



## 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 .....  $\pm 20\%$  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 .....  $\pm 0.4\%$   
Rheostat .....  $\pm 0.8\%$   
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.

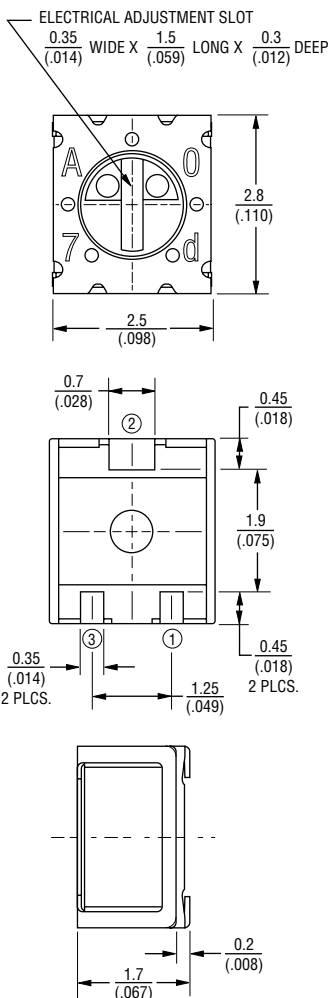
### Environmental Characteristics

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

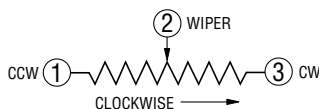
### Physical Characteristics

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)

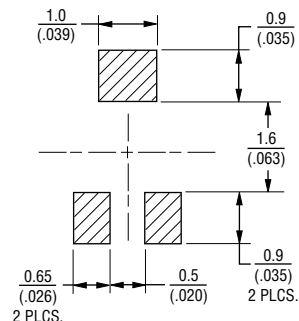
### Product Dimensions



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.

\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

†"Fluorinert" is a registered trademark of 3M Co.

Specifications are subject to change without notice.

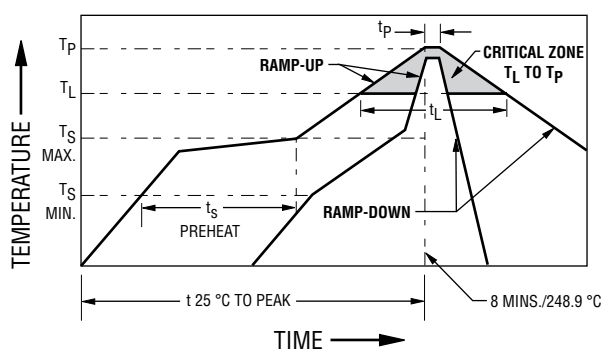
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

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## Processing Information

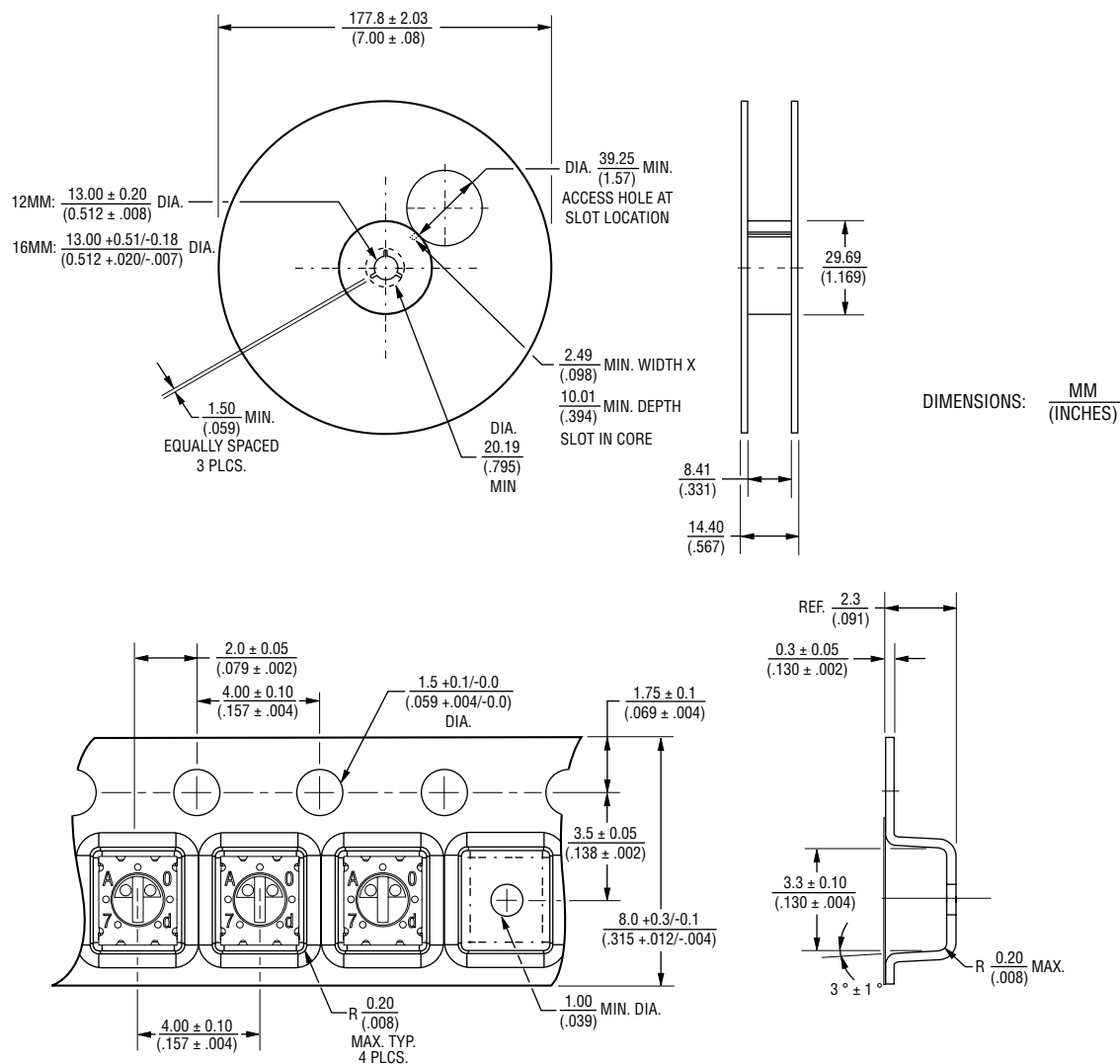
Process Description	Materials	Temperature	Time Interval
1. Apply solder paste to test board (8 - 10 mil thick)	<ul style="list-style-type: none"> <li>• Sn 96.5/Ag 3.0/Cu 0.5 Alloy water soluble or no clean solder paste</li> <li>• Single sided epoxy glass (G10) (UL approved)</li> <li>• PC board approx. 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



REV. 05/16

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