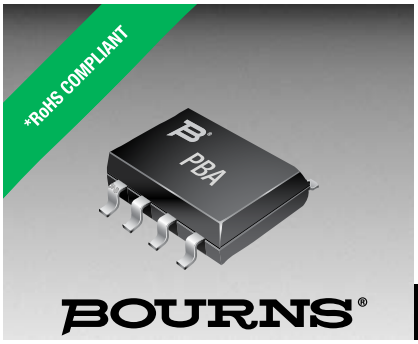


Features

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

Applications

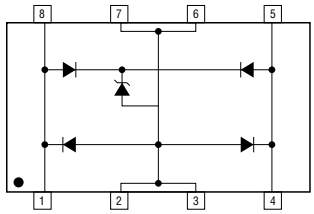
- T1/E1 & T3/E3 line cards
- ISDN U-Interface and S/T interface
- xDSL
- Ethernet - 10/100 Base T

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.

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	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

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

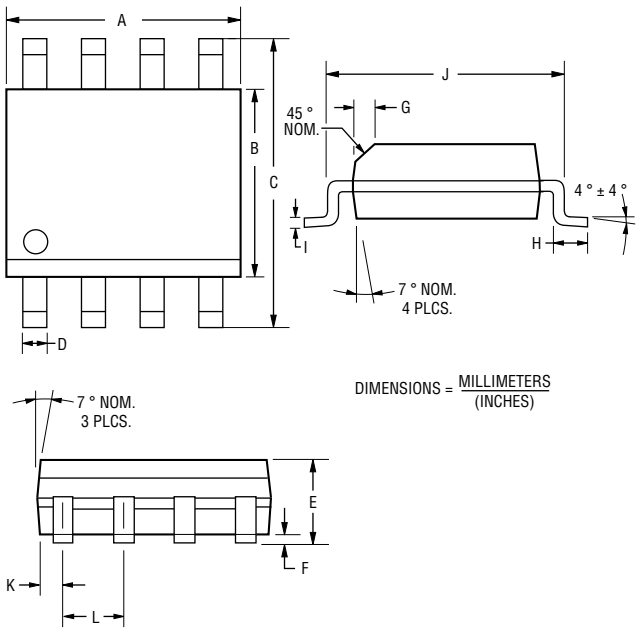
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
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Users should verify actual device performance in their specific applications.
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CDNBS08-PLC03-6 - Steering Diode/TVS Array Combo

Product Dimensions

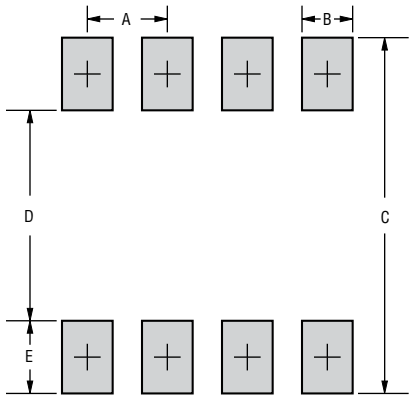
This is a molded JEDEC narrow body SO-8 package with lead free 100 % Sn plating on the lead frame. It weighs approximately 15 mg and has a flammability rating of UL 94V-0.



DIMENSIONS = 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

CDNBS08-PLC03-6..... PBA

How to Order

CD NBS08 - PLC03 - 6

Common Code
Chip Diode

Package
NBS08 = Narrow Body SOIC8 Package

Model
PLC03 = Model Number

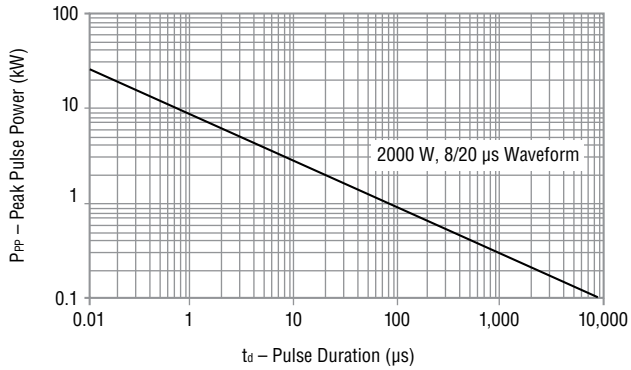
Working Peak Voltage
6 = 6 V_{WM} (Volts)

