

Features

- Protects four lines
- Unidirectional
- 24 A peak surge current
- RoHS compliant*

Applications

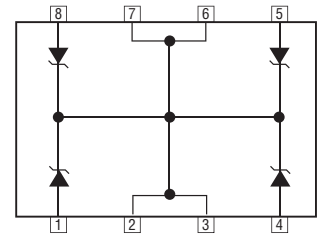
- PoE power protection
- DC power supply protection

CDNBS08-T58CC - Common Cathode TVS Diode

General Information

The Model CDNBS08-T58CC is designed to protect the power section in Power over Ethernet (PoE) applications. The device is packaged in an eight lead narrow body SOIC package. Bourns® Chip Diodes are available in surface mount packages and are easy to handle using standard pick and place equipment.

In addition to surge protection, the device provides Level 4 ESD protection per IEC 61000-4-2.



Maximum Ratings (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Peak Pulse Current (8/20 μs)	I _{PP}	24	A
Peak Pulse Power (8/20 μs)	P _{PP}	2700	W
Working Peak Reverse Voltage	V _{WM}	58	V
IEC 61000-4-2 Contact Discharge	ESD	30	kV
Junction Temperature	T _J	-55 to +150	°C
Storage Temperature	T _{STG}	-65 to +150	°C

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Breakdown Voltage @ 1 mA	V _{BR}	I _{BR} = 1 mA	64.4	68	71.2	V
V _{BR} Temperature Coefficient	V _{BR}	I _{BR} = 1 mA		0.1		%/°C
Leakage Current	I _R	V _R = V _{WM}	T _A = 25 °C		200	nA
			T _A = 85 °C		1	μA
Capacitance	C	V _R = -44 V, f = 1 MHz, 30 mV rms		55		pF
Clamping Voltage	V _C	I _{PP} = 24 A (8/20 μs)			100	V
Forward Voltage	V _F	I _F = 1 A, T _W = 100 μs		1		V

Device Pinout

Pin	Function
1	ANODE 1
2	GND
3	GND
4	ANODE 2
5	ANODE 3
6	GND
7	GND
8	ANODE 4

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www.bourns.com



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

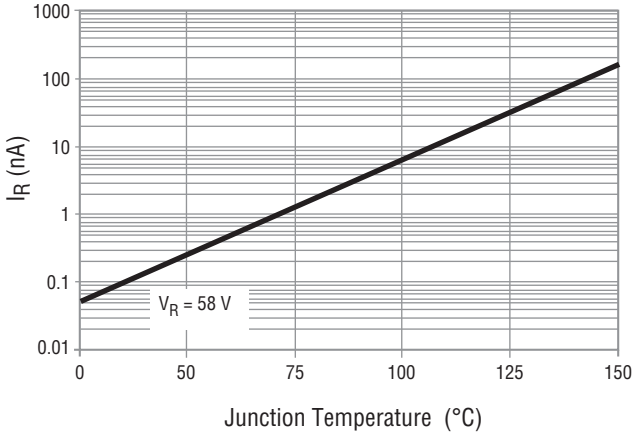
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

