

Features

- Lead free as standard
- RoHS compliant*
- Telcordia GR1089 (Intra-Building)
- Protects two lines
- ESD protection 30 kV max.
- Low capacitance: 6 pF

Applications

- T1/E1 & T3/E3 line cards
- ISDN U-Interface and S/T interface
- xDSL
- Ethernet - 10/100 Base T

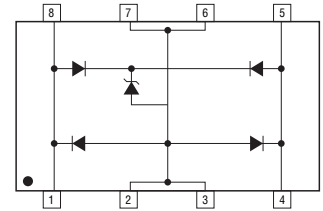
CDNBS08-PLC03-6 Steering Diode/TVS Array Combo

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.

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 °C Unless Otherwise Noted)

Parameter	Symbol	Min.	Nom.	Max.	Unit
Capacitance @ 0 V 1 MHz ¹	C _{J(SD)}		16	20	pF
Capacitance @ 0 V 1 MHz ²	C _{J(SD)}		6	8	pF
Working Peak Voltage	V _{WM}			6	V
Min. Breakdown Voltage @ 1 mA	V _{BR}	6.8			V
Max. Clamping Voltage @ 8/20 μs V _C @ I _{PP} ^{3,4}	V _C			20.0 V @ 100.0 A	V
Max. Leakage Current @ V _{WM}	I _D			25	μA
ESD Protection: IEC 61000-4-2 Contact Discharge Air Discharge	ESD	± 8 ±15		±30 ±30	kV
Peak Pulse Power (t _p = 8/20 μs) ⁵	P _{PP}			2000	W
EFT Protection: IEC 61000-4-4 @ 5/50 ns		40			A
Surge Protection: IEC 61000-4-5 @ 8/20 μs L4 (Line-Gnd) L4 (Line-Line)		95 48			A
Surge Protection: Telcordia GR1089 (Intra-Building) @ 2/10 μs		100			A

Notes:

1. Measured between I/O pins and ground (pin 1 or 2).
2. Measured between I/O pins (pins 1 to 4).
3. See Pulse Wave Form. For an 8/20 μs waveform, apply positive pulse from pin 1 or 8 to pin 2 or 3 (ground).
4. Measured between pin 1 or 8 to pin 2 or 3; pin 1 or 8 to pin 4 or 5.
5. See Peak Pulse Power vs. Pulse Time.

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

Parameter	Symbol	Min.	Nom.	Max.	Unit
Junction Temperature Range	T _J	-55	+25	+150	°C
Storage Temperature Range	T _{STG}	-55	+25	+150	°C

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

Specifications are subject to change without notice.

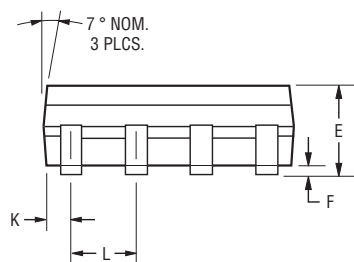
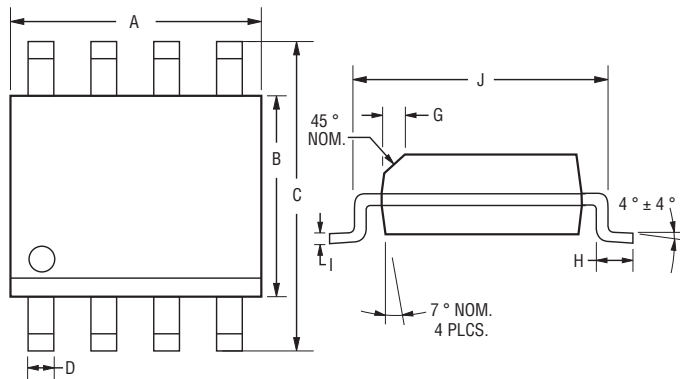
Customers should verify actual device performance in their specific applications.

CDNBS08-PLC03-6 Steering Diode/TVS Array Combo



Product Dimensions

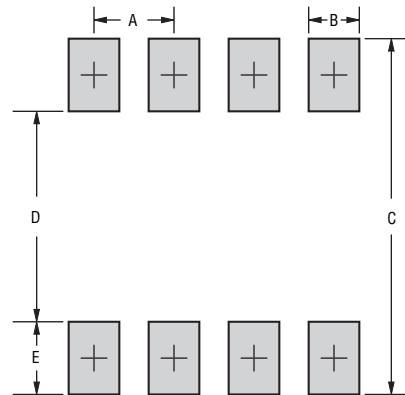
This is a molded JEDEC narrow body SO-8 package with lead free 100 % Sn plating on the lead frame. It weighs approximately 15 mg and has a flammability rating of UL 94V-0.



