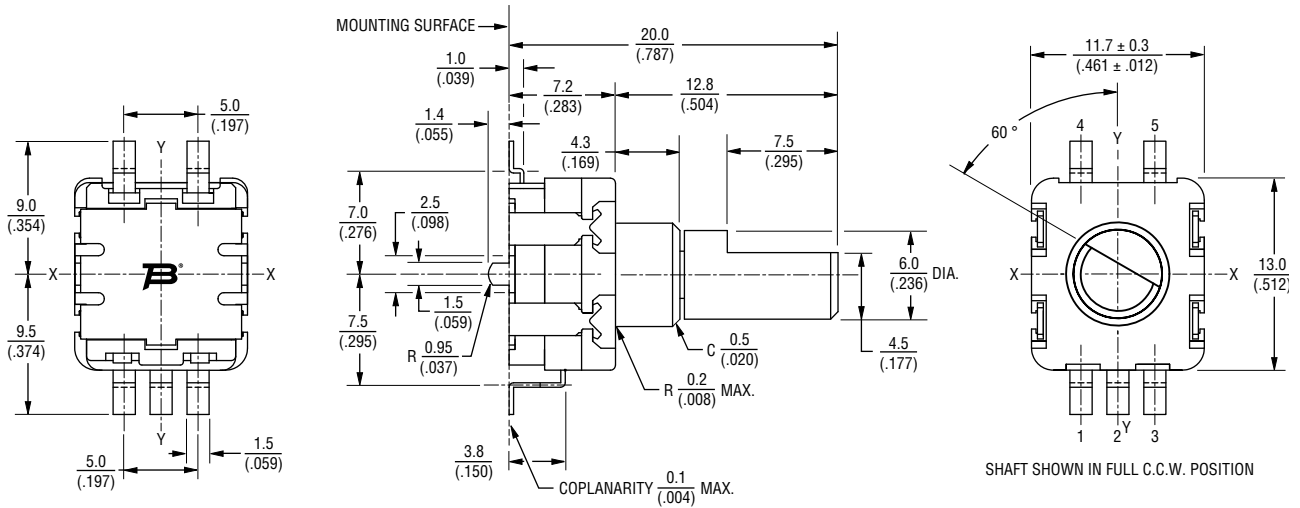
Users should verify actual device performance in their specific applications.

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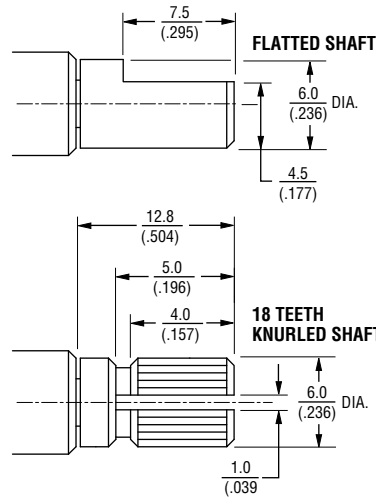
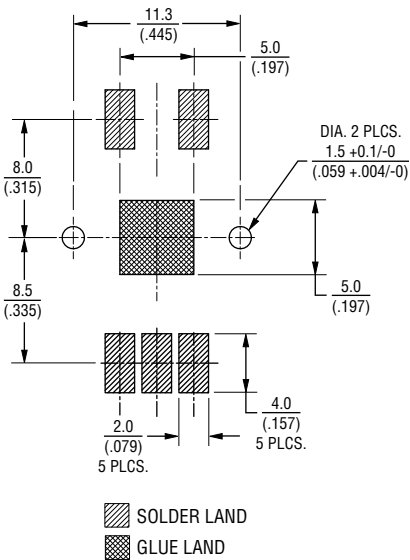
# PRS11S - 11 mm SMD Potentiometer

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## Product Dimensions



## Recommended Land Pattern

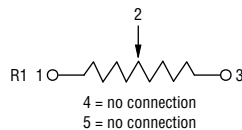


## NOTES:

- Layout tolerances: ±0.1 mm/(.004 in.).
- Recommended PCB thickness: 1.6 mm/(.063 in.).