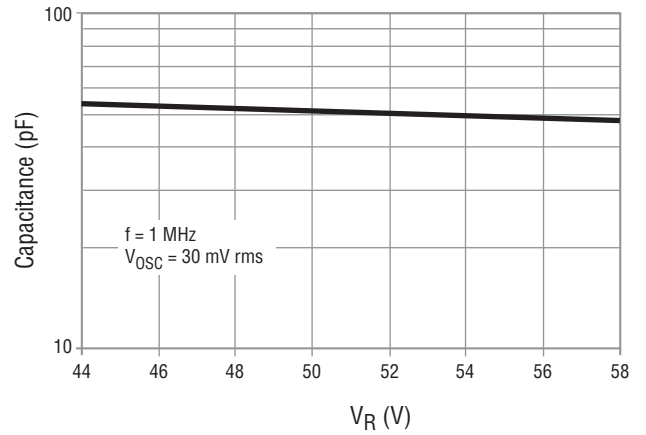
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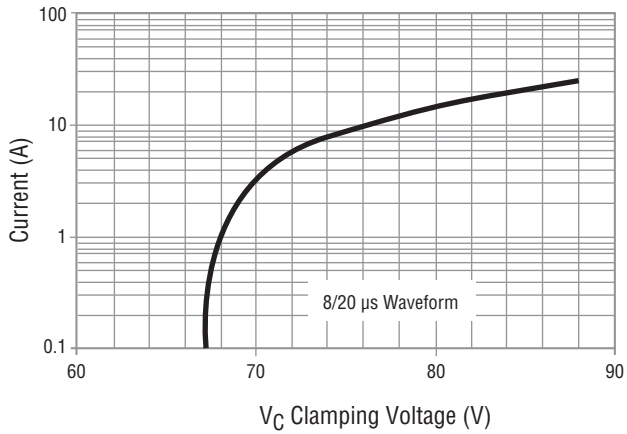
Typical Leakage vs. Junction Temperature



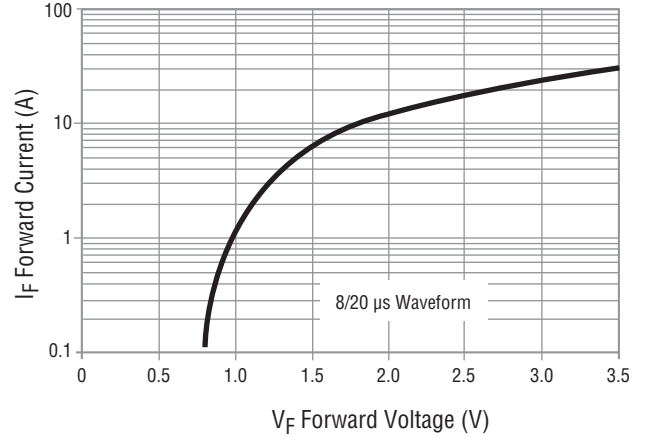
Typical Capacitance vs. Reverse Voltage



Typical Clamping Voltage vs. Current



Typical Forward Voltage vs. Forward Current



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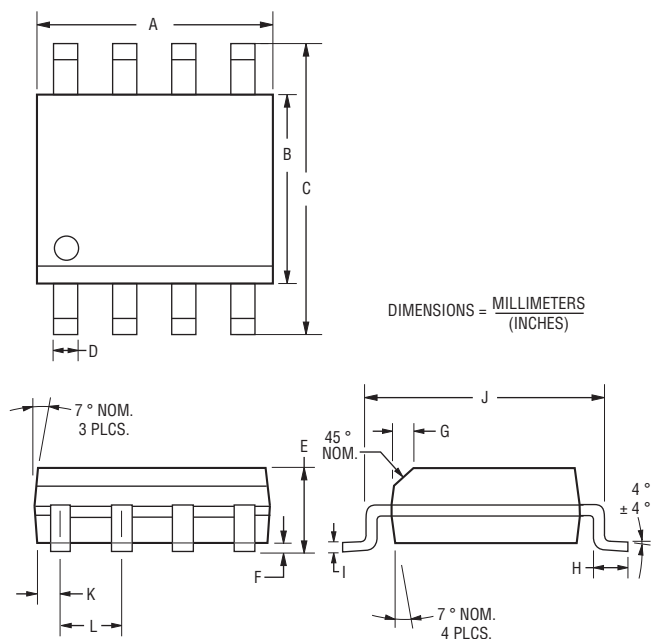
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Product Dimensions

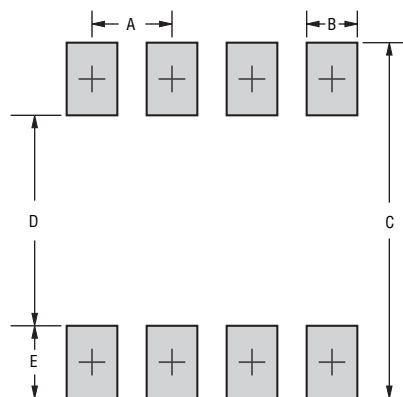
This is an RoHS compliant molded JEDEC narrow body SO-8 package with 100 % Sn plating on the lead frame. It weighs approximately 15 mg and has a flammability rating of UL 94V-0.



