



## 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 .....  $\pm 25\%$  std.  
Absolute Minimum Resistance  
     $\leq 1$  K Ohms ..... 20 ohms max.  
     $> 1$  K Ohms ..... 2 % max. of TR  
Contact Resistance Variation ..... 5 % max.  
Resolution ..... Essentially infinite  
Adjustment Angle .....  $270^\circ \pm 20^\circ$

### Environmental Characteristics

Power Rating (50 VDC max.)  
     $70^\circ\text{C}$  ..... 0.15 watt  
Temperature Range .....  $-40^\circ\text{C}$  to  $+100^\circ\text{C}$   
Temperature Coefficient .....  $\pm 250$  ppm/ $^\circ\text{C}$   
Humidity .....  $+40^\circ\text{C} \pm 2^\circ\text{C}$ , 90-95 % RH  
TRS max. ....  $\pm 5\%$   
Load Life  
    ..... @  $70^\circ\text{C}$  rated power 1000 hours  
    TRS  $\pm 5\%$

Rotational Cycling  
    ..... 20 cycles, TRS  $\pm 10\%$

### Physical Characteristics

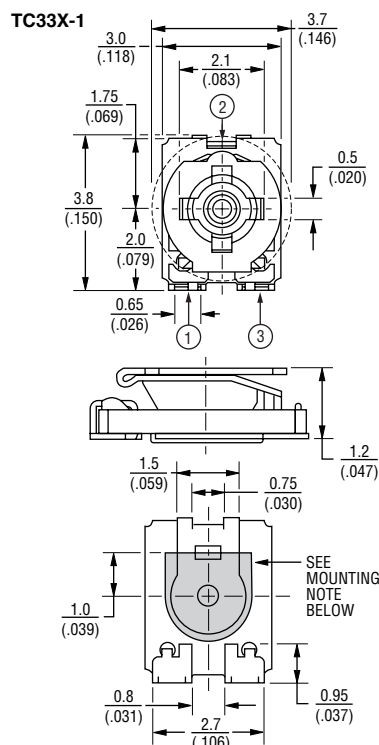
Torque ..... 0.98-11.76 mN-m max.  
Mechanical Angle .... Continuous rotation  
    for Model TC33X-1  
Marking ..... Part marking code  
Standard Packaging ... 2500 pcs./7" reel  
Adjustment Tool ..... See note<sup>(1)</sup>  
Pushing Static Force .....  $< 4.9$  N

- <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

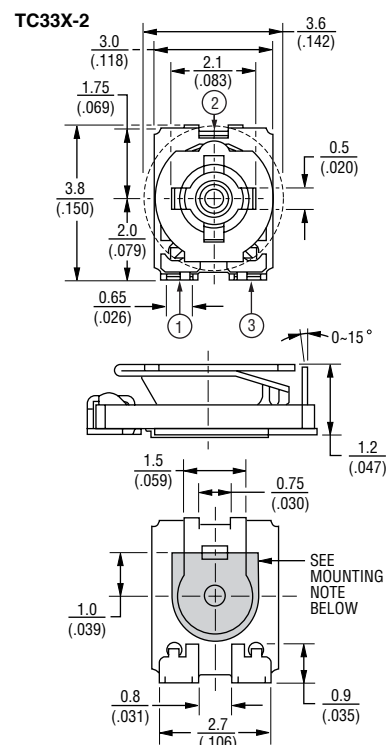
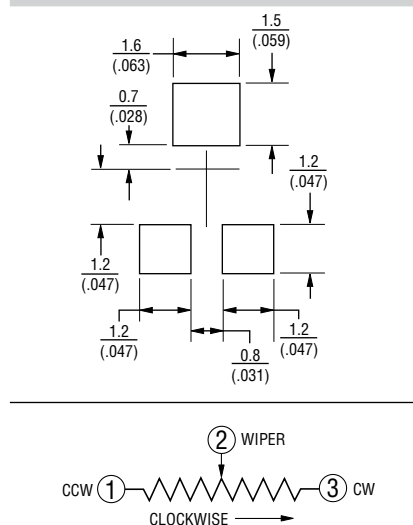
- Aqueous cleaning not recommended
- Flow soldering not recommended; use reflow soldering
- Model TC33 is not designed to be used with flux - use care with flux when soldering
- It is not recommended to adjust the Model TC33X-1 past the effective rotary angle.
- If an excessive force is applied to the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

