



**THE DATASHEET OF  
TC33X-2-303E**





### 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\*

## TC33 – 3 mm SMD Trimpot® Trimming Potentiometer

### Additional Information

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### 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

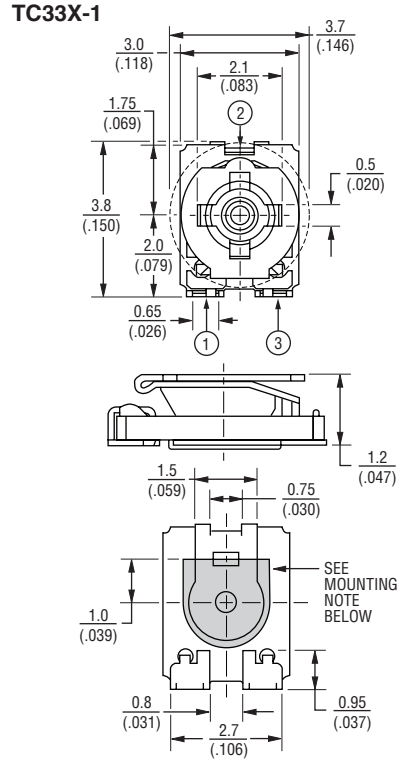
Power Rating (50 VDC max.)  
 70 °C ..... 0.15 watt  
 Temperature Range ..... -40 °C to +100 °C  
 Temperature Coefficient ..... ±250 ppm/°C  
 Humidity ..... +40 °C ± 2 °C, 90-95 % RH  
 TRS max. .... ±5 %  
 Load Life  
 ..... @ 70 °C rated power 1000 hours  
 TRS ±5 %  
 Rotational Cycling  
 .....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

### Physical Characteristics

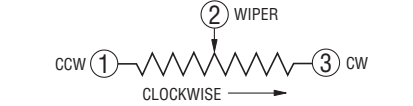
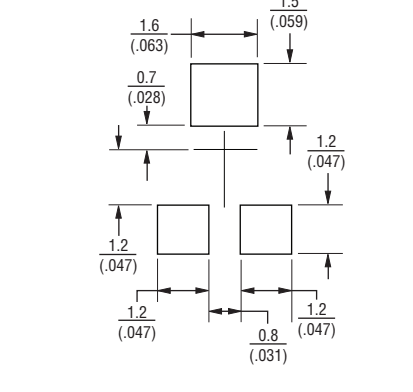
Torque ..... 0.98-11.76 mN-m max.  
 Mechanical Angle ..... Continuous rotation  
 for Model TC33X-1  
 Marking ..... Part marking code  
 Standard Packaging ..... 2500 pcs./7 " reel  
 Adjustment Tool ..... See note<sup>(1)</sup>  
 Pushing Static Force ..... <4.9 N

<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.

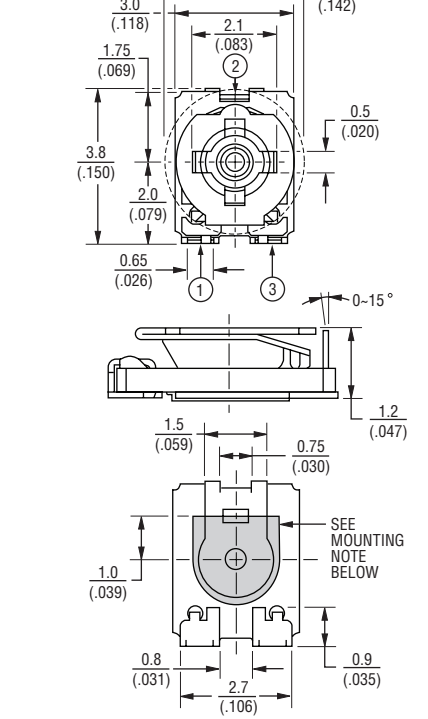
### Product Dimensions



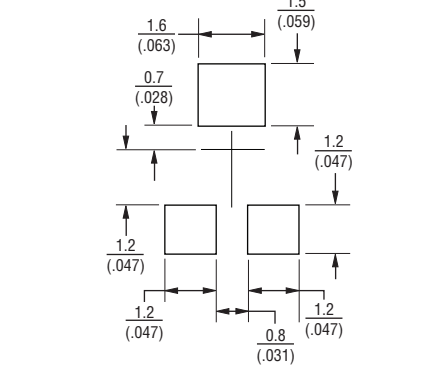
### Recommended Land Pattern



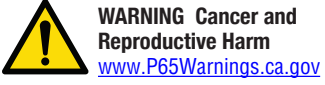
### Product Dimensions



### 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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# TC33 – 3 mm SMD Trimpot® Trimming Potentiometer

