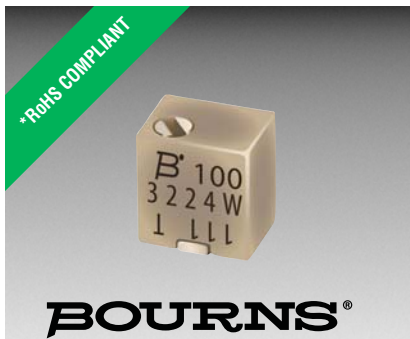




## Features

- Surface Mount 4 mm Square / Multiturn Cermet / Industrial / Sealed
- Halogen free\*\* with date code 114
- Sealed to withstand board wash processing
- Pick and place centering design, with flush adjustment
- 4mm design meets EIA/EIAJ/IPC/VECI SMD standard trimmer footprint
- Low CRV - 1 %
- RoHS compliant\* - see [processing information](#) on RoHS compliant surface mount trimmers
- For trimmer applications/processing guidelines, [click here](#)

## 3224 - 4 mm SMD Trimpot® Trimming Potentiometer

### Electrical Characteristics

|                              |                                 |
|------------------------------|---------------------------------|
| Standard Resistance Range    | 10 to 2 megohm                  |
|                              | (see standard resistance table) |
| Resistance Tolerance         | ±10 % std.                      |
| Absolute Minimum Resistance  | 1 % or 2.0 ohms                 |
|                              | (whichever is greater)          |
| Contact Resistance Variation | 1 % or 3 ohms max.              |
| Resolution                   | Essentially Infinite            |
| Insulation Resistance        | 500 vdc.                        |
|                              | 100 megohms min.                |
| Dielectric Strength          |                                 |
| Sea Level                    | 600 vac (1 minute)              |
| Adjustment Angle             | 12 turns nom.                   |

### Environmental Characteristics

|                               |                                           |
|-------------------------------|-------------------------------------------|
| Power Rating (300 volts max.) |                                           |
| 85 °C                         | 0.25 watt                                 |
| 150 °C                        | 0 watt                                    |
| Temperature Range             | -65 °C to +150 °C                         |
| Temperature Coefficient       | ±100 ppm/°C                               |
| Seal Test                     | 85 °C Fluorinert <sup>†</sup> /60 seconds |
| Humidity                      | MIL-STD 202 Method 106                    |
|                               | TRS ±2 %; IR 10 megohms                   |
| Vibration                     | 20 G TRS ±1 %; VRS ±1 %                   |
| Shock                         | 100 G TRS ±1 %; VRS ±1 %                  |
| Load Life                     | @ 85 °C rated power 1,000 hours           |
| TRS                           | 3 ohms or 3 %                             |
|                               | (whichever is greater)                    |
| Rotational Cycling            | 200 cycles                                |
| TRS                           | 3 ohms or 3 %                             |
|                               | (whichever is greater)                    |
| Thermal Shock                 | 5 cycles                                  |
|                               | TRS ±2 %; VRS ±1 %                        |

### Physical Characteristics

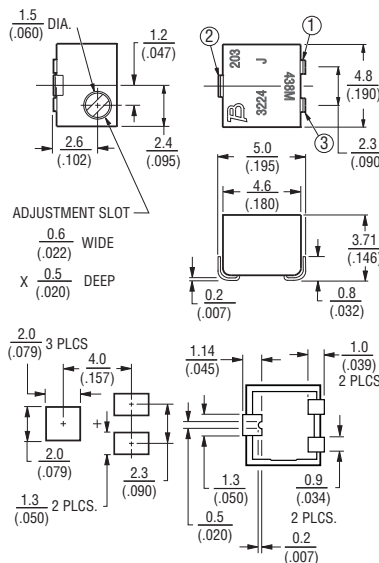
|                   |                                                    |
|-------------------|----------------------------------------------------|
| Mechanical Stop   | Wiper idles                                        |
| Torque            | 180 g-cm max.                                      |
| Weight            | Approximately 0.01 oz.                             |
| Marking           | Manufacturer's code, resistance code and date code |
| Solderability     | Per MIL-STD-202, Method 208                        |
| Wiper             | 50 % (Actual TR) ±10 %                             |
| Flammability      | UL94V0                                             |
| Pushover Strength |                                                    |
| J, G              | 4.4 lbs.                                           |
| W, X              | 1 lb.                                              |
| Adjustment Tool   | H-91                                               |

