

### Features

- Recommended for reflow soldering
- Rotor design compatible with pick and place and automatic adjustment equipment
- 3 mm size meets EIA/EIAJ standard trimmer footprint
- RoHS compliant\*
- For trimmer applications/processing guidelines, [click here](#)

## TC33 - 3 mm SMD Trimpot® Trimming Potentiometer

### Electrical Characteristics

Standard Resistance Range ..... 100 ohms to 1 megohm  
 (see standard resistance table)  
 Resistance Tolerance ..... ±25 % std.  
 Absolute Minimum Resistance  
 ≤ 1 K Ohms ..... 20 ohms max.  
 > 1 K Ohms ..... 2 % max. of TR  
 Contact Resistance Variation ..... 5 % max.  
 Resolution ..... Essentially infinite  
 Adjustment Angle ..... 270 ° ± 20 °

### Environmental Characteristics

Power Rating (50 VDC max.)  
 70 °C ..... 0.15 watt  
 Temperature Range ..... -40 °C to +100 °C  
 Temperature Coefficient ..... ±250 ppm/°C  
 Humidity ..... +40 °C ± 2 °C, 90-95 % RH  
 TRS max. .... ±5 %  
 Load Life  
 ..... @ 70 °C rated power 1000 hours  
 TRS ±5 %  
 Rotational Cycling  
 ..... 20 cycles, TRS ±10 %

### Physical Characteristics

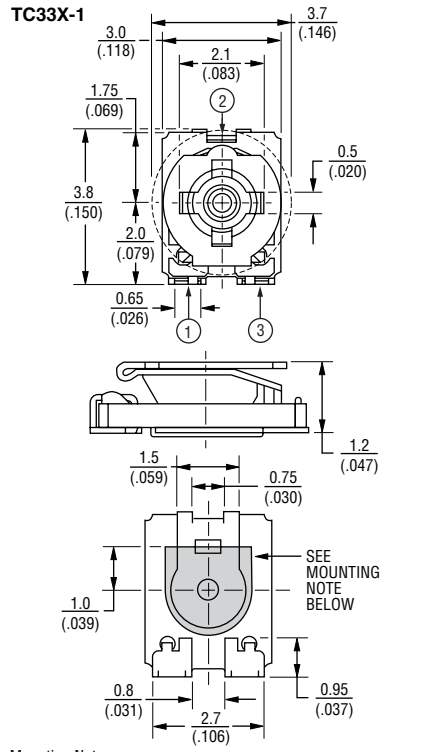
Torque ..... 0.98-11.76 mN-m max.  
 Mechanical Angle ..... Continuous rotation for Model TC33X-1  
 Marking ..... Part marking code  
 Standard Packaging ... 2500 pcs./7 " reel  
 Adjustment Tool ..... See note<sup>(1)</sup>  
 Pushing Static Force ..... <4.9 N

<sup>(1)</sup> Use an adjustment tool with the following recommended measurements:  
 1.7 mm (.067 in.) cross slot  
 The recommended adjustment tool size is not available from Bourns. Please contact a Bourns representative for further information.

