



## Features

- Lead free device
- RoHS compliant\*
- Protects four lines
- ESD and EFT protection
- Low capacitance: <5 pF

## Applications

- Portable electronics
- Cellular phones
- Video/graphics cards
- USB 2.0 interface
- Sensor interface

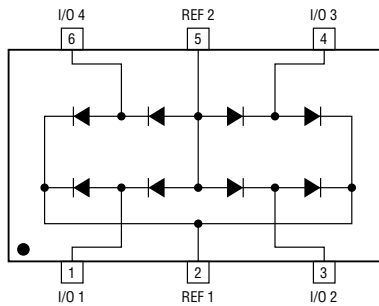
# CDSOT23-SR208 – Steering Diode Array

## General Information

The markets of portable communications, computing and video equipment are challenging the semiconductor industry to develop increasingly smaller electronic components.

Bourns offers Transient Voltage Suppressor Array diodes for EFT and ESD protection applications, in compact chip package SOT23-6 size format. Bourns® Chip Diodes conform to JEDEC standards, are easy to handle on standard pick and place equipment and their flat configuration minimizes roll away.

The Bourns® device will meet IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements.



## Additional Information

Click these links for more information:



## Electrical Characteristics (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

| Parameter                                                              | Symbol             | Min. | Nom. | Max. | Unit |
|------------------------------------------------------------------------|--------------------|------|------|------|------|
| Repetitive Peak Forward Current<br>(t <sub>p</sub> = 5 μs, F = 50 KHz) | I <sub>FRM</sub>   |      |      | 700  | mA   |
| Continuous Power Dissipation                                           | P <sub>PC</sub>    |      |      | 500  | mW   |
| Forward Voltage @ 50 mA                                                | V <sub>F</sub>     |      |      | 1.2  | V    |
| Repetitive Peak Reverse Voltage @ 10 μA                                | V <sub>RRM</sub>   |      |      | 20   | V    |
| Reverse Leakage Current @ V <sub>RRM</sub> 5 V                         | I <sub>R</sub>     |      |      | 1    | μA   |
| Capacitance <sup>1</sup>                                               | C <sub>j(SD)</sub> |      |      | 5    | pF   |
| Forward Surge Rating<br>(1/20 s @ 25 °C, I <sub>F</sub> = 10 mA)       | V <sub>F</sub>     |      |      | 1.5  | V    |

Note:

1. Apply a 5 V bias between pin 2 (REF 1) to pin 5 (REF 2). Measure C<sub>j</sub> between any I/O pins to pin 5 (REF 2) and divide by two.

## Thermal Characteristics (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

| Parameter             | Symbol           | Min. | Nom. | Max. | Unit |
|-----------------------|------------------|------|------|------|------|
| Operating Temperature | T <sub>J</sub>   | -55  | +25  | +150 | °C   |
| Storage Temperature   | T <sub>STG</sub> | -55  | +25  | +150 | °C   |



**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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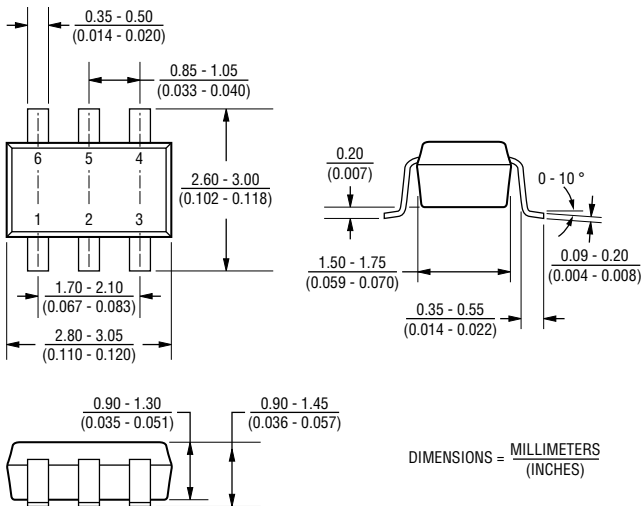
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## Mechanical Characteristics

This is a molded JEDEC SOT23-6 package with lead free 100 % Tin (Sn) on the lead frame. It weighs approximately 15 mg and has a flammability rating of UL 94V-0.