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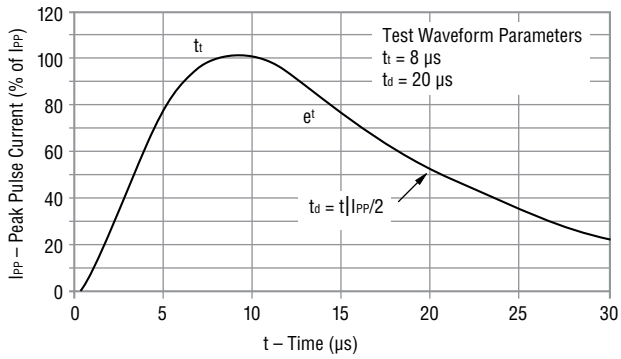
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Performance Graphs

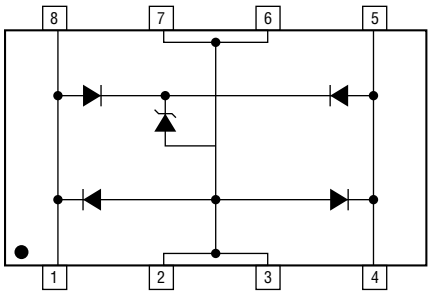
Peak Pulse Power vs Pulse Time



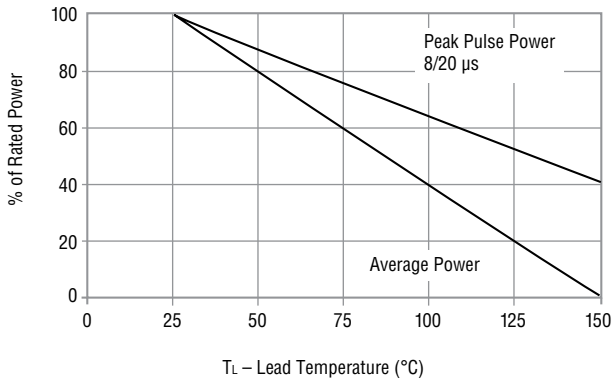
Pulse Waveform



Block Diagram



Power Derating Curve



Device Pinout

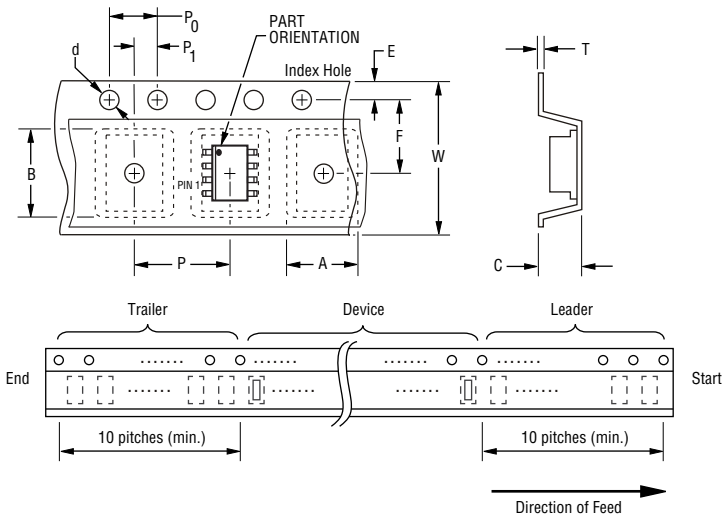
Pin	Function
1	I/O 1
2	GND
3	GND
4	I/O 2
5	I/O 2
6	GND
7	GND
8	I/O 1

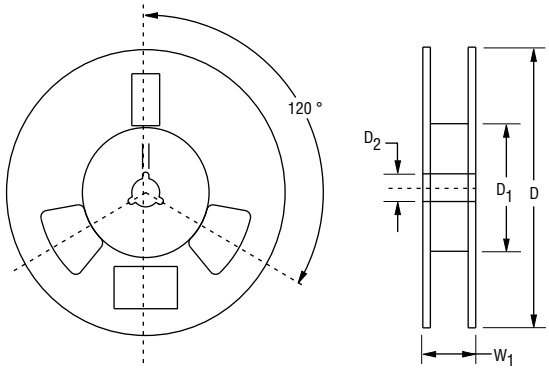
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Packaging Information

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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