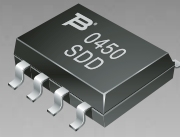


\*RoHS COMPLIANT



**BOURNS®**

### Features

- Lead free device (RoHS compliant\*)
- Protects up to 6 lines
- Bidirectional configuration
- ESD protection > 40 KV
- Low capacitance: 15 pF

### Applications

- Ethernet – 10/100 Base T
- Computer I/O Ports – SCSI, FireWire & USB
- Set-top box protection
- Video Cards

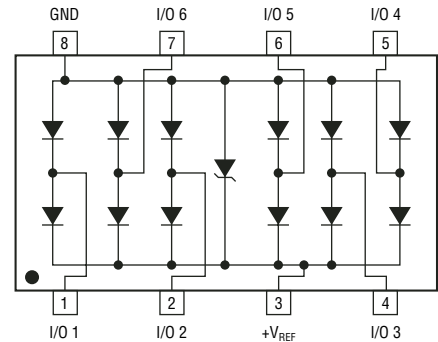
## CDNBS08-SRDAXX-6 – Steering Diode/TVS Array Combo

### General Information

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

Bourns offers Steering Diode/Transient Voltage Suppressor Array combination diodes for surge and ESD protection applications in an 8 Lead Narrow Body SOIC package 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), IEC 61000-4-4 (EFT) and IEC 61000-4-5 (Surge) requirements.



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

Parameter	Symbol	CDNBS08-		Unit
		SRDA3.3-6	SRDA05-6	
Minimum Break Down Voltage @ 1 mA	V <sub>BR</sub>	4.0	6.0	V
Working Peak Voltage	V <sub>WM</sub>	3.3	5.0	V
Maximum Clamping Voltage V <sub>C</sub> @ I <sub>p</sub>	V <sub>F</sub>	6.5	9.8	V
Maximum Clamping Voltage @ 8/20 μs V <sub>C</sub> @ I <sub>PP</sub>	V <sub>F</sub>	10.9 V @ 43 A	13.5 V @ 42 A	V
Maximum Leakage Current @ V <sub>WM</sub>	I <sub>D</sub>	125	20	μA
Maximum Cap. Bidirectional @ 0 V, 1 MHz	C <sub>J(SD)</sub>	15		pF
Peak Pulse Power (t <sub>p</sub> = 8/20 μs) <sup>1</sup>	P <sub>PP</sub>	500		W
Continuous Power Dissipation	P <sub>PC</sub>	1000		MW
Forward Voltage @ 100 mA, 300 μs – Square Wave <sup>2</sup>	V <sub>F</sub>	1.1		V

Notes:

1. See Peak Pulse Power vs. Pulse Time.
2. Capacitance measured at V<sub>WM</sub> = V<sub>CC</sub> connected between I/O pins to pin 8 and 5 (Gnd). V<sub>R</sub> = V<sub>WM</sub> @ 1 MHz.

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

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

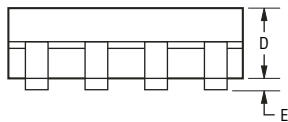
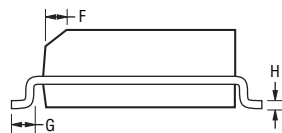
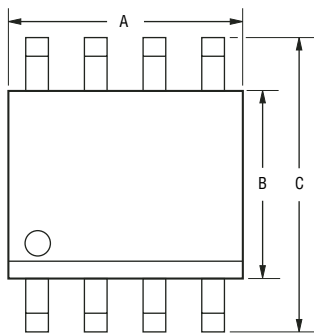
# CDNBS08-SRDaxx-6 – Steering Diode/TVS Array Combo



## Mechanical Characteristics

This is a molded JEDEC Narrow Body SO-8 package with lead free 100 % Sn plating on the lead frame. It weighs approximately 15 mg and has a flammability rating of UL 94V-0.