## Product Dimensions



## How to Order

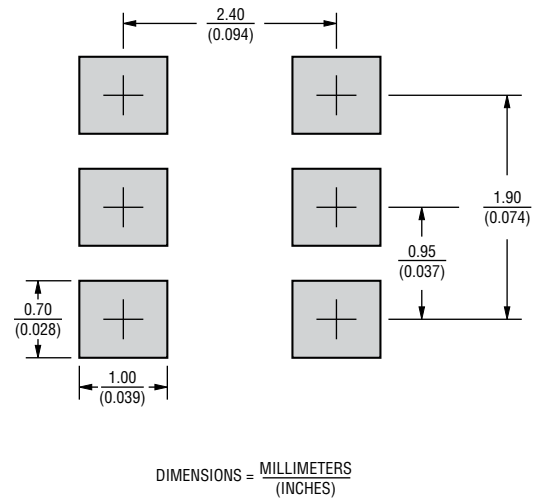
### CD SOT23 - SR 208

Common Code \_\_\_\_\_  
 CD = Chip Diode  
 Package \_\_\_\_\_  
 SOT23 = SOT23-6 Package  
 Model \_\_\_\_\_  
 SR = Steering Diode  
 Model Number \_\_\_\_\_  
 208

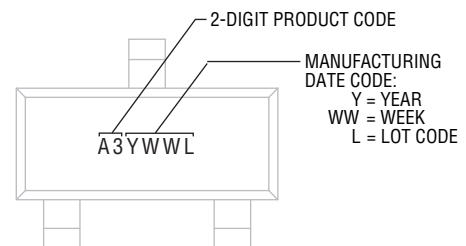
## Environmental Specifications

Moisture Sensitivity Level ..... 1  
 ESD Classification (HBM) ..... 2

## Recommended Footprint



## Typical Part Marking



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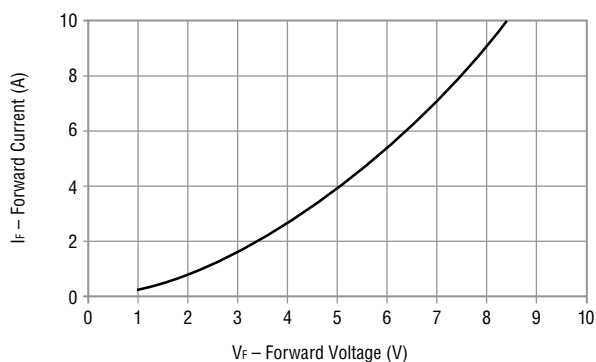
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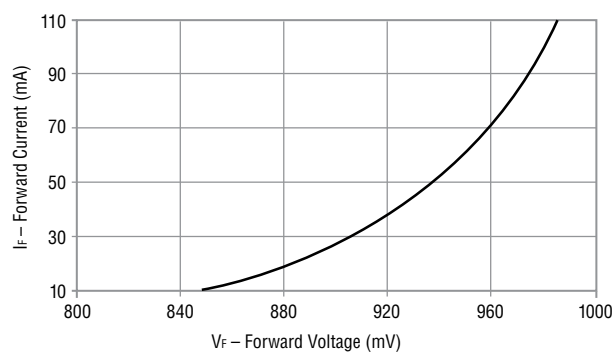
**BOURNS®**

## Performance Graphs

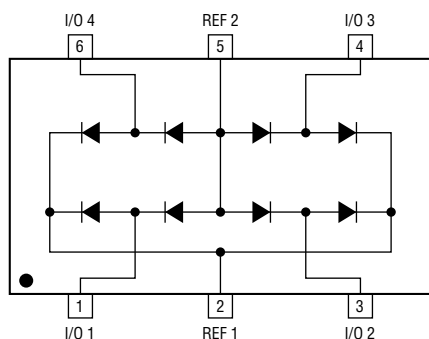
### Peak Forward Current vs. Forward Voltage



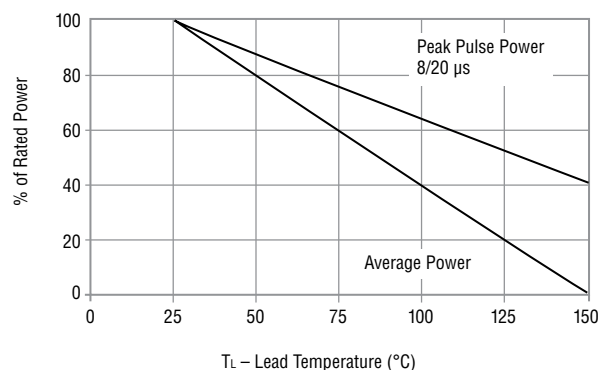
### Low Forward Current vs. Forward Voltage



