

## Features

- Surface mount and through-hole versions
- 12 mm Square / Dustproof
- One million rotational cycles
- Thin profile
- RoHS compliant\*
- AEC-Q200 compliant

## Applications

- Volume control on audio equipment
- Motion controllers
- Dishwasher control systems
- Automotive temperature range

# 3382 - 12 mm Rotary Position Sensor

### Electrical Characteristics

Standard Resistance Range ..... 2.5K to 100K ohms  
 Resistance Tolerance .....  $\pm 30\%$  std.  
 Linearity .....  $\pm 2\%$   
 Resolution ..... Essentially infinite  
 Insulation Resistance @ 500 VDC ..... 100 megohms min.  
 Dielectric Strength  
 Sea Level ..... 500 VAC  
 70,000 Feet ..... 350 VAC  
 Adjustment Angle ..... 330° nom.

### Environmental Characteristics

Power Rating (16 volts max.)  
 50 °C ..... 0.05 watt  
 120 °C ..... 0 watt  
 Operating Temperature Range ..... -40 °C to +120 °C  
 Temperature Coefficient .....  $\pm 500$  ppm/°C  
 Humidity ..... TRS  $\pm 20\%$   
 Shock ..... 20 G TRS  $\pm 10\%$ ; VRS  $\pm 10\%$   
 Load Life @ 50 °C Rated Power ..... TRS +10/-20 %  
 Rotational Life ..... 1,000,000 cycles TRS  $\pm 20\%$   
 Thermal Shock ..... 5 cycles TRS  $\pm 20\%$ ; VRS  $\pm 10\%$   
 Moisture Sensitivity Level ..... 1  
 ESD Classification (HBM) ..... N/A

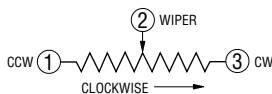
### Physical Characteristics

Mechanical Angle ..... Continuous rotation  
 Torque ..... 30 gf-cm max.  
 Weight ..... Approximately 0.0321 g  
 Marking ..... Resistance code and date code

Standard Packaging  
 G Style ..... 1000 pcs./13" reel  
 H Style ..... 50 pcs./tube  
 IP Rating ..... IP40

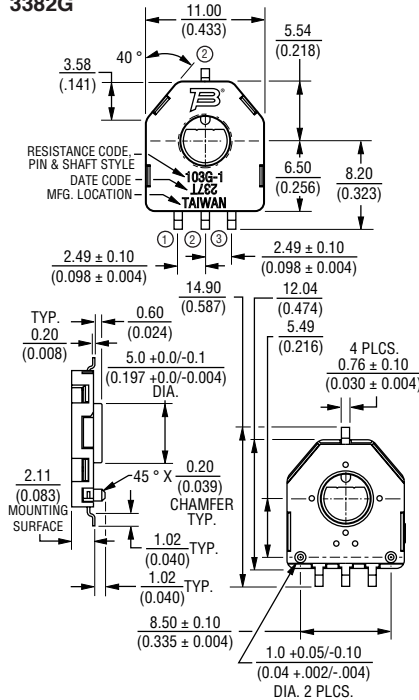
### Standard Resistance Table

| Resistance (Ohms) | Resistance Code |
|-------------------|-----------------|
| 2,500             | 252             |
| 5,000             | 502             |
| 10,000            | 103             |
| 25,000            | 253             |
| 50,000            | 503             |
| 100,000           | 104             |



