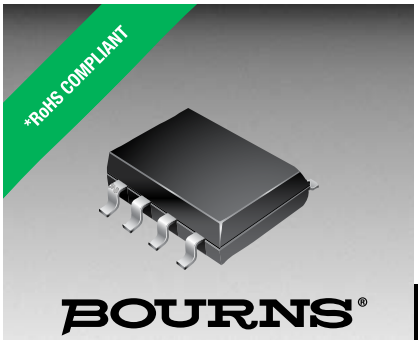


Features

- RoHS compliant*
- Protects up to four I/O ports
- Unidirectional configuration
- ESD protection: 30 kV max.
- Low capacitance: 15 pF

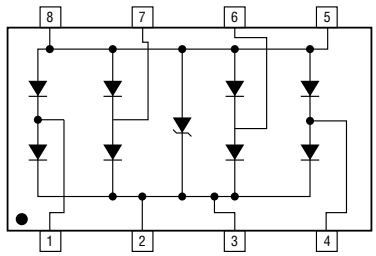
Applications

- Ethernet - 10/100 Base T
- Computer I/O ports - SCSI, FireWire and USB
- Set-top box protection
- Video cards

CDNBS08-SRDAxx-4 Series - 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 eight 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.

Additional Information

Click these links for more information:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	CDNBS08-				Unit
		SRDA3.3-4	SRDA05-4	SRDA12-4	SRDA15-4	
Minimum Breakdown Voltage @ 1 mA	V_{BR}	4.0	6.0	13.3	16.7	V
Working Peak Voltage	V_{WM}	3.3	5.0	12.0	15.0	V
Maximum Clamping Voltage V_C @ I_P [1]	V_F	8.0	9.8	19.0	24.0	V
Maximum Clamping Voltage @ 8/20 μs V_C @ I_{PP} [1]	V_F	10.9 V @ 43 A	13.5 V @ 42 A	25.9 V @ 27 A	30.0 V @ 17 A	V
Maximum Leakage Current @ V_{WM}	I_D	125	20	1	1	μA
Maximum Cap. Bidirectional @ 0 V, 1 MHz	$C_{J(SD)}$	15				pF
ESD Protection per IEC 61000-4-2 Contact - Min. Contact - Max. Air - Min. Air - Max.	ESD	 ±8 ±30 ±15 ±30				kV
Peak Pulse Power (t_p = 8/20 μs) [2]	P_{PP}	500				W
Maximum Forward Voltage @ 10 mA	V_F	1.1				V

Notes:
1. See Pulse Waveform.
2. See Peak Pulse Power vs. Pulse Time.
3. Measured between pins 8 or 5 to 1, 2, 3, 4, 6 and 7.

Thermal Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Max.	Unit
Operating Temperature	T_J	-55 to +150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

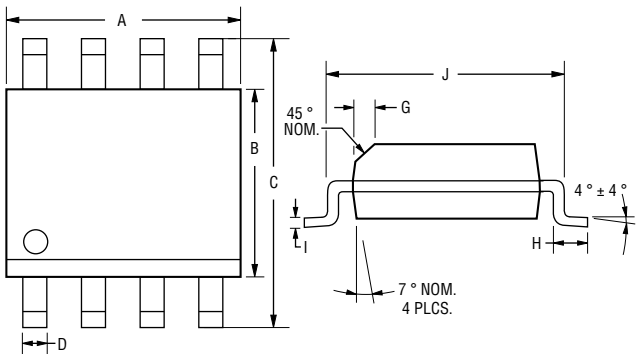
WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
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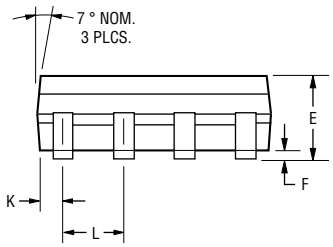
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Product Dimensions

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

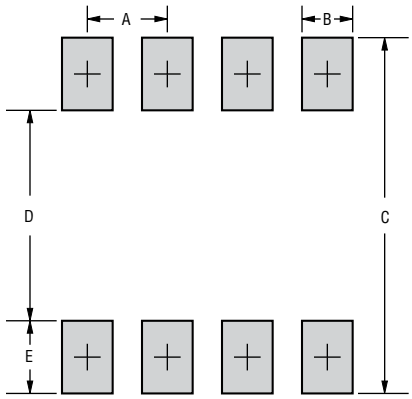


DIMENSIONS = MILLIMETERS / (INCHES)