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

## Schematic



## Tolerances

| DIMENSION                    | TOLERANCE       |
|------------------------------|-----------------|
| <10.0<br>(<.394)             | ±0.3<br>(±.012) |
| 10.0 ~ 100<br>(.394 ~ 3.937) | ±0.5<br>(±.020) |

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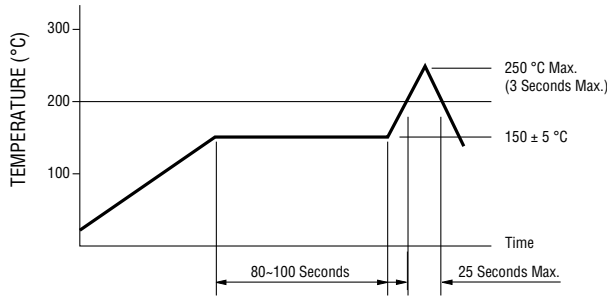
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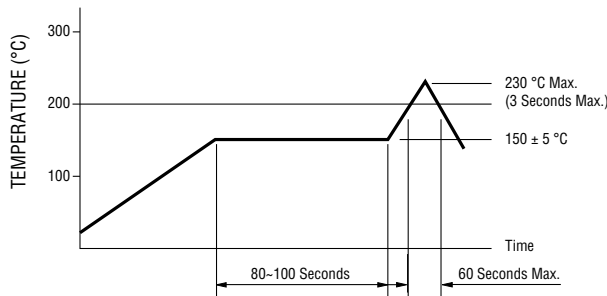
# PRS11S - 11 mm SMD Potentiometer



## Solder Profiles



Processing Method: Reflow soldering with **infrared heat** (only once).



Processing Method: Reflow soldering with **hot air** (only once).

### Notes:

1. No clean solder paste is recommended.
2. Aqueous wash is not recommended.
3. Use of water soluble soldering flux shall be avoided due to possible corrosion.
4. Multiple passes through the soldering process is not recommended.



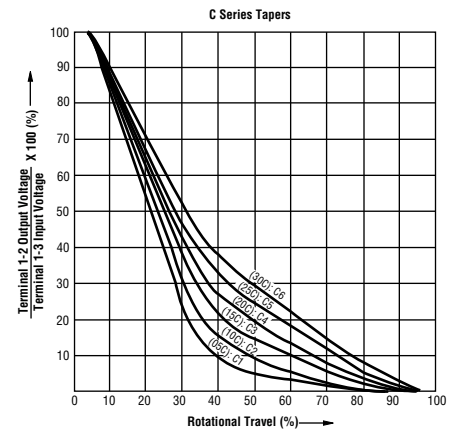
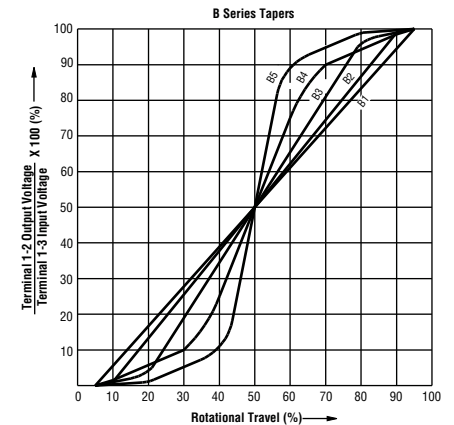
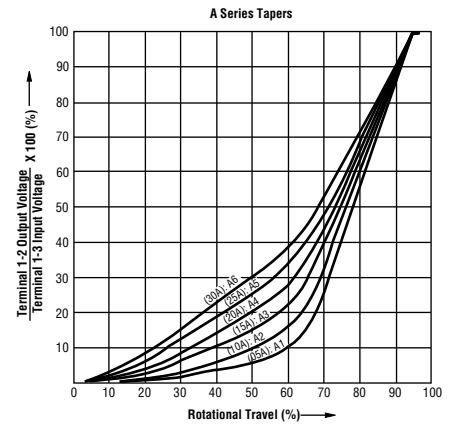
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## Taper Charts



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