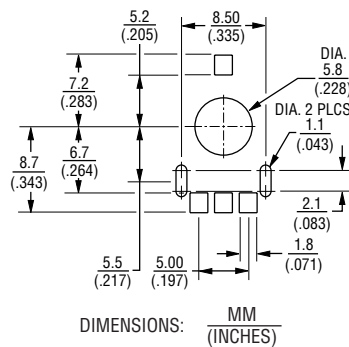
### Product Dimensions

#### 3382G

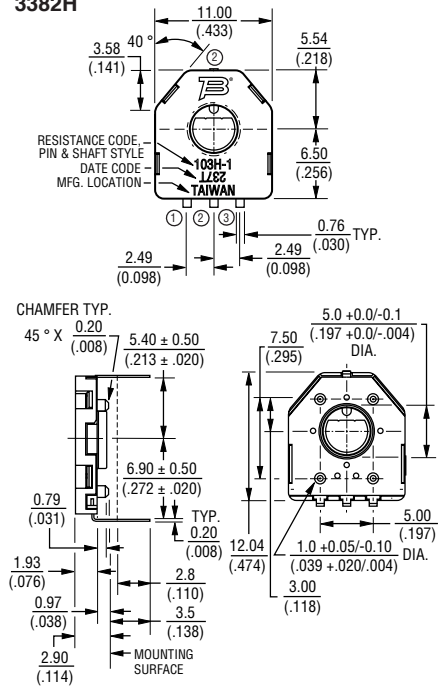


NOTE: ALL TERMINATIONS TO BE COPLANAR WITHIN  $\frac{0.1}{(0.001)}$

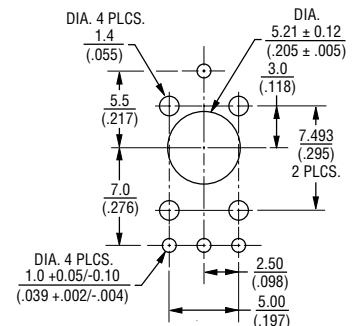
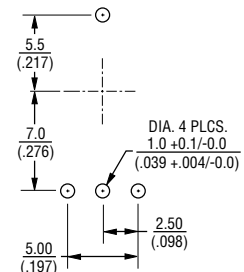
### Recommended Land Pattern



#### 3382H



### Recommended Land Patterns



TOLERANCES:  $\pm 0.30$  UNLESS OTHERWISE NOTED  
 $\pm (.012)$



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

\*RoHS Directive 2015/863, Mar 31, 2015 and Annex. Specifications are subject to change without notice.

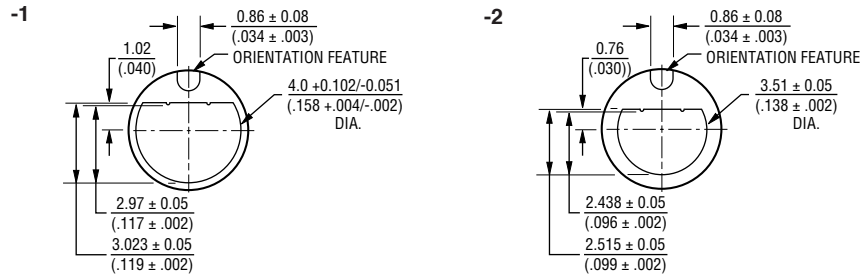
Users should verify actual device performance in their specific applications.

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# 3382 - 12 mm Rotary Position Sensor

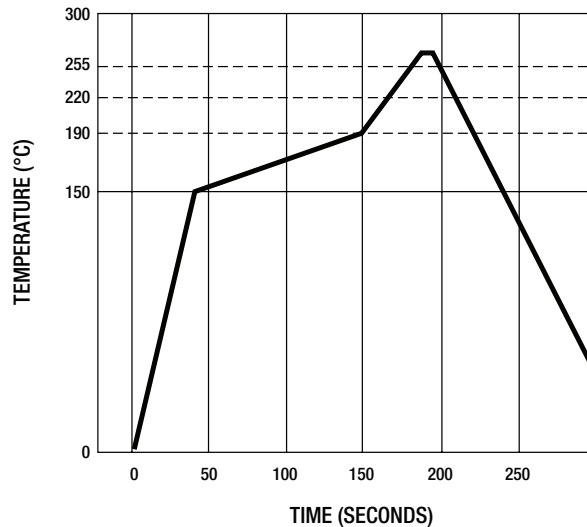
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## Rotor Dimensions