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

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

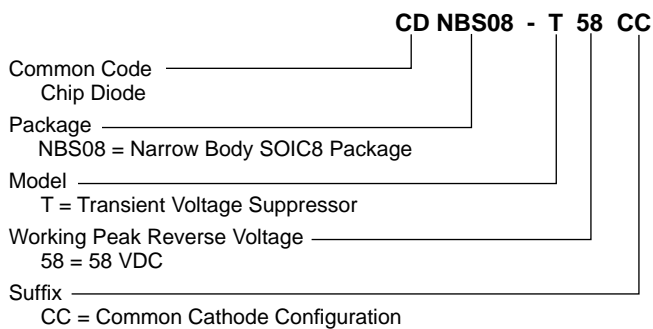


Dimensions	
A	$\frac{1.27}{(0.050)}$
B	$\frac{0.51}{(0.020)}$
C	$\frac{6.80}{(0.268)}$
D	$\frac{4.20}{(0.165)}$
E	$\frac{1.30}{(0.051)}$

Typical Part Marking

CDNBS08-T58CC 4T58CC

How to Order



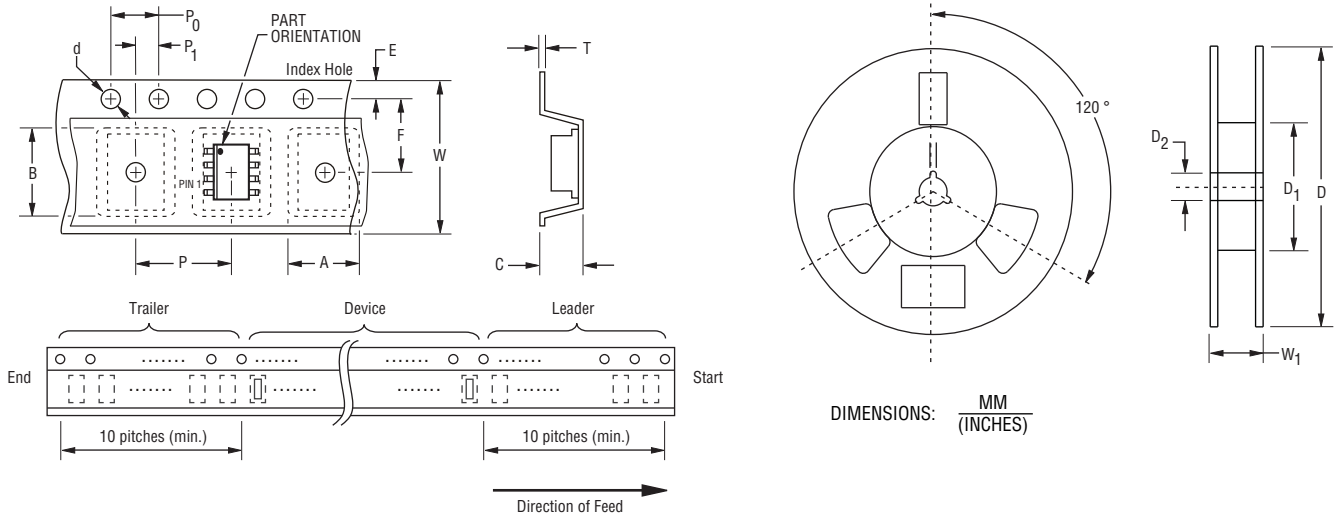
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Packaging Information

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

08/19

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