



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

- Volume control on audio equipment
- Motion controllers
- Dishwasher control systems
- Temperature range

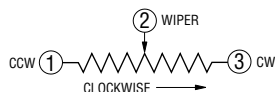
## 3382 - 12 mm Rotary Position Sensor

|                                       |                      |
|---------------------------------------|----------------------|
| Standard Resistance Range .....       | 2.5K to 100K ohms    |
| Resistance Tolerance .....            | ±30 % std.           |
| Linearity .....                       | ±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.           |

|                                  |                           |
|----------------------------------|---------------------------|
| 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                       |

|                        |                                  |
|------------------------|----------------------------------|
| Mechanical Angle ..... | Continuous rotation              |
| Torque.....            | 30 gf-cm max.                    |
| Weight .....           | Approximately 0.0321 g           |
| Marking.....           | Resistance code<br>and date code |
| Standard Packaging     |                                  |
| G Style .....          | 1000 pcs./13 " reel              |
| H Style .....          | 50 pcs./tube                     |
| IP Rating .....        | IP40                             |

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



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

[illegible]

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

Technical drawing of a mechanical part with dimensions in inches and millimeters. The drawing shows a side view of a component with a central circular feature and several rectangular features. Dimensions are provided in inches (top) and millimeters (bottom) in parentheses.

Dimensions (Inches / Millimeters):

- Top horizontal dimension: 5.2 (.205)
- Top horizontal dimension: 8.50 (.335)
- Vertical dimension from top: 7.2 (.283)
- Vertical dimension from top: 6.7 (.264)
- Vertical dimension from top: 8.7 (.343)
- Horizontal dimension from left: 5.5 (.217)
- Horizontal dimension from left: 5.00 (.197)
- Horizontal dimension from left: 1.8 (.071)
- Horizontal dimension from left: 2.1 (.083)
- Horizontal dimension from left: 1.1 (.043)
- Horizontal dimension from left: 2.1 (.083)
- Horizontal dimension from left: 1.8 (.071)
- Horizontal dimension from left: 5.00 (.197)
- Horizontal dimension from left: 5.5 (.217)
- Horizontal dimension from left: 8.7 (.343)
- Horizontal dimension from left: 7.2 (.283)
- Horizontal dimension from left: 5.2 (.205)

Other features and dimensions:

- Top circular feature: DIA. 5.8 (.228)
- Bottom circular feature: DIA. 2 PLCS
- Bottom rectangular feature: 1.1 (.043)
- Bottom rectangular feature: 2.1 (.083)
- Bottom rectangular feature: 1.8 (.071)
- Bottom rectangular feature: 5.00 (.197)
- Bottom rectangular feature: 5.5 (.217)
- Bottom rectangular feature: 8.7 (.343)
- Bottom rectangular feature: 7.2 (.283)
- Bottom rectangular feature: 5.2 (.205)

DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$

**3382H**

11.00  
(.433)

3.58  
(.141)

40°

5.54  
(.218)

6.50  
(.256)

RESISTANCE CODE  
PIN & SHAFT STYLE  
DATE CODE  
MFG. LOCATION

03H-1  
J22  
TAINWAN

0.76  
(.030) TYP.

2.49  
(.098)

2.49  
(.098)

**CHAMFER TYP.**

45° X

0.20  
(.008)

5.40 ± 0.50  
(.213 ± .020)

6.90 ± 0.50  
(.272 ± .020)

0.79  
(.031)

1.93  
(.076)

0.97  
(.038)

2.90  
(.114)

2.8  
(.110)

3.5  
(.138)

TYP. 0.20  
(.008)

12.04  
(.474)

7.50  
(.295)

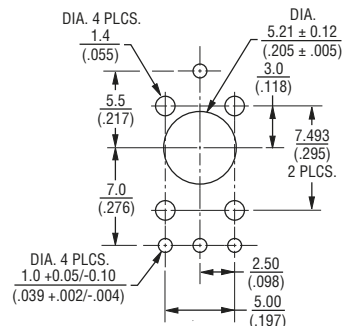
5.00  
(.197 ± 0.0/-0.004) DIA.

1.0 ± 0.05/-0.10  
(.039 ± .020/.004)

3.00  
(.118)

5.00  
(.197 ± 0.0/-0.004) DIA.