## 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/Ag/Cu 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   |  | $2.5 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{/second}$  |
| 4. Preheat   |   | $150 \text{ }^\circ\text{C}$ to $190 \text{ }^\circ\text{C}$ | $90 \pm 30$ seconds  |
| 5. Time above liquidus                                 |   | $220 \text{ }^\circ\text{C}$                                 | 60-90 seconds  |
| 6. Peak temperature                                    |   |  | $260 \text{ }^\circ\text{C} +0 \text{ }^\circ\text{-}5 \text{ }^\circ$<br>10-20 sec. within $5 \text{ }^\circ\text{C}$ of peak |
| 7. Ramp down   |   | Room temperature   | $3 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C/second}$   |



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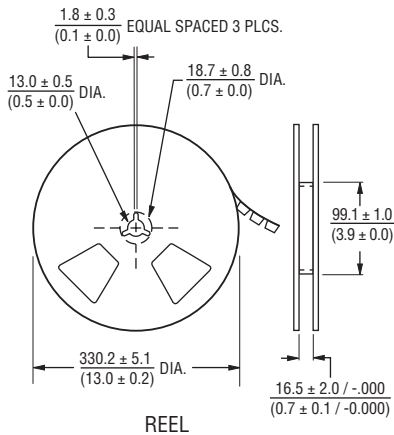
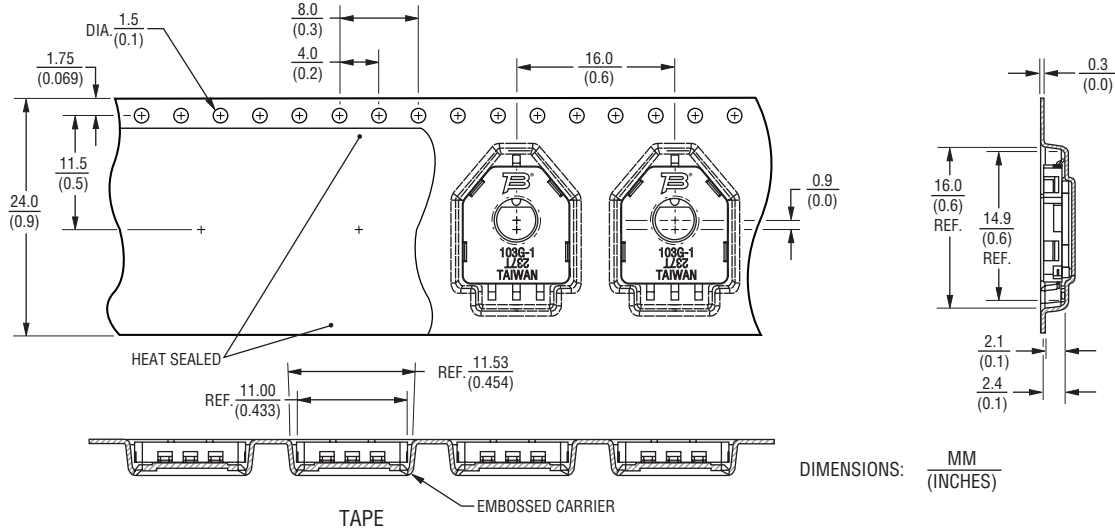
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# 3382 - 12 mm Rotary Position Sensor

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## Packaging Specifications



## How To Order

**3382 G - 1 - 103 G**

Model \_\_\_\_\_  
 Style \_\_\_\_\_  
 G = SMD with 8.5 mm Locator Pin Spacing  
 H = Through-hole with 5 mm x 7.5 mm Locator Pin Spacing  
 Standard Product Indicator \_\_\_\_\_  
 -1 = 4 mm Shaft Diameter  
 -2 = 3.5 mm Shaft Diameter  
 Resistance Code \_\_\_\_\_  
 Packaging Designator \_\_\_\_\_  
 G = 1000 pcs./13" Reel (G Style)  
 Blank = 50 pcs./Tube (H Style)

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