Dimensions	
A	4.80 - 5.00 / (0.189 - 0.197)
B	3.81 - 4.00 / (0.150 - 0.157)
C	5.80 - 6.20 / (0.228 ± 0.244)
D	0.36 - 0.51 / (0.014 - 0.020)
E	1.35 - 1.75 / (0.053 - 0.069)
F	0.102 - 0.203 / (0.004 - 0.008)
G	0.25 - 0.50 / (0.010 - 0.020)
H	0.51 - 1.12 / (0.020 - 0.044)
I	0.190 - 0.229 / (0.0075 - 0.0090)
J	4.60 - 5.21 / (0.181 - 0.205)
K	0.28 - 0.79 / (0.011 - 0.031)
L	1.27 / (0.050)

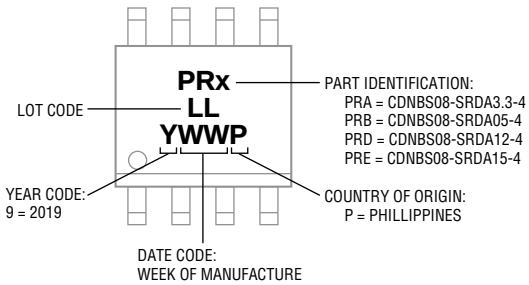
Recommended Footprint



Dimensions	
A	1.143 - 1.397 / (0.045 - 0.065)
B	0.635 - 0.889 / (0.025 - 0.035)
C	6.223 / (0.245) Min.
D	3.937 - 4.191 / (0.155 - 0.165)
E	1.016 - 1.27 / (0.040 - 0.050)

DIMENSIONS: MM / (INCHES)

Typical Part Marking

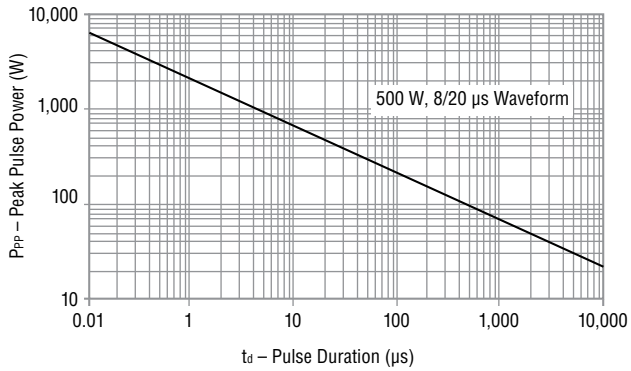


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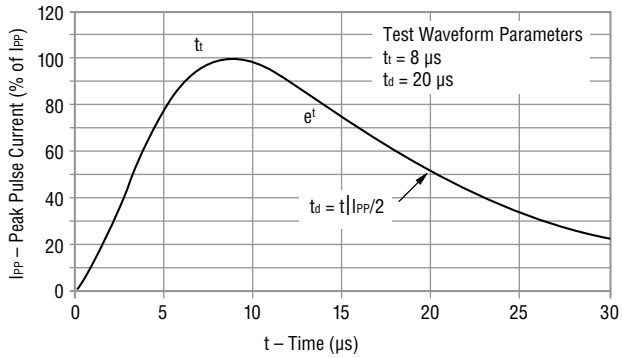
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Performance Graphs

