



**THE DATASHEET OF
TC33X-2-502E**





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

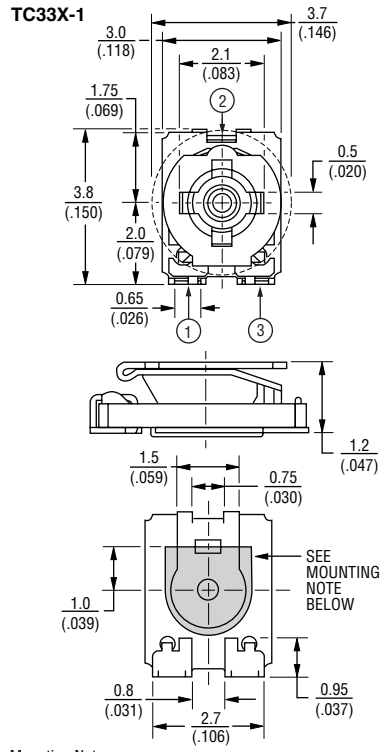
Torque 0.98-11.76 mN-m max.
 Mechanical Angle Continuous rotation for Model TC33X-1
 Marking Part marking code
 Standard Packaging ... 2500 pcs./7 " reel
 Adjustment Tool See note⁽¹⁾
 Pushing Static Force <4.9 N

⁽¹⁾ 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

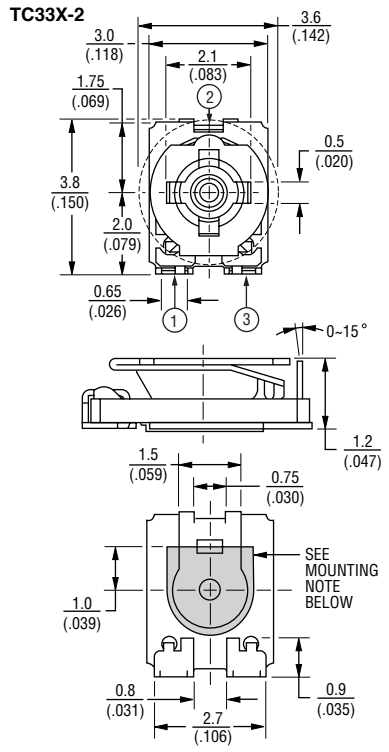
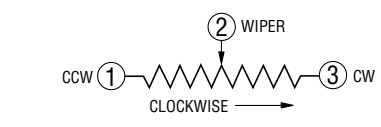
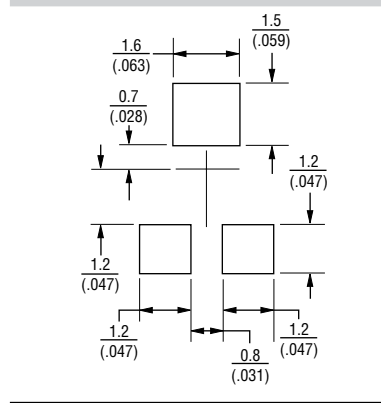
- Aqueous cleaning not recommended
- Flow soldering not recommended; use reflow soldering
- Model TC33 is not designed to be used with flux - use care with flux when soldering
- It is not recommended to adjust the Model TC33X-1 past the effective rotary angle.
- If an excessive force is applied to the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

Product Dimensions



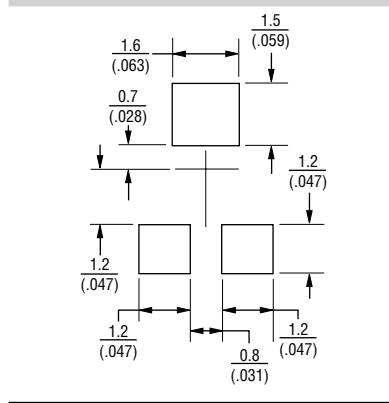
Mounting Note:
 The gray area can be used to apply cement to hold the unit in place during board processing, if required.

Recommended Land Pattern

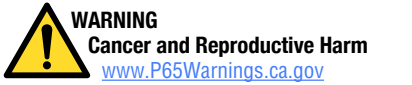


Mounting Note:
 The gray area can be used to apply cement to hold the unit in place during board processing, if required.

Recommended Land Pattern



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



*RoHS Directive 2011/65/EU and amendment of Annex II 2015/863.
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TC33 - 3 mm SMD Trimpot® Trimming Potentiometer

BOURNS®

Standard Resistance Table

Resistance (Ohms)	Resistance Code
100	101
200	201
500	501
1,000	102
2,000	202
5,000	502
10,000	103
20,000	203
50,000	503
100,000	104
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

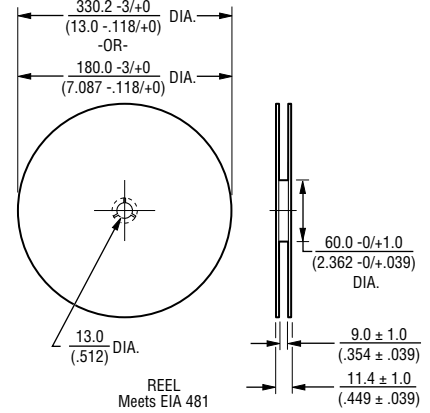
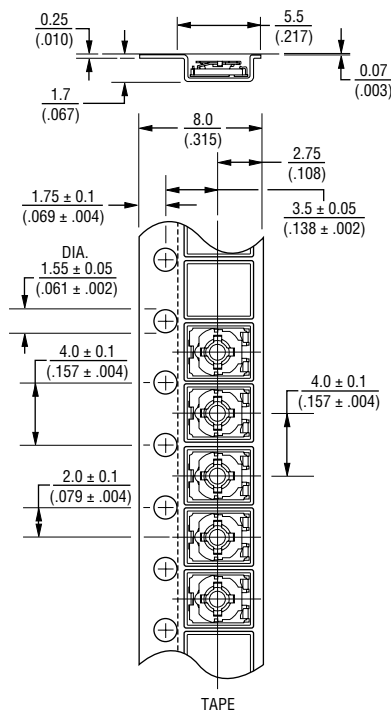
Tape and reel material meets Antistatic ANSI/ESD 5541-2003 packaging standards.

Recommended Storage Conditions

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

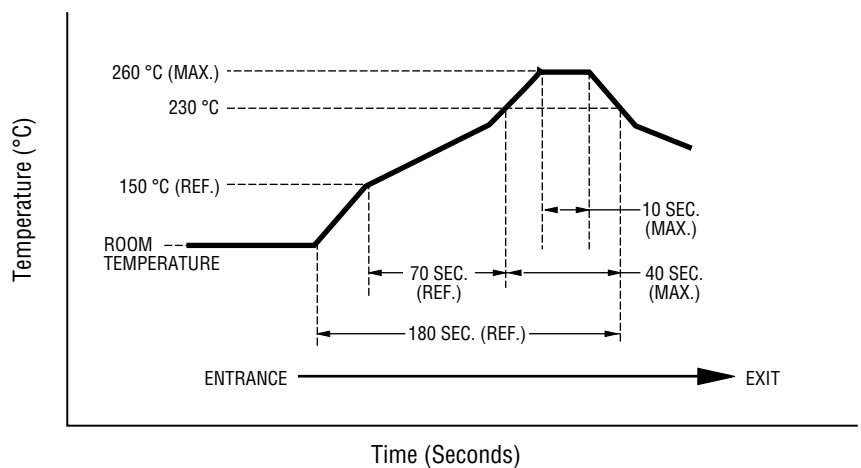
Packaging Specifications

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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