

## 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

# 3382 - 12 mm Rotary Position Sensor

### Additional Information

Click these links for more information:



### Electrical Characteristics

Standard Resistance Range ..... 2.5K to 100K ohms  
 Resistance Tolerance ..... ±30 % std.  
 Independent Linearity<sup>(1)</sup> ..... ±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 ..... ±500 ppm/°C  
 Humidity ..... TRS ±20 %  
 Shock ..... 20 G TRS ±10 %; VRS ±10 %  
 Load Life @ 50 °C Rated Power ..... TRS +10/-20 %  
 Rotational Life ..... 1,000,000 cycles TRS ±20 %  
 Thermal Shock ..... 5 cycles TRS ±20 %; VRS ±10 %  
 Moisture Sensitivity Level ..... 1  
 ESD Classification (HBM) ..... N/A

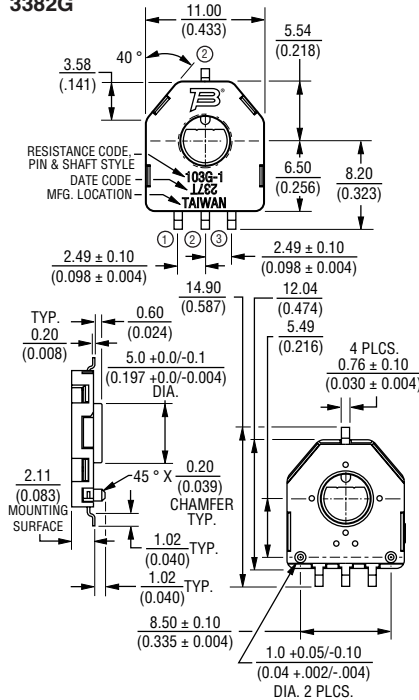
### Physical Characteristics

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

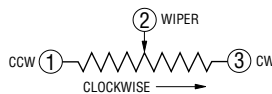
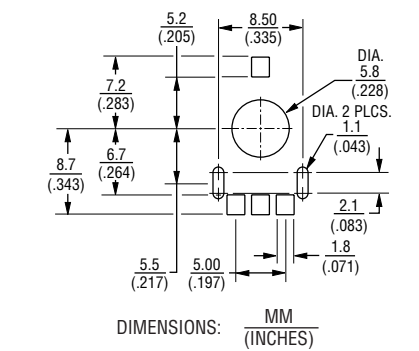
(1) See Independent Linearity, page 3.

### Product Dimensions

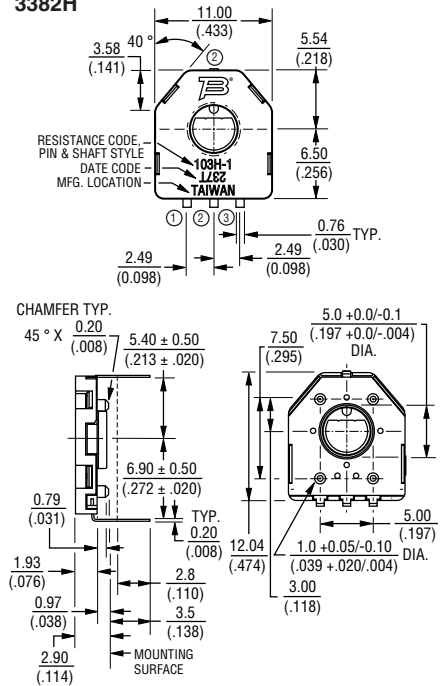
#### 3382G



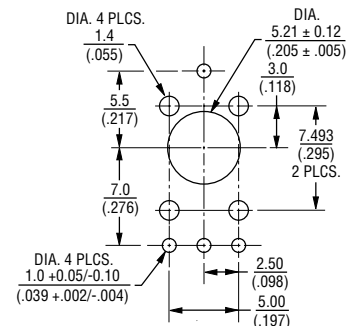
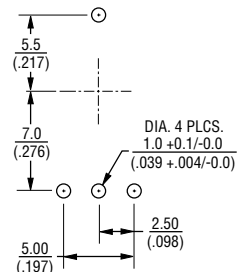
### Recommended Land Pattern



#### 3382H



### Recommended Land Patterns



TOLERANCES: ±0.30 UNLESS OTHERWISE NOTED  
 ±(.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.