### Block Diagram



### Power Derating Curve



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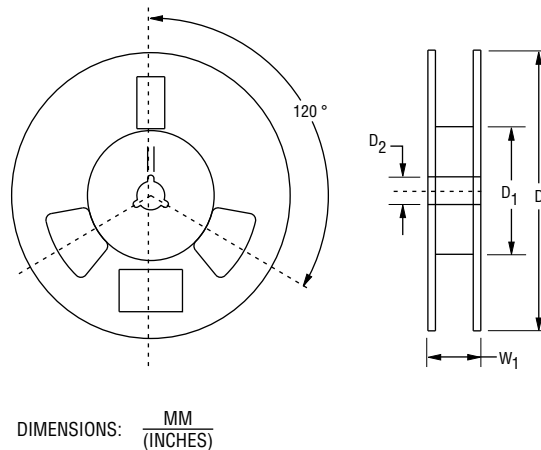
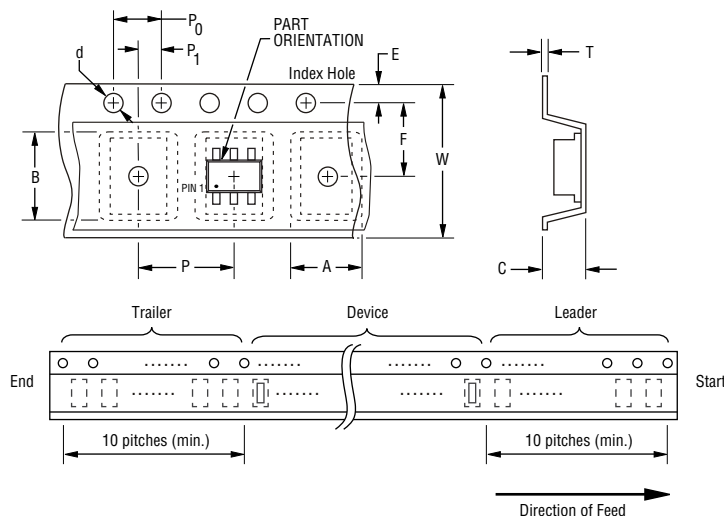
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## Packaging Information

The product is packaged in tape and reel format per EIA-481 standard.



| Item                   | Symbol         | SOT23-6                                   |
|------------------------|----------------|-------------------------------------------|
| Carrier Width          | A              | $\frac{3.90 \pm 0.10}{(0.154 \pm 0.004)}$ |
| Carrier Length         | B              | $\frac{3.90 \pm 0.10}{(0.154 \pm 0.004)}$ |
| Carrier Depth          | C              | $\frac{0.90 \pm 0.10}{(0.035 \pm 0.004)}$ |
| Sprocket Hole          | d              | $\frac{1.55 \pm 0.05}{(0.061 \pm 0.002)}$ |
| Reel Outside Diameter  | D              | $\frac{178}{(7.008)}$                     |
| Reel Inner Diameter    | D <sub>1</sub> | $\frac{50.0}{(1.969)} \text{ MIN.}$       |
| Feed Hole Diameter     | D <sub>2</sub> | $\frac{13.0 \pm 0.20}{(0.512 \pm 0.008)}$ |
| Sprocket Hole Position | E              | $\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$ |
| Punch Hole Position    | F              | $\frac{3.50 \pm 0.05}{(0.138 \pm 0.002)}$ |
| Punch Hole Pitch       | P              | $\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$ |
| Sprocket Hole Pitch    | P <sub>0</sub> | $\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$ |
| Embossment Center      | P <sub>1</sub> | $\frac{2.00 \pm 0.05}{(0.079 \pm 0.002)}$ |
| Overall Tape Thickness | T              | $\frac{0.20 \pm 0.10}{(0.008 \pm 0.004)}$ |
| Tape Width             | W              | $\frac{8.00 \pm 0.20}{(0.315 \pm 0.008)}$ |
| Reel Width             | W <sub>1</sub> | $\frac{14.4}{(0.567)} \text{ MAX.}$       |
| Quantity per Reel      | --             | 3000                                      |

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