

## Features

- Surface mount 2 mm Square / Single-turn / Cermet / Sealed
- Compatible with surface mount manufacturing processes
- Miniature design for flexibility
- RoHS compliant\*
- For trimmer applications/processing guidelines, [click here](#)

# 3312 - 2 mm SMD Trimpot® Trimming Potentiometer

## Electrical Characteristics

Standard Resistance Range ..... 10 ohms to 2 megohms  
 (see standard resistance table)  
 Resistance Tolerance ..... ±20 % std.  
 End Resistance ..... 1 % or 2 ohms max.  
 (whichever is greater)  
 Contact Resistance Variation ..... 5 % or 3 ohms max.  
 (whichever is greater)  
 Adjustability  
 Voltage Divider ..... ±0.4 %  
 Rheostat ..... ±0.8 %  
 Resolution ..... Essentially infinite  
 Insulation Resistance ..... 500 VDC  
 100 megohms min.  
 Dielectric Strength  
 Sea Level ..... 500 VAC  
 70,000 Feet ..... 350 VAC  
 Adjustment Angle ..... 255 ° nom.

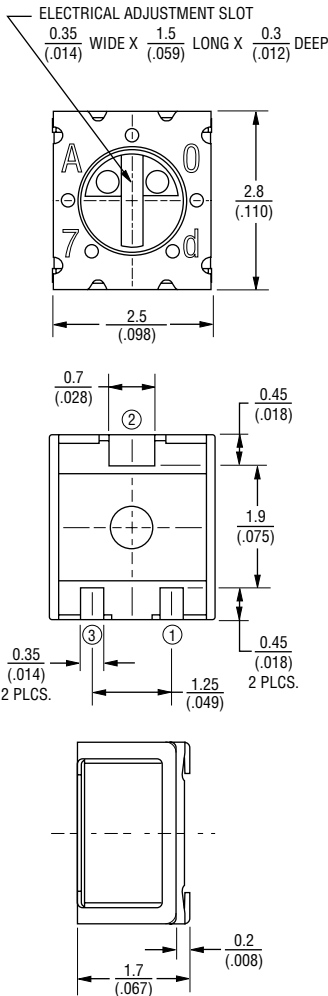
## Environmental Characteristics

Power Rating (50 volts max.)  
 70 °C ..... 0.1 watt  
 125 °C ..... 0 watt  
 Operating Temperature Range ..... -55 °C to +125 °C  
 Temperature Coefficient ..... ±100 ppm/°C  
 Seal Test .. 85 °C Fluorinert†/60 seconds  
 Humidity ..... MIL-STD-202 Method 106  
 TRS ±5 %; IR 10 megohms  
 Vibration ..... 20 G TRS ±1 %; VRS ±1 %  
 Shock ..... 100 G TRS ±1 %; VRS ±1 %  
 Load Life @ 70 °C Rated Power ..... TRS ±3 %  
 Rotational Life ..... 25 cycles TRS ±3 %  
 Thermal Shock ..... 5 cycles  
 TRS ±2 %; VRS ±4 %

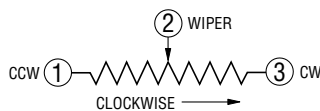
## Physical Characteristics

Mechanical Stop ..... 285 ° nom.  
 Torque ..... 0.7 oz-in. max  
 Stop Strength ..... 0.7 oz-in. nom.  
 Weight ..... Approximately 0.0321 g  
 Marking ..... Resistance code and date code  
 Standard Packaging ..... 500 pcs./7 " reel  
 (MSL-1)

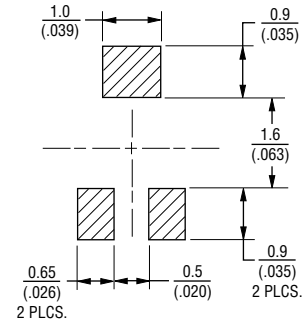
## Product Dimensions



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$   
 TOLERANCE:  $\frac{\pm 0.30}{(\pm .012)}$



## Recommended Land Pattern



## Standard Resistance Table

Resistance (Ohms)	Part Marking Code	Resistance Code
10	A1	100
20	U1	200
50	V1	500
100	A2	101
200	U2	201
500	V2	501
1,000	A3	102
2,000	U3	202
5,000	V3	502
10,000	A4	103
20,000	U4	203
50,000	V4	503
100,000	A5	104
200,000	U5	204
500,000	V5	504
1,000,000	A6	105
2,000,000	U6	205

Popular values listed in boldface. Consult factory for special resistances.

## How To Order

**3312 J - 1 - 502 E**

Model \_\_\_\_\_  
 Style \_\_\_\_\_  
 Standard Product Indicator \_\_\_\_\_  
 -1 = Standard Product  
 Resistance Code \_\_\_\_\_  
 Embossed Tape Designator \_\_\_\_\_  
 E = 500 pcs./7 " Reel (MSL-1)

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



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

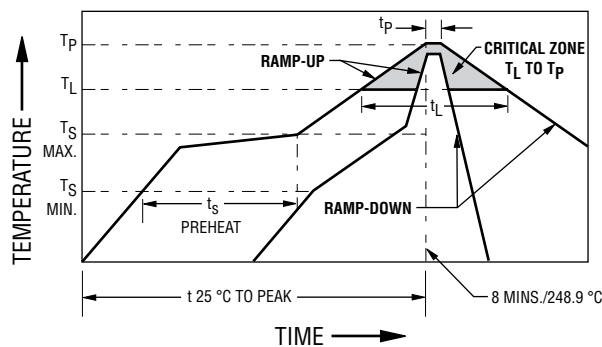
\*RoHS Directive 2015/863, Mar. 31, 2015 and Annex  
 †"Fluorinert" is a registered trademark of 3M Co.  
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## Processing Information