### Cautions

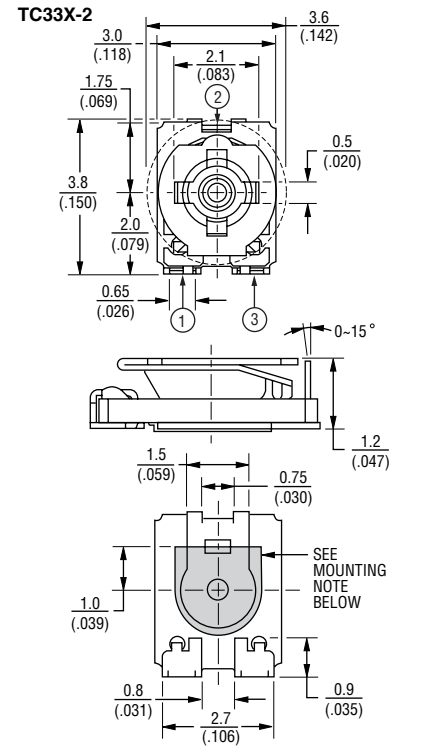
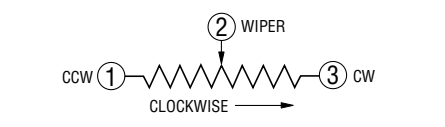
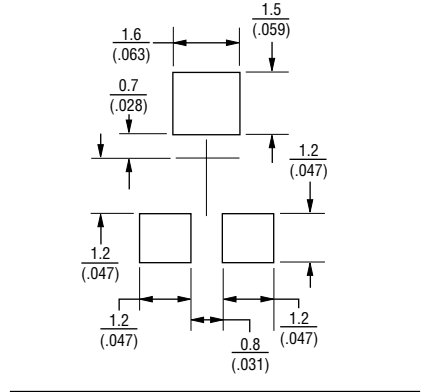
- Aqueous cleaning not recommended
- Flow soldering not recommended; use reflow soldering
- Model TC33 is not designed to be used with flux - use care with flux when soldering
- It is not recommended to adjust the Model TC33X-1 past the effective rotary angle.
- If an excessive force is applied to the sliding part (the operating shaft) when adjusting the resistance value, the sliding part may be deformed or broken.

### Product Dimensions



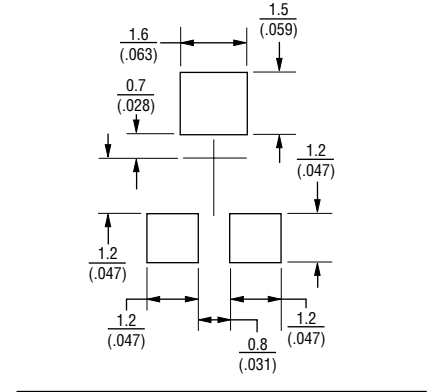
Mounting Note:  
 The gray area can be used to apply cement to hold the unit in place during board processing, if required.

### Recommended Land Pattern

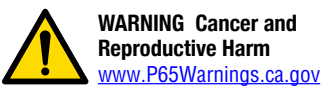


Mounting Note:  
 The gray area can be used to apply cement to hold the unit in place during board processing, if required.

### Recommended Land Pattern



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$   
 TOLERANCES: ±  $\frac{0.3}{(.010)}$  EXCEPT WHERE NOTED



\*RoHS Directive 2015/863, Mar. 31, 2015 and Annex  
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 Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).

# TC33 - 3 mm SMD Trimpot® Trimming Potentiometer

**BOURNS®**

## Standard Resistance Table

Resistance (Ohms)	Resistance Code
<b>100</b>	<b>101</b>
<b>200</b>	<b>201</b>
<b>500</b>	<b>501</b>
<b>1,000</b>	<b>102</b>
<b>2,000</b>	<b>202</b>
<b>5,000</b>	<b>502</b>
<b>10,000</b>	<b>103</b>
<b>20,000</b>	<b>203</b>
<b>50,000</b>	<b>503</b>
<b>100,000</b>	<b>104</b>
200,000	204
500,000	504
1,000,000	105

Popular distribution resistance values listed in boldface.

## How To Order

**TC33 X - 1 - 103 E**

Model \_\_\_\_\_  
 Style \_\_\_\_\_  
 Standard Product Indicator \_\_\_\_\_  
 -1 = Continuous Rotation  
 -2 = Rotational Stop  
 Resistance Code \_\_\_\_\_  
 Embossed Tape Designator \_\_\_\_\_  
 E = 2500 pcs./7" Reel  
 G = 9000 pcs./13" Reel

Tape and reel material meets Antistatic ANSI/ESD 5541-2003 packaging standards.