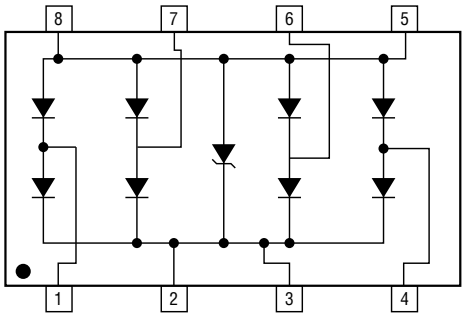
Peak Pulse Power vs Pulse Time



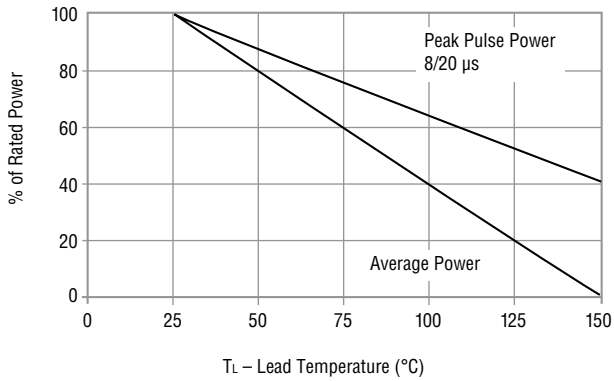
Pulse Waveform



Block Diagram



Power Derating Curve



Device Pinout

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

How to Order

CD NBS08 - SRDA 3.3 - 4

Common Code
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)

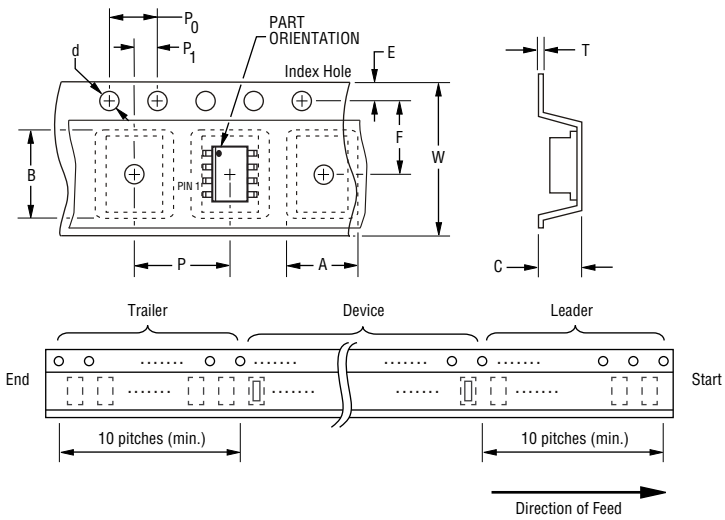
Number of Protection Lines
4 = 4 Lines

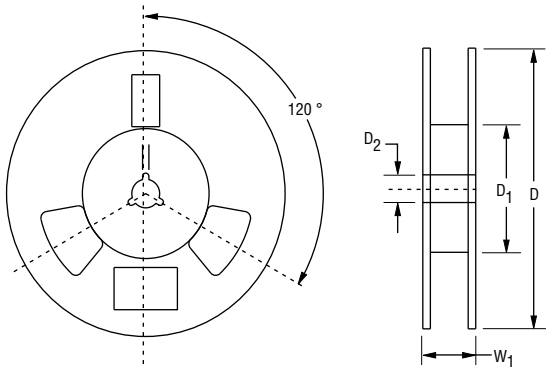
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Packaging Information

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





DIMENSIONS: MM / (INCHES)

Item	Symbol	NSOIC 8L
Carrier Width	A	6.7 ± 0.10 (0.264 ± 0.004)
Carrier Length	B	5.5 ± 0.10 (0.217 ± 0.004)
Carrier Depth	C	2.10 ± 0.10 (0.083 ± 0.004)
Sprocket Hole	d	1.55 ± 0.05 (0.061 ± 0.002)
Reel Outside Diameter	D	330 (12.992)
Reel Inner Diameter	D_1	80.0 (3.1500) MIN.
Feed Hole Diameter	D_2	13.0 ± 0.20 (0.512 ± 0.008)
Sprocket Hole Position	E	1.75 ± 0.10 (0.069 ± 0.004)
Punch Hole Position	F	3.50 ± 0.05 (0.138 ± 0.002)
Punch Hole Pitch	P	8.00 ± 0.10 (0.315 ± 0.004)
Sprocket Hole Pitch	P_0	4.00 ± 0.10 (0.157 ± 0.004)
Embossment Center	P_1	2.00 ± 0.05 (0.079 ± 0.002)
Overall Tape Thickness	T	0.20 ± 0.10 (0.008 ± 0.004)
Tape Width	W	12.00 ± 0.20 (0.472 ± 0.008)
Reel Width	W_1	18.4 (0.724) MAX.
Quantity per Reel	--	2500

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