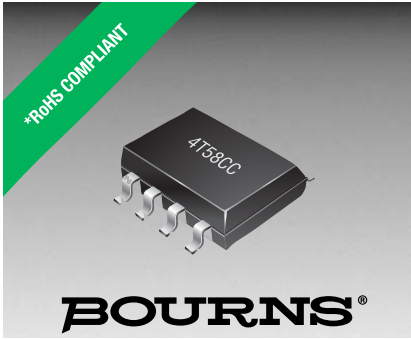




**THE DATASHEET OF  
CDNBS08-T58CC**





### Features

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

### Applications

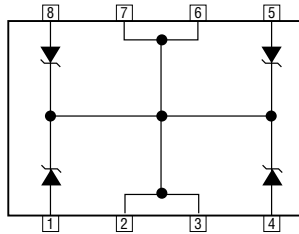
- PoE power protection
- DC power supply protection

## 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.



#### Additional Information

Click these links for more information:



#### Maximum Ratings (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

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

#### Electrical Characteristics (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Breakdown Voltage @ 1 mA	V <sub>BR</sub>	I <sub>BR</sub> = 1 mA	64.4	68	71.2	V
V <sub>BR</sub> Temperature Coefficient	V <sub>BR</sub>	I <sub>BR</sub> = 1 mA		0.1		%/°C
Leakage Current	I <sub>R</sub>	V <sub>R</sub> = V <sub>WM</sub>	T <sub>A</sub> = 25 °C		200	nA
			T <sub>A</sub> = 85 °C		1	μA
Capacitance	C	V <sub>R</sub> = -44 V, f = 1 MHz, 30 mV rms		55		pF
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 24 A (8/20 μs)			100	V
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 1 A, T <sub>W</sub> = 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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**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

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

Specifications are subject to change without notice.

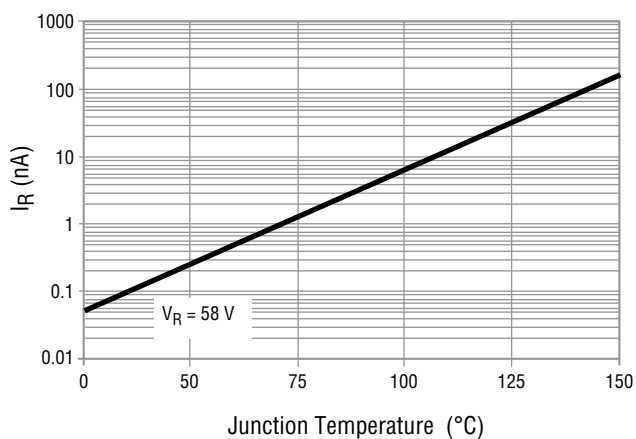
Users should verify actual device performance in their specific applications.

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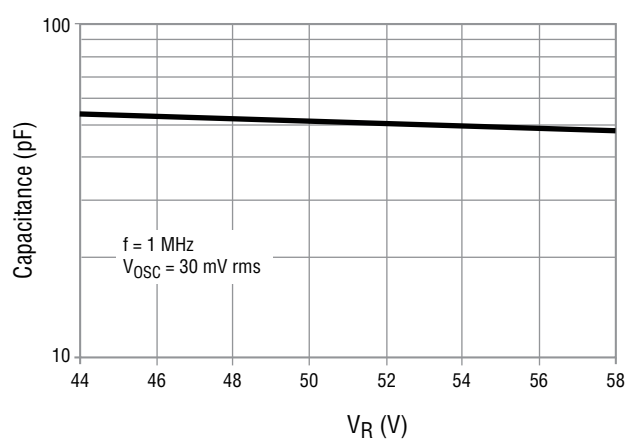
# CDNBS08-T58CC - Common Cathode TVS Diode