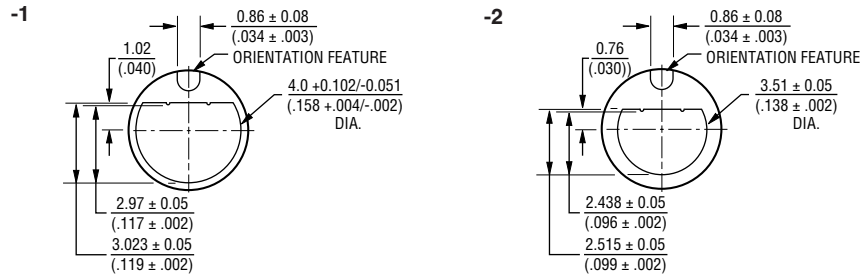
Users should verify actual device performance in their specific applications.

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# 3382 - 12 mm Rotary Position Sensor

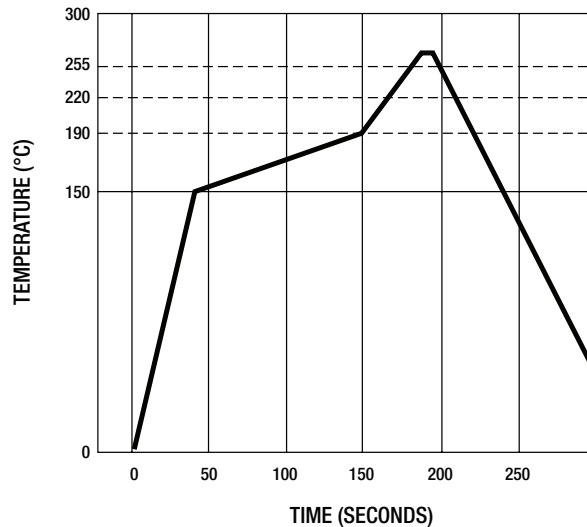
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## Rotor Dimensions



## 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			$260 \text{ }^\circ\text{C} +0 \text{ }^\circ\text{-}5 \text{ }^\circ$ 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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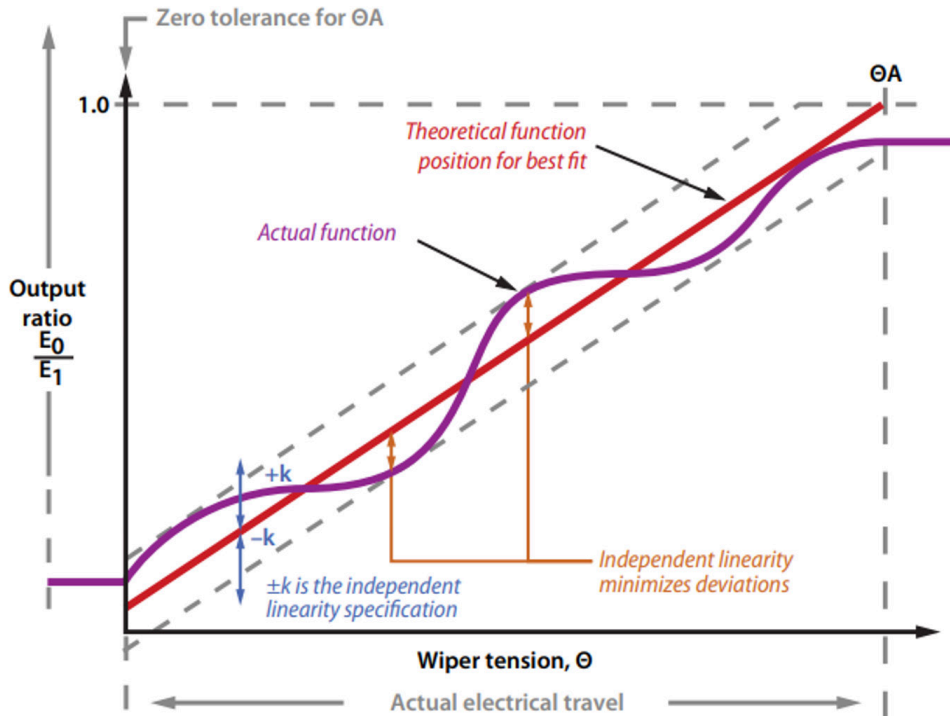
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## Independent Linearity