### How To Order

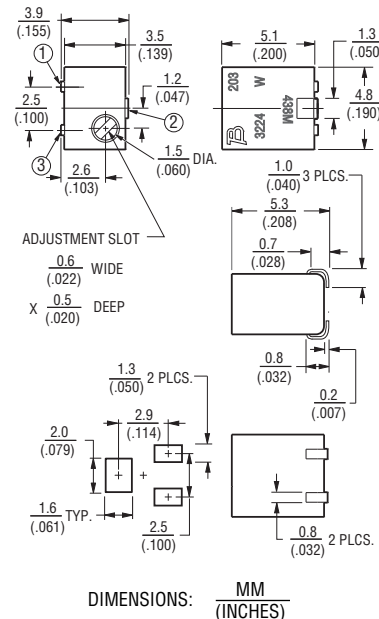
|                                              |                                            |
|----------------------------------------------|--------------------------------------------|
| Model                                        | <b>3224 J - 1 - 502 E</b>                  |
| Style                                        |                                            |
| Standard or Modified                         |                                            |
| Product Indicator                            |                                            |
| -1=                                          | IR Reflow (standard)                       |
| †-2=                                         | Wave Solderable                            |
| -FW5=                                        | .070 " ± .010 " Shaft Extension            |
| Resistance Code                              |                                            |
| Embossed Tape Designator                     |                                            |
| E =                                          | Style J, G: 500 pcs./7 " reel (standard)   |
|                                              | Style W: 250 pcs./7 " reel (standard)      |
|                                              | Style X: 200 pcs./7 " reel (standard)      |
| G =                                          | Style J, G: 1500 pcs./13 " reel (standard) |
|                                              | Style W: 1000 pcs./13 " reel (standard)    |
|                                              | Style X: 850 pcs./13 " reel (standard)     |
| Blank =                                      | Style J, G: 1500 pcs./13 " reel (FW5)      |
|                                              | Style W, X: 600 pcs./13 " reel (FW5)       |
| Consult factory for other available options. |                                            |
| † -2 has a treated stainless steel shaft     |                                            |

### Product Dimensions

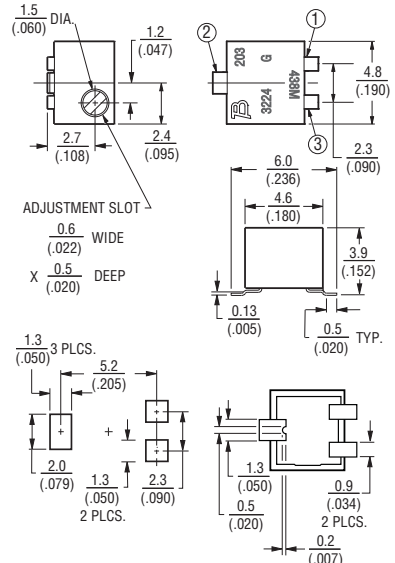
#### 3224J Side Adjust



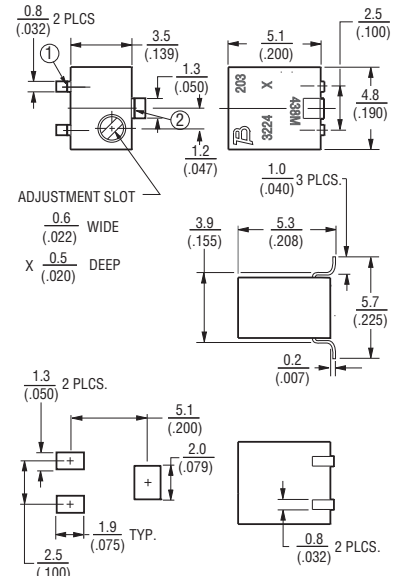
#### 3224W Top Adjust



#### 3224G Side Adjust



#### 3224X Top Adjust



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

\*\*Bourns follows the prevailing definition of "halogen free" in the industry. Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

†"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.

## Additional Features

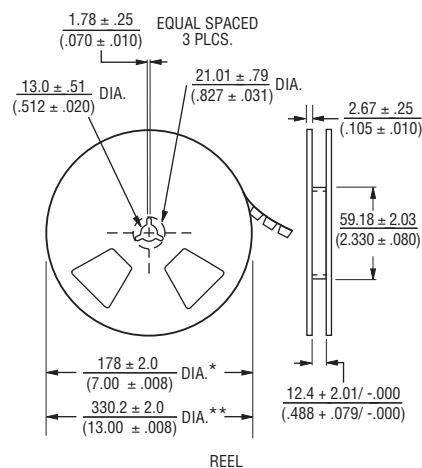
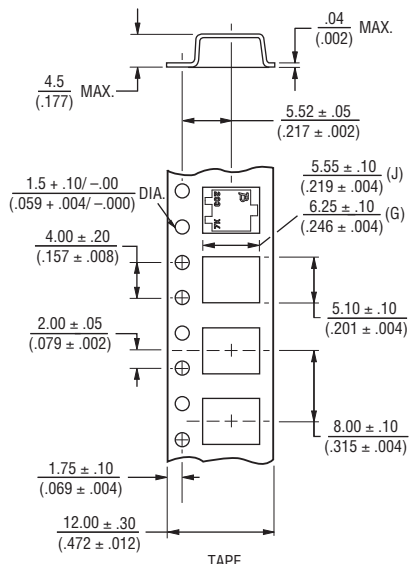
- Top and side adjust styles
- J-hook, and gull-wing