MOUNTING SURFACE

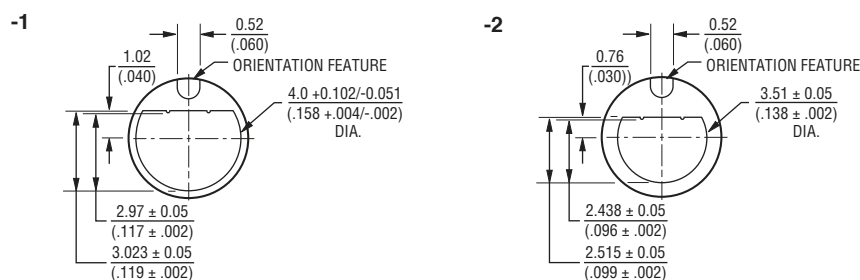


TOLERANCES:  $\frac{\pm 0.30}{\pm (.012)}$  UNLESS OTHERWISE NOTED

# 3382 - 12 mm Rotary Position Sensor

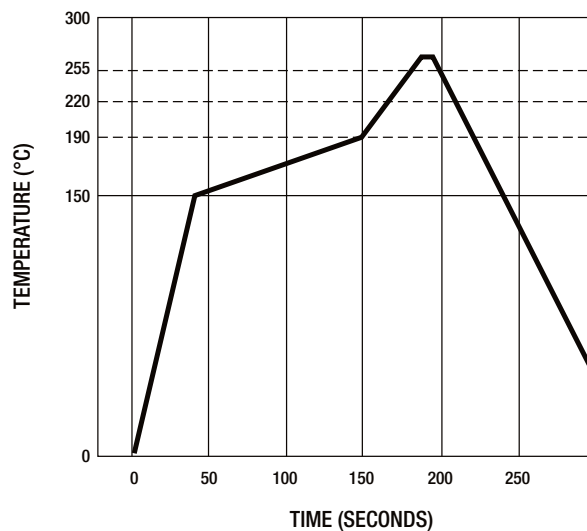
**BOURNS®**

## 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 °C ±0.5 °/second                               |
| 4. Preheat                                             |                                                                                                                                                                                                     | 150 °C to 190 °C | 90 ±30 seconds                                     |
| 5. Time above liquidus                                 |                                                                                                                                                                                                     | 220 °C           | 60-90 seconds                                      |
| 6. Peak temperature                                    |                                                                                                                                                                                                     |                  | 260 °C +0 °/-5 °<br>10-20 sec. within 5 °C of peak |
| 7. Ramp down                                           |                                                                                                                                                                                                     | Room temperature | 3 °C ±0.5 °C/second                                |



Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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Technical drawing of the 1039-1 L/82 TAIWAN cartridge, showing dimensions in mm and inches.

**Top View Dimensions:**

- Overall width: 24.0 (0.9)
- Distance from left edge to first hole: 1.75 (0.069)
- Hole diameter: DIA. 1.5 (0.1)
- Distance between holes: 8.0 (0.3)
- Distance from last hole to right edge: 4.0 (0.2)
- Distance between the two main components: 16.0 (0.6)
- Overall height: 11.5 (0.5)

**Side View Dimensions:**

- Overall height: 16.0 (0.6)
- Reference height: 14.9 (0.6)
- Distance from bottom edge to top of main body: 11.00 (0.433)
- Distance from bottom edge to top of main body (reference): 11.53 (0.454)

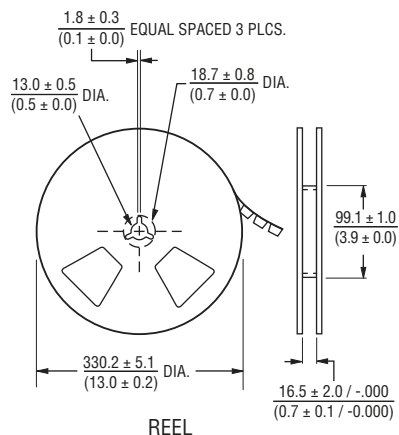
**Cross-sectional View Dimensions:**

- Overall height: 2.1 (0.1)
- Distance from bottom edge to top of main body: 2.4 (0.1)

**Other Labels:**

- HEAT SEALED
- TAPE
- EMBOSSED CARRIER
- 1039-1 L/82 TAIWAN

**DIMENSIONS:** MM (INCHES)



**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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