Independent linearity is the maximum permissible deviation of the actual output curve from a reference line. The slope and position of this reference line are chosen to minimize deviations over all or a portion of the actual electrical travel. The reference line is placed for best straight-line fit through the actual output curve. Please reference the illustration below.



### How To Order

Model \_\_\_\_\_ **3382 G - 1 - 103 G**

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)

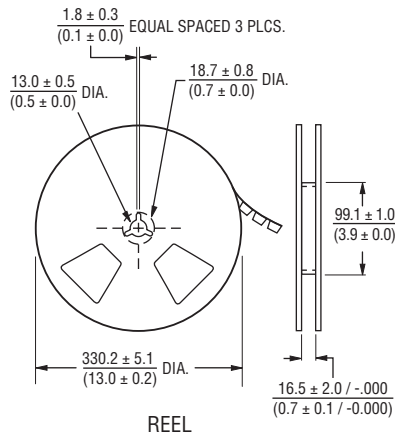
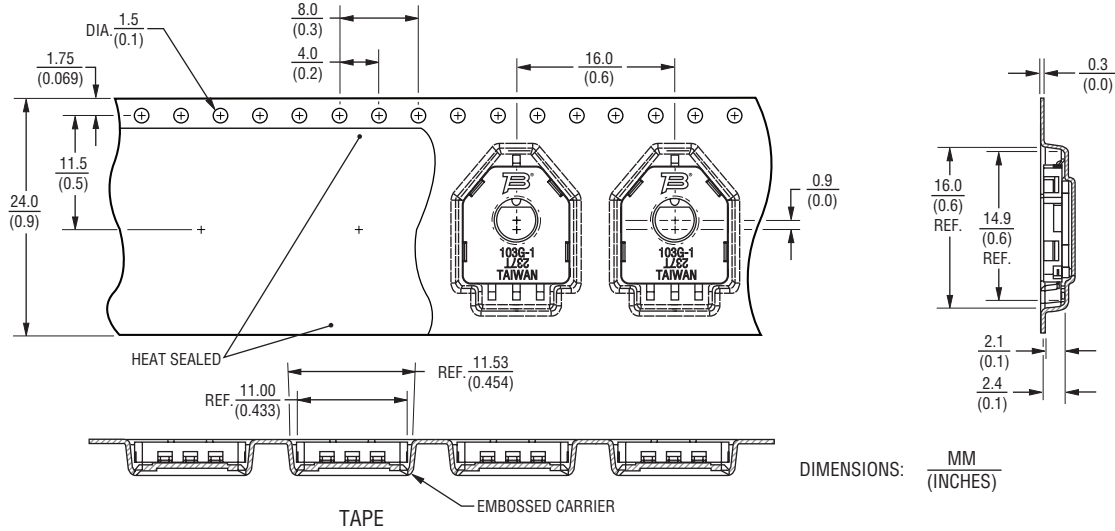
### Standard Resistance Table

Resistance (Ohms)	Resistance Code
2,500	252
5,000	502
10,000	103
20,000	203
25,000	253
50,000	503
100,000	104

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## Packaging Specifications



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