### Product Dimensions



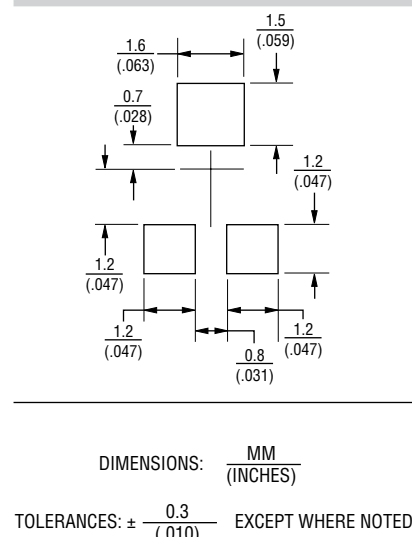
Mounting Note:  
The gray area can be used to apply cement to hold the unit in place during board processing, if required.

### Recommended Land Pattern



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

### Recommended Land Pattern



\*RoHS Directive 2011/65/EU and amendment of Annex II 2015/863.

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Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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# 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

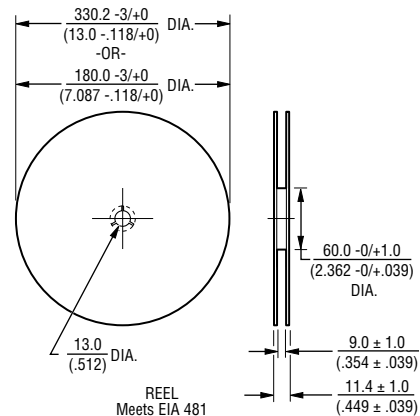
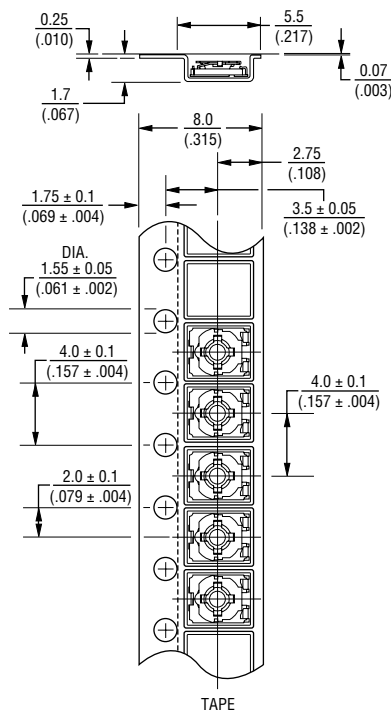
Tape and reel material meets Antistatic ANSI/ESD 5541-2003 packaging standards.

## Recommended Storage Conditions

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

## Packaging Specifications

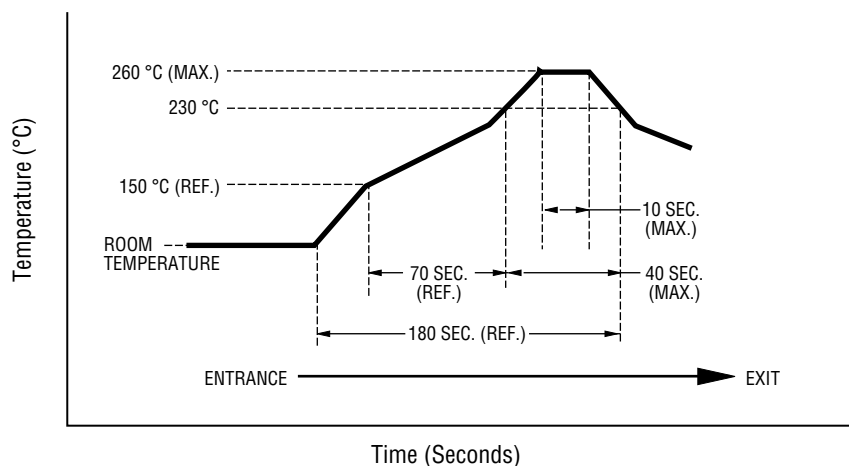
### TC33X-1, -2



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

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

## Recommended Reflow Solder Profile



REV. 05/19

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