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

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

Recommended Footprint

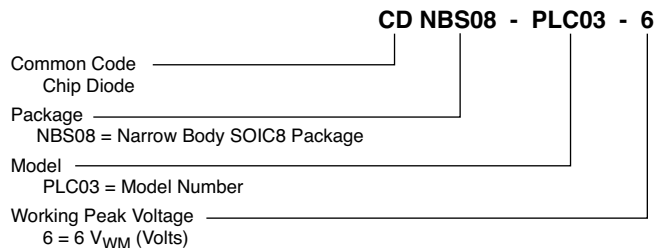


Dimensions	
A	$\frac{1.143 - 1.397}{(0.045 - 0.065)}$
B	$\frac{0.635 - 0.889}{(0.025 - 0.035)}$
C	$\frac{6.223}{(0.245)}$ Min.
D	$\frac{3.937 - 4.191}{(0.155 - 0.165)}$
E	$\frac{1.016 - 1.27}{(0.040 - 0.050)}$

Typical Part Marking

CDNBS08-PLC03-6.....PBA

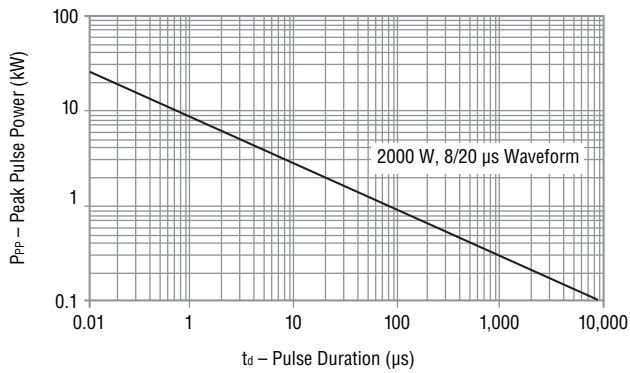
How to Order



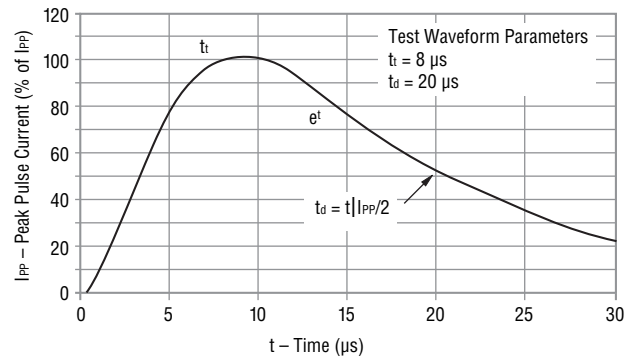
Specifications are subject to change without notice. Customers should verify actual device performance in their specific applications.