## Recommended Storage Conditions

Temperature ..... +5 °C to +35 °C  
 Humidity..... 45 % to 85 % RH

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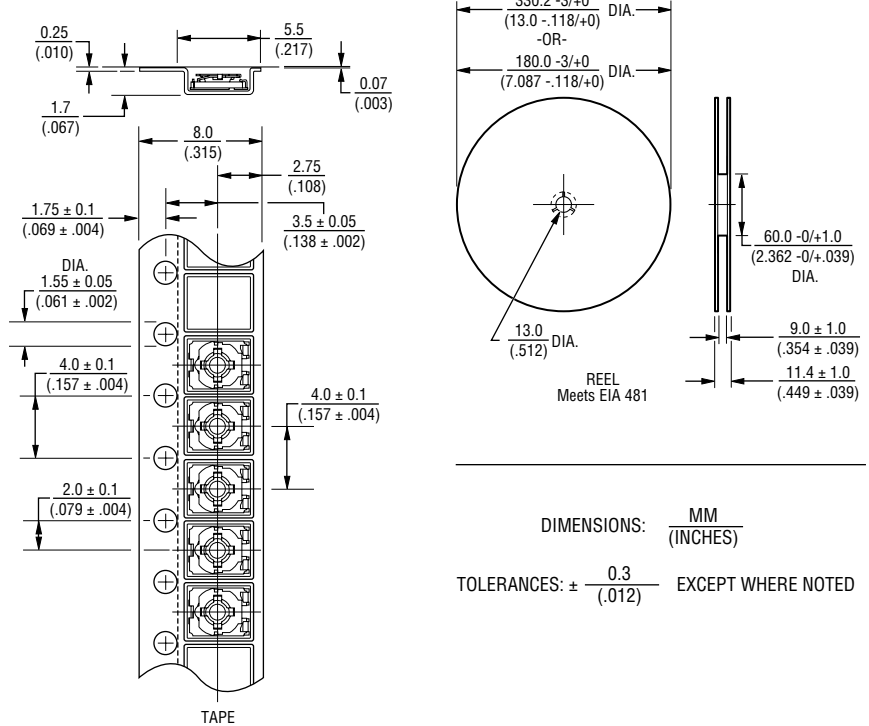
**The Americas:** Tel: +1-951 781-5500

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[www.bourns.com](http://www.bourns.com)

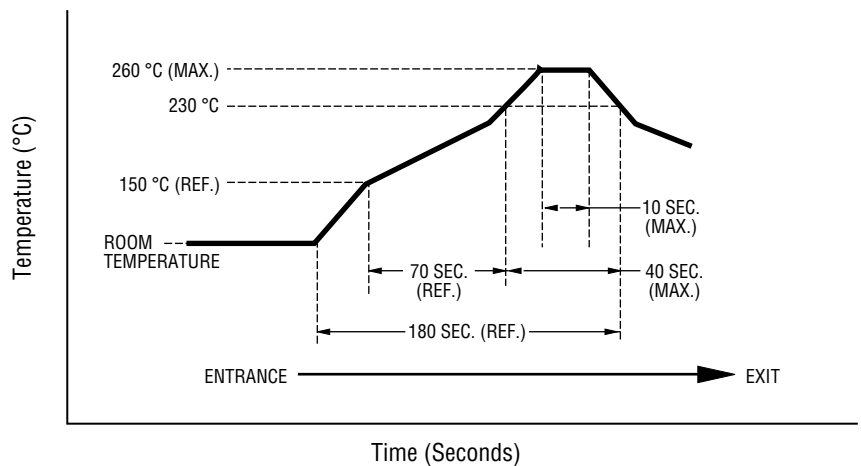
## Packaging Specifications

TC33X-1, -2



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$   
 TOLERANCES:  $\pm \frac{0.3}{(.012)}$  EXCEPT WHERE NOTED

## Recommended Reflow Solder Profile



REV. 08/19

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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