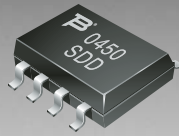


*RoHS COMPLIANT



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

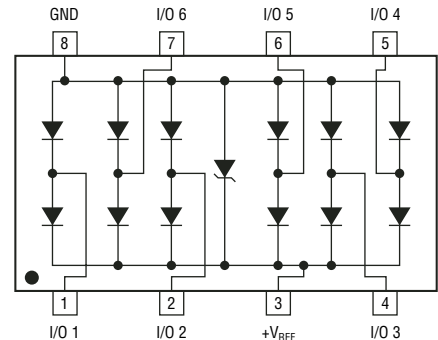
CDNBS08-SRDAXX-6 – Steering Diode/TVS Array Combo

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 (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	CDNBS08-		Unit
		SRDA3.3-6	SRDA05-6	
Minimum Break Down Voltage @ 1 mA	V_{BR}	4.0	6.0	V
Working Peak Voltage	V_{WM}	3.3	5.0	V
Maximum Clamping Voltage V_C @ I_P	V_F	6.5	9.8	V
Maximum Clamping Voltage @ 8/20 μs V_C @ I_{PP}	V_F	10.9 V @ 43 A	13.5 V @ 42 A	V
Maximum Leakage Current @ V_{WM}	I_D	125	20	μA
Maximum Cap. Bidirectional @ 0 V, 1 MHz	$C_{j(SD)}$	15		pF
Peak Pulse Power ($t_p = 8/20 \mu\text{s}$) ¹	P_{PP}	500		W
Continuous Power Dissipation	P_{PC}	1000		MW
Forward Voltage @ 100 mA, 300 μs – Square Wave ²	V_F	1.1		V

Notes:

1. See Peak Pulse Power vs. Pulse Time.
2. Capacitance measured at $V_{WM} = V_{CC}$ connected between I/O pins to pin 8 and 5 (Gnd). $V_R = V_{WM}$ @ 1 MHz.

Thermal Characteristics (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Max.	Unit
Operating Temperature	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^\circ\text{C}$

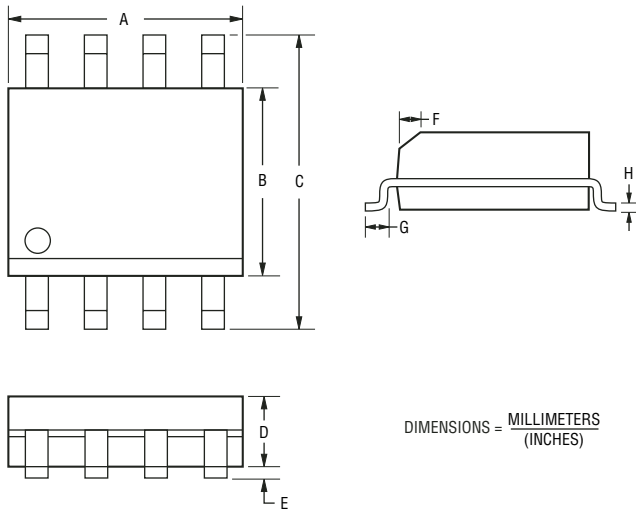
CDNBS08-SRDaxx-6 – Steering Diode/TVS Array Combo



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



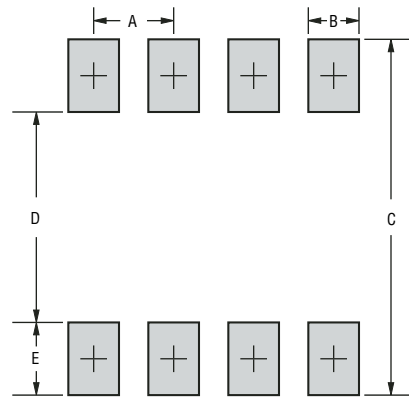
DIMENSIONS = $\frac{\text{MILLIMETERS}}{\text{(INCHES)}}$

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	$\frac{0.18 - 0.25}{(0.007 - 0.009)}$