**BOURNS®**

## 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.

## 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

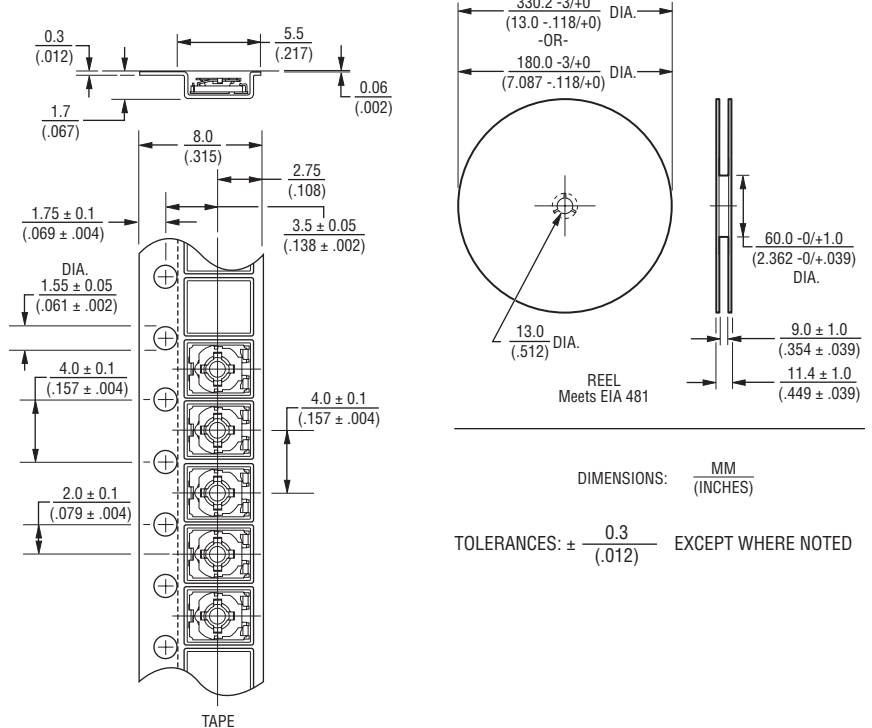
Tape and reel material meets Antistatic ANSI/ESD 5541-2003 packaging standards.

## Recommended Storage Conditions

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

## Packaging Specifications

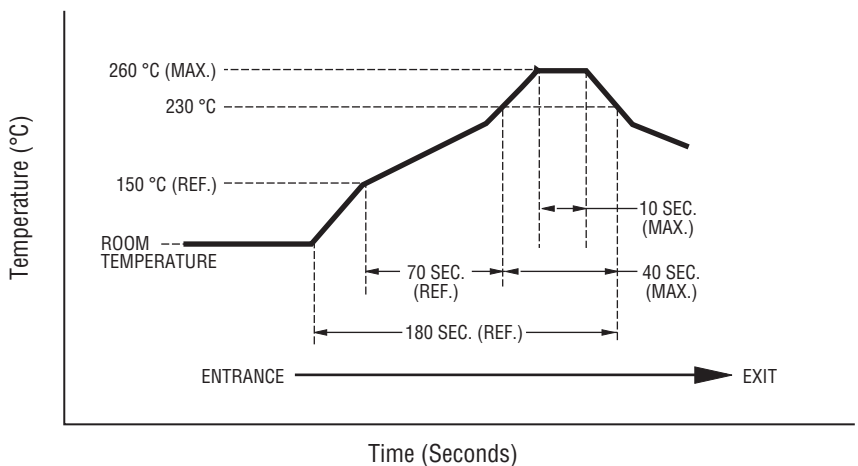
### TC33X-1, -2



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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