Performance Graphs

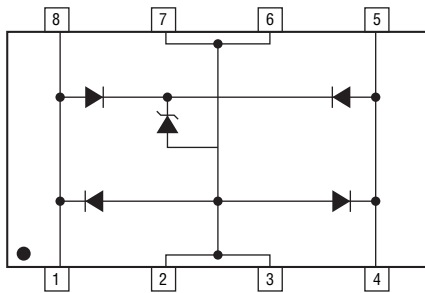
Peak Pulse Power vs Pulse Time



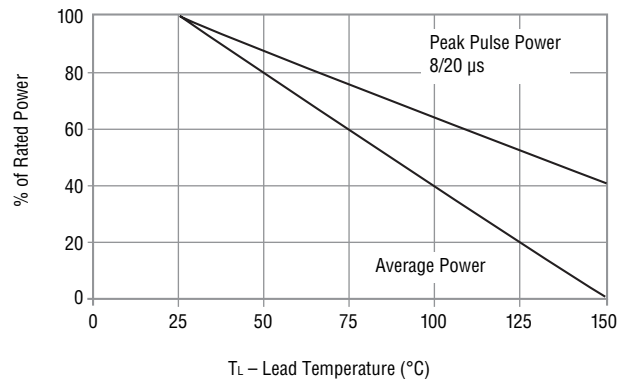
Pulse Waveform



Block Diagram



Power Derating Curve



Device Pinout

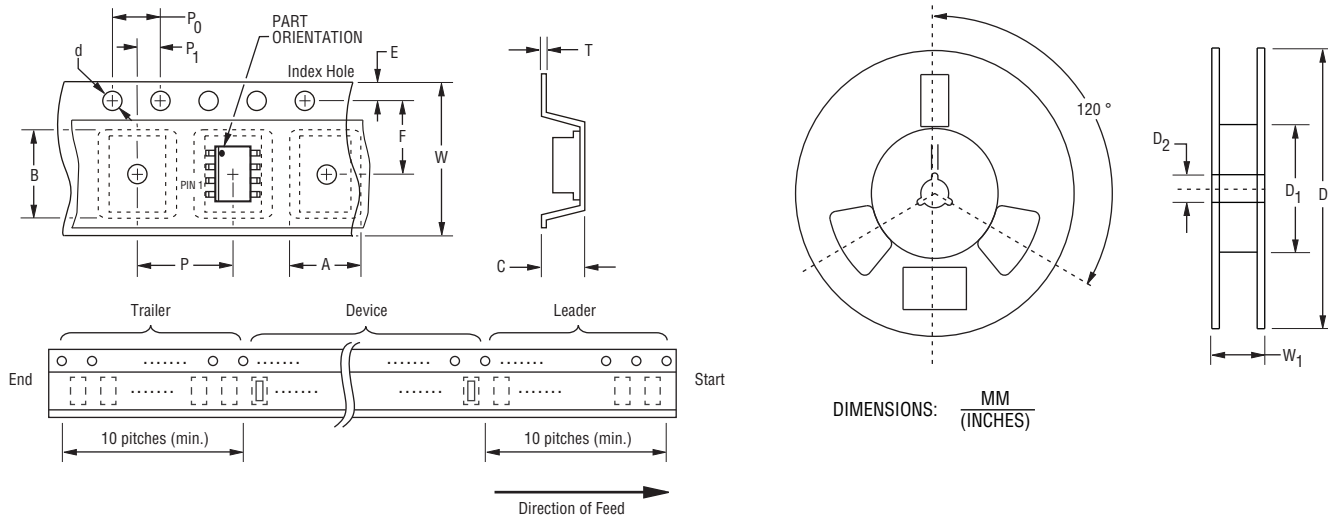
Pin	Function
1	I/O 1
2	GND
3	GND
4	I/O 2
5	I/O 2
6	GND
7	GND
8	I/O 1

CDNBS08-PLC03-6 Steering Diode/TVS Array Combo

BOURNS®

Packaging Information

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



Item	Symbol	NSOIC 8L
Carrier Width	A	$\frac{6.7 \pm 0.10}{(0.264 \pm 0.004)}$
Carrier Length	B	$\frac{5.5 \pm 0.10}{(0.217 \pm 0.004)}$
Carrier Depth	C	$\frac{2.10 \pm 0.10}{(0.083 \pm 0.004)}$
Sprocket Hole	d	$\frac{1.55 \pm 0.05}{(0.061 \pm 0.002)}$
Reel Outside Diameter	D	$\frac{330}{(12.992)}$
Reel Inner Diameter	D ₁	$\frac{80.0}{(3.1500)}$ MIN.
Feed Hole Diameter	D ₂	$\frac{13.0 \pm 0.20}{(0.512 \pm 0.008)}$
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	$\frac{8.00 \pm 0.10}{(0.315 \pm 0.004)}$
Sprocket Hole Pitch	P ₀	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Embossment Center	P ₁	$\frac{2.00 \pm 0.05}{(0.079 \pm 0.002)}$
Overall Tape Thickness	T	$\frac{0.20 \pm 0.10}{(0.008 \pm 0.004)}$
Tape Width	W	$\frac{12.00 \pm 0.20}{(0.472 \pm 0.008)}$
Reel Width	W ₁	$\frac{18.4}{(0.724)}$ MAX.
Quantity per Reel	--	2500

BOURNS®

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

www.bourns.com

REV. 12/12

Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.