Typical Part Marking

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

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

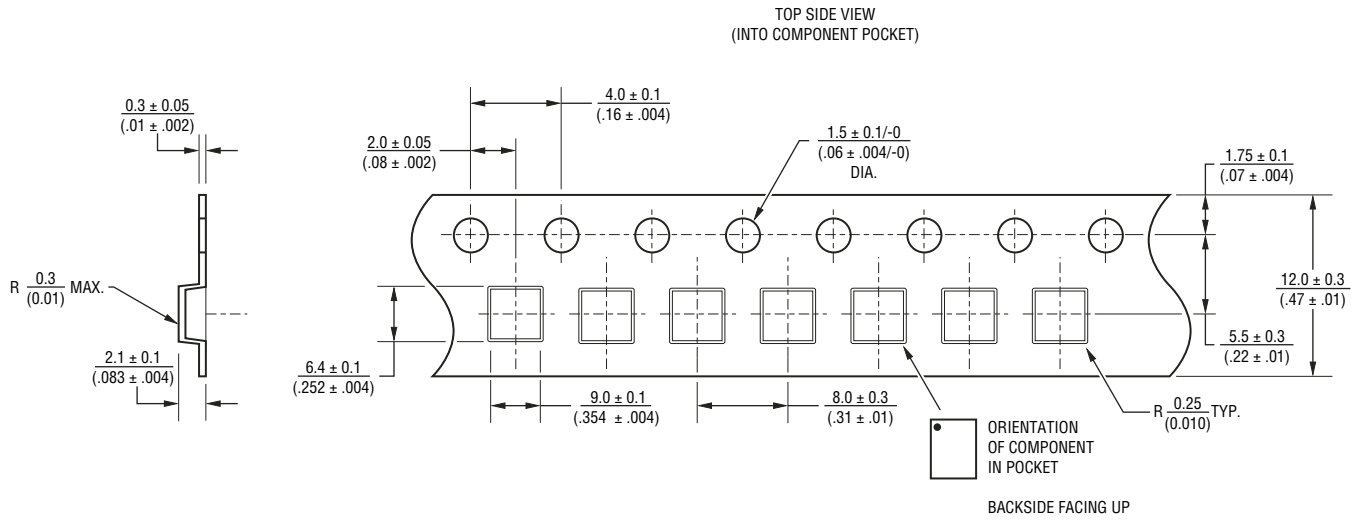
Common Code _____
 CD = Chip Diode
 Package _____
 NBS08 = Narrow Body SOIC8 Package
 Model _____
 SRDA = Steering/TVS Diode Array
 Working Peak Reverse Voltage _____
 3.3 = 3.3 V_{RWM} (Volts)
 05 = 5.0 V_{RWM} (Volts)
 Number of Protection Lines _____
 6 = 6 Lines

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

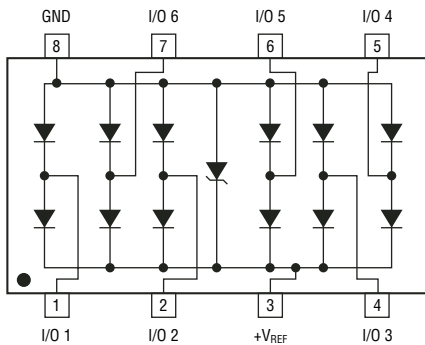


Packaging

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



Block Diagram

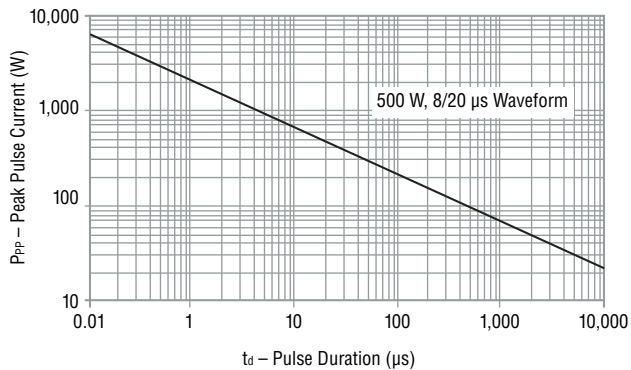


Device Pinout

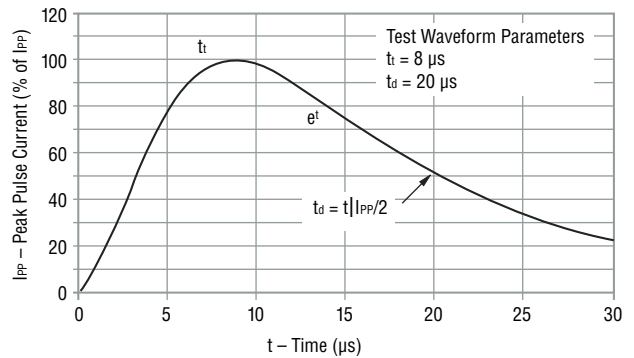
Pin	Function
1	I/O 1
2	I/O 2
3	+V _{REF}
4	I/O 3
5	I/O 4
6	I/O 5
7	I/O 6
8	GND

Performance Graphs

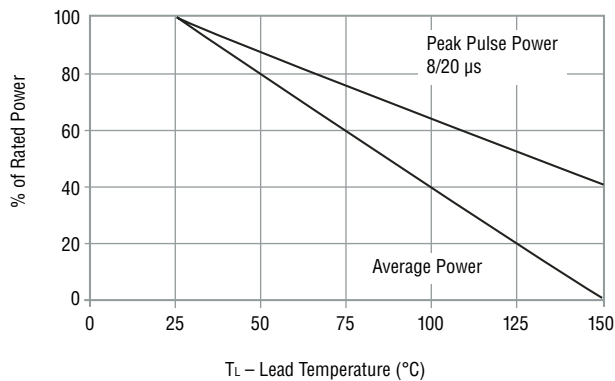
Peak Pulse Power vs Pulse Time



Pulse Wave Form



Power Derating Curve



Reliable Electronic Solutions

Asia-Pacific:

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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