# 3224 - 4 mm SMD Trimpot® Trimming Potentiometer

**BOURNS®**

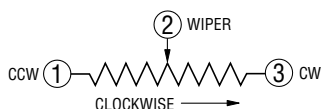
## Packaging Specifications

### J & G Styles

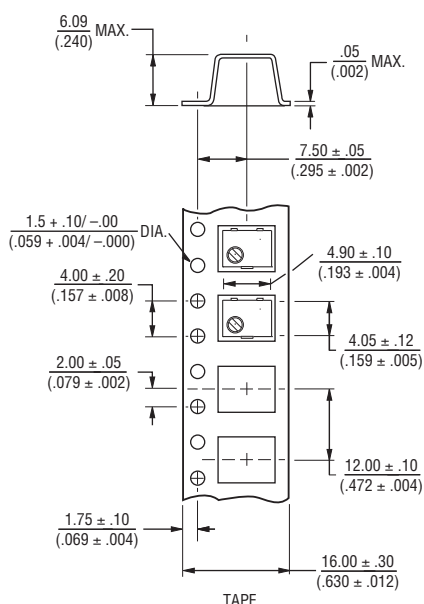


\* Embossed Tape Designator "E"  
 \*\* Embossed Tape Designator "G"  
 (See How To Order chart for further information.)

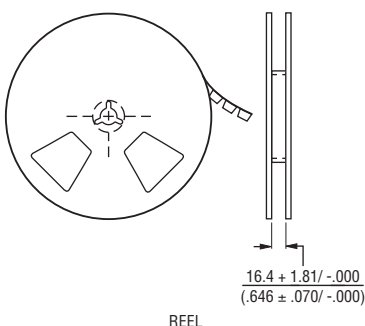
Cover tape peel strength: Meets EIA specification 481.



### W Style



### W & X Style Reel

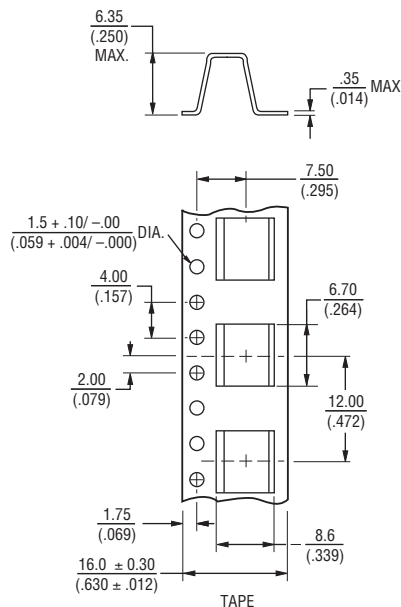


\* Embossed Tape Designator "E"  
 \*\* Embossed Tape Designator "G"  
 (See How To Order chart for further information.)

Cover tape peel strength: Meets EIA specification 481.

DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$   
 TOLERANCES:  $\pm \frac{0.25}{(.010)}$  EXCEPT WHERE NOTED

### X Style



## Standard Resistance Table

| Resistance (Ohms) | Resistance Code |
|-------------------|-----------------|
| 10                | 100             |
| 20                | 200             |
| 50                | 500             |
| <b>100</b>        | <b>101</b>      |
| <b>200</b>        | <b>201</b>      |
| <b>500</b>        | <b>501</b>      |
| <b>1,000</b>      | <b>102</b>      |
| <b>2,000</b>      | <b>202</b>      |
| <b>5,000</b>      | <b>502</b>      |
| <b>10,000</b>     | <b>103</b>      |
| <b>20,000</b>     | <b>203</b>      |
| <b>50,000</b>     | <b>503</b>      |
| <b>100,000</b>    | <b>104</b>      |
| 200,000           | 204             |
| 500,000           | 504             |
| 1,000,000         | 105             |
| 2,000,000         | 205             |

Popular distribution values listed in boldface.  
 Special resistances available.

REV. 08/14

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 Users should verify actual device performance in their specific applications.