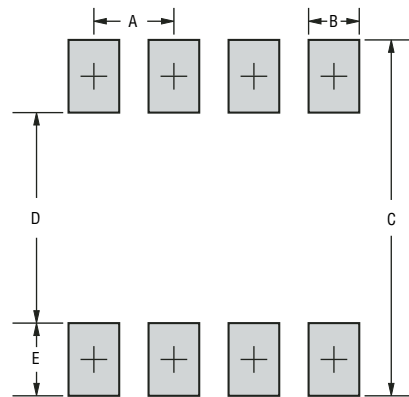
## Product Dimensions



DIMENSIONS =  $\frac{\text{MILLIMETERS}}{\text{(INCHES)}}$

Dimensions	
A	$\frac{4.80 - 5.00}{(0.189 - 0.196)}$
B	$\frac{3.80 - 4.00}{(0.150 - 0.157)}$
C	$\frac{5.80 - 6.20}{(0.229 - 0.244)}$
D	$\frac{1.35 - 1.75}{(0.054 - 0.068)}$
E	$\frac{0.10 - 0.25}{(0.004 - 0.008)}$
F	$\frac{0.25 - 0.50}{(0.010 - 0.019)}$
G	$\frac{0.40 - 1.250}{(0.016 - 0.049)}$
H	$\frac{0.18 - 0.25}{(0.007 - 0.009)}$

## Recommended Footprint



Dimensions	
A	$\frac{1.143 - 1.397}{(0.045 - 0.055)}$
B	$\frac{0.635 - 0.889}{(0.025 - 0.035)}$
C	$\frac{6.223}{(0.245)}$ Min.
D	$\frac{3.937 - 4.191}{(0.155 - 0.165)}$
E	$\frac{1.016 - 1.27}{(0.040 - 0.050)}$

## How To Order

**CD NBS08 - SRDA 3.3 - 6**

Common Code \_\_\_\_\_  
 CD = Chip Diode

Package \_\_\_\_\_  
 NBS08 = Narrow Body SOIC8 Package

Model \_\_\_\_\_  
 SRDA = Steering/TVS Diode Array

Working Peak Reverse Voltage \_\_\_\_\_  
 3.3 = 3.3 V<sub>RWM</sub> (Volts)  
 05 = 5.0 V<sub>RWM</sub> (Volts)

Number of Protection Lines \_\_\_\_\_  
 6 = 6 Lines

## Typical Part Marking

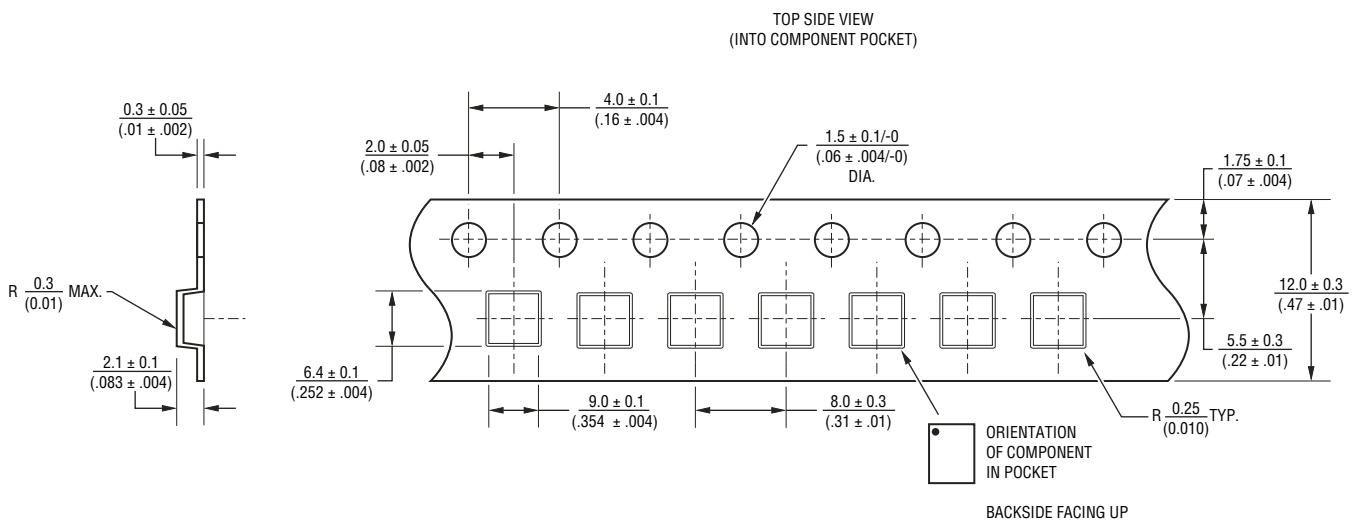
CDNBS08-SRDA3.3-6 ..... SGG  
 CDNBS08-SRDA05-6 ..... SGH

