

## 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  
 Thermal Shock ..... 5 cycles  
 TRS ±20 %; VRS ±10 %  
 Moisture Sensitivity Level ..... 1  
 ESD Classification (HBM) ..... N/A

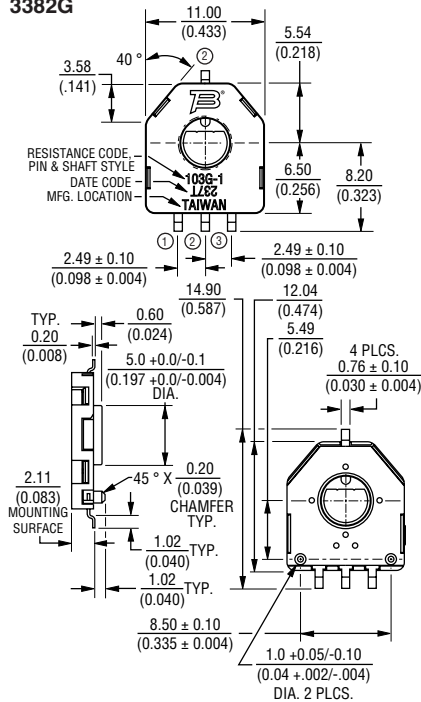
### Physical Characteristics

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.

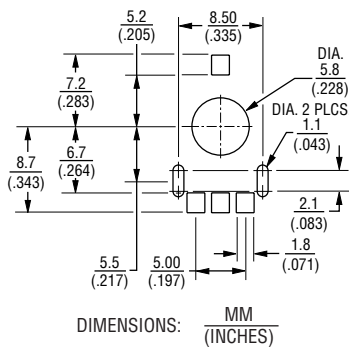
### Product Dimensions

#### 3382G

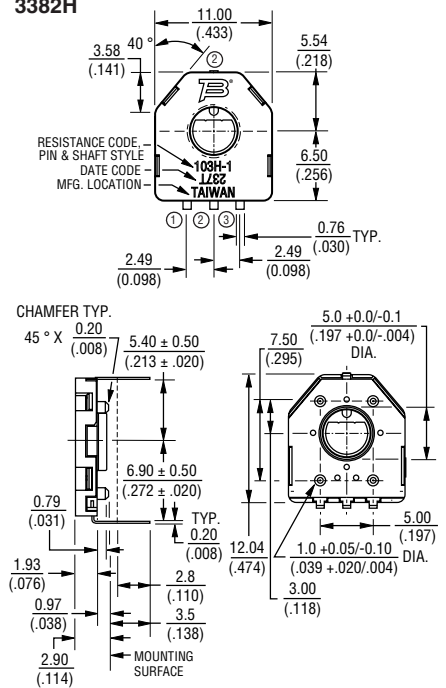


NOTE: ALL TERMINATIONS TO BE COPLANAR WITHIN 0.1 (0.001)

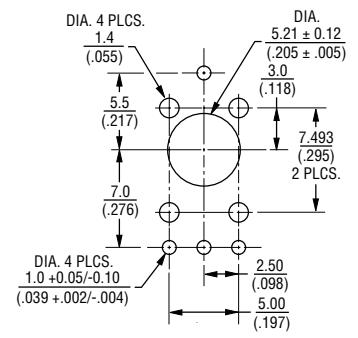
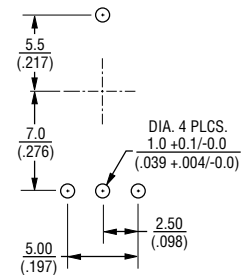
### Recommended Land Pattern



#### 3382H



### Recommended Land Patterns



TOLERANCES: ±0.30 UNLESS OTHERWISE NOTED  
 ±(.012)



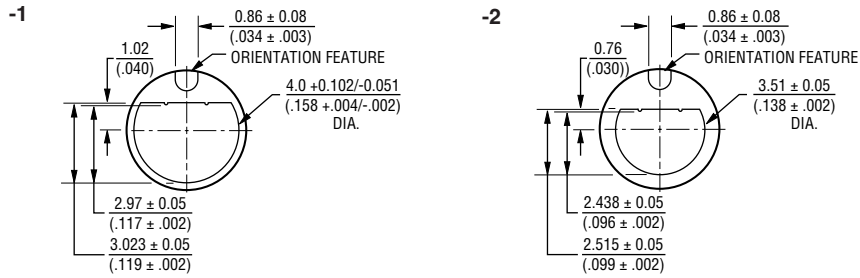
**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

\*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. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).

# 3382 - 12 mm Rotary Position Sensor

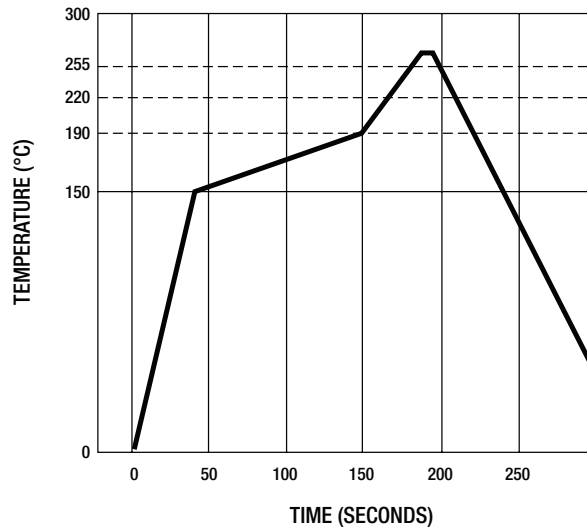
**BOURNS®**

## 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   | $3 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C/second}$   |



Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

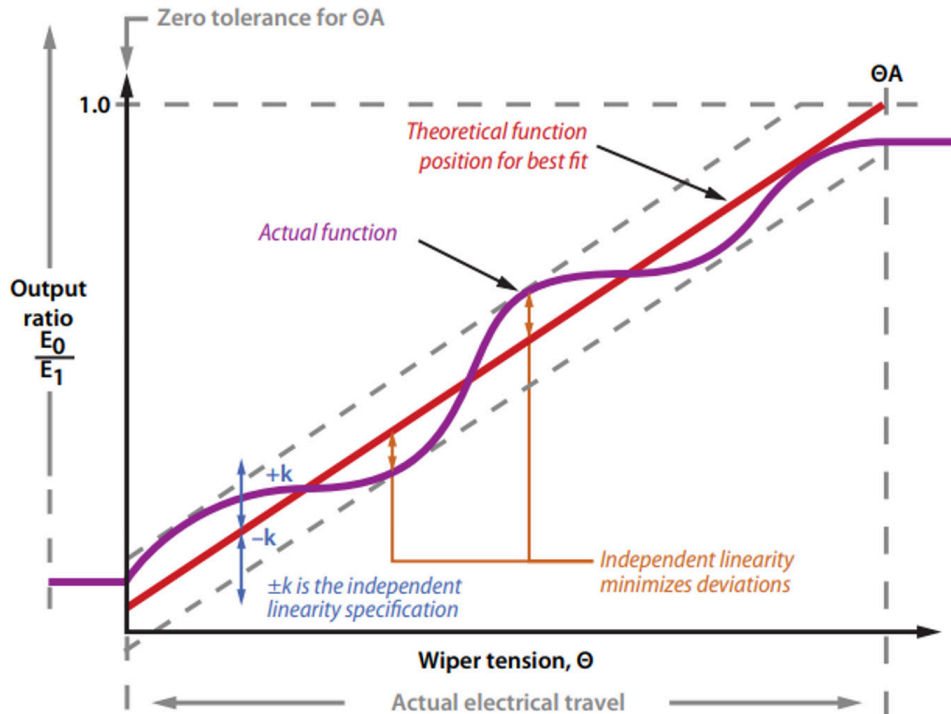
The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).

# 3382 - 12 mm Rotary Position Sensor

**BOURNS®**

## 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)

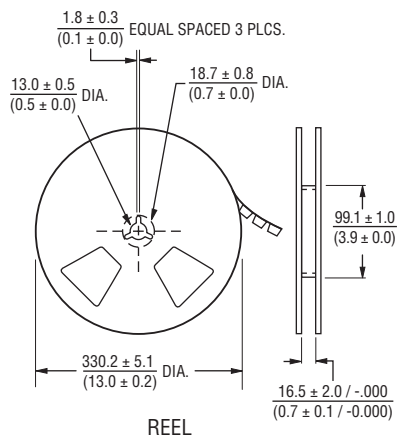
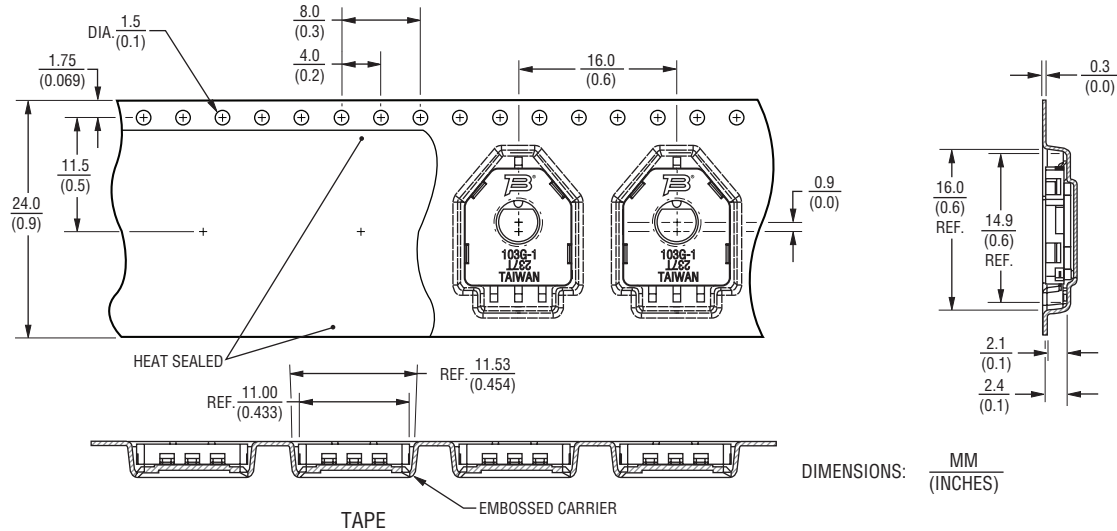
### Standard Resistance Table

| 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             |

# 3382 - 12 mm Rotary Position Sensor

**BOURNS®**

## Packaging Specifications



**BOURNS®**

Asia-Pacific: Tel: +886-2 2562-4117 • Email: asiacus@bourns.com

EMEA: Tel: +36 88 885 877 • Email: eurocus@bourns.com

The Americas: Tel: +1-951 781-5500 • Email: americus@bourns.com

[www.bourns.com](http://www.bourns.com)

REV. 10/23

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).