Process Description	Materials	Temperature	Time Interval
1. Apply solder paste to test board (8 - 10 mil thick)	<ul style="list-style-type: none"> <li>• Sn 96.5/Ag 3.0/Cu 0.5 Alloy water soluble or no clean solder paste</li> <li>• Single sided epoxy glass (G10) (UL approved)</li> <li>• PC board approx. 4x4x.06 in.</li> </ul>	Room temperature	
2. Place test units onto board	6 units/board		
3. Ramp up	Convection oven		2.5 °C ±0.5 °/second
4. Preheat (T <sub>S</sub> )		150 °C to 190 °C	90 ±30 seconds
5. Time above liquidus (T <sub>L</sub> )		220 °C	60-90 seconds
6. Peak temperature (T <sub>P</sub> )			250 °C +0 °/-5 ° 10-20 sec. within 5 °C of peak
7. Ramp down		Room temperature	3 °C ±0.5 °C/second
8. Cleaning water clean profile	High pressure deionized water 65 PSI maximum	72 °F to 160 °F (22 °C to 71 °C)	As required



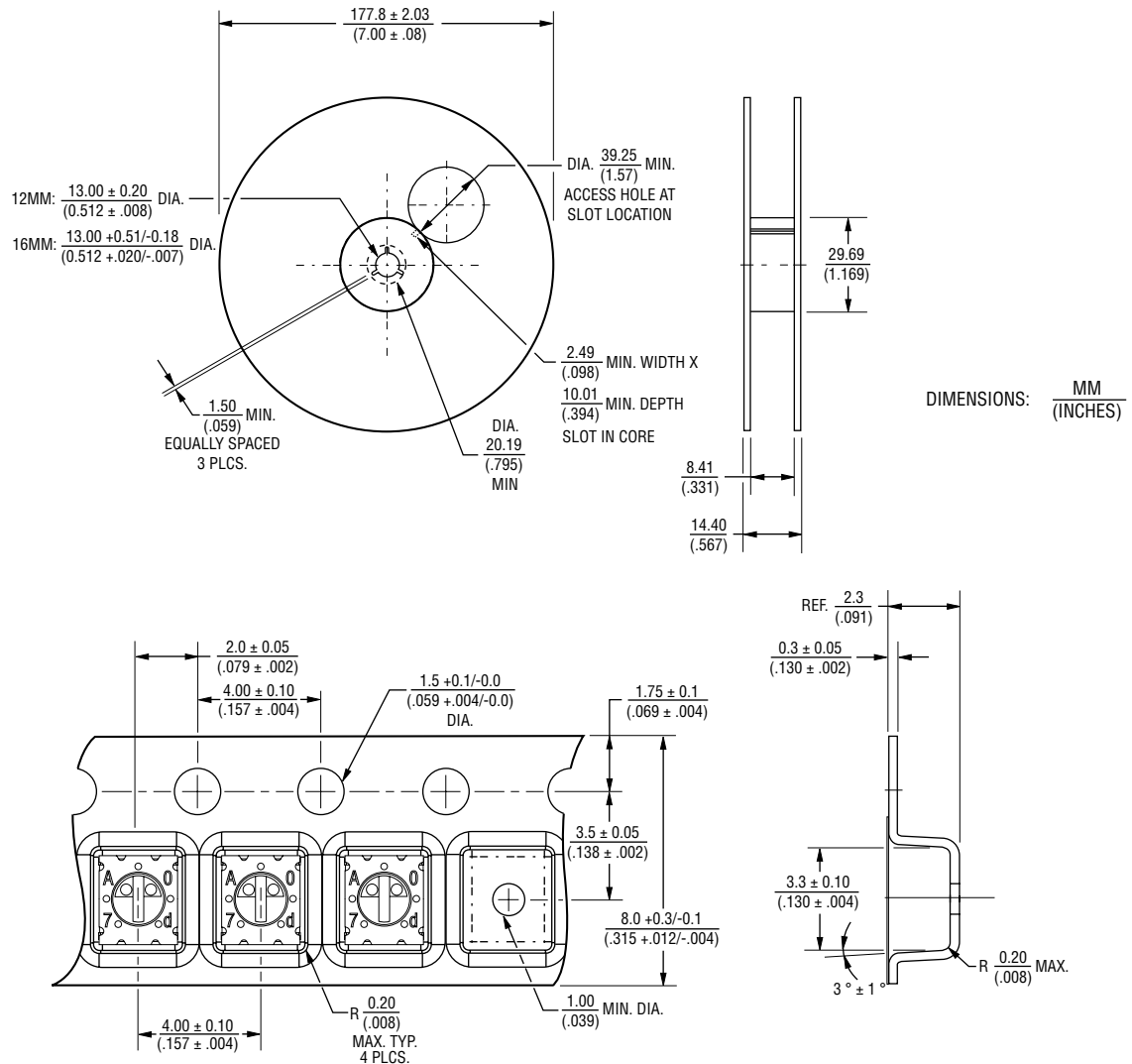
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## Packaging Specifications



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REV. 08/19

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