# CDNBS08-SRDAXx-6 – Steering Diode/TVS Array Combo

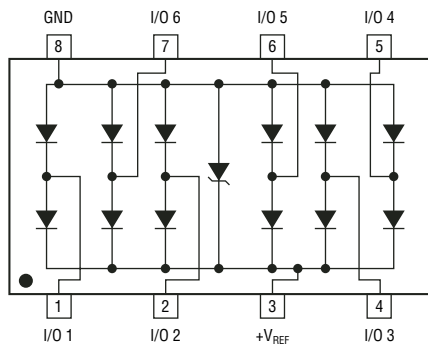


## Packaging

The surface mount product is packaged in a 12 mm x 8 mm Tape and Reel format per EIA-481 standard.



## Block Diagram

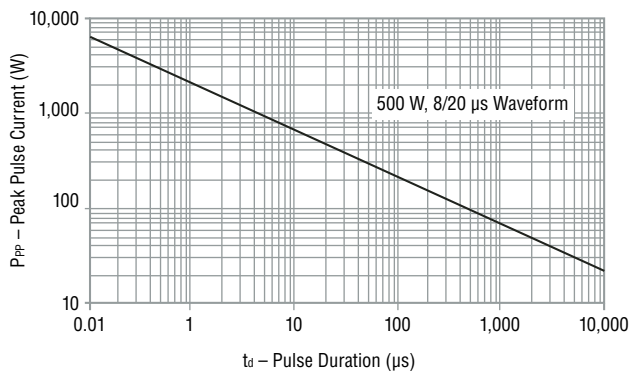


## Device Pinout

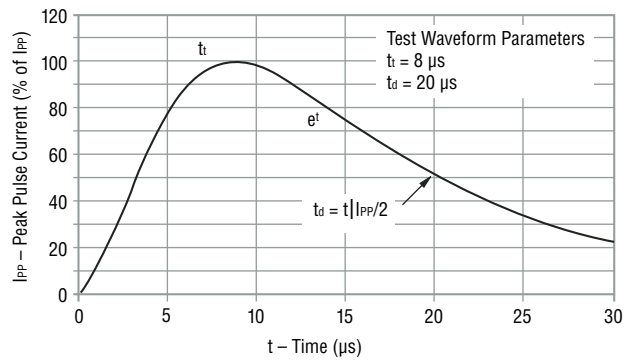
Pin	Function
1	I/O 1
2	I/O 2
3	+V <sub>REF</sub>
4	I/O 3
5	I/O 4
6	I/O 5
7	I/O 6
8	GND

Performance Graphs

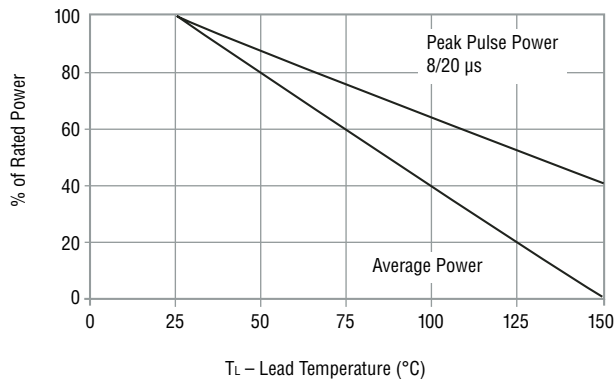
Peak Pulse Power vs Pulse Time



Pulse Wave Form



Power Derating Curve



Reliable Electronic Solutions

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Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116

Europe:

Tel: +41-41 768 5555 • Fax: +41-41 768 5510

The Americas:

Tel: +1-951 781-5500 • Fax: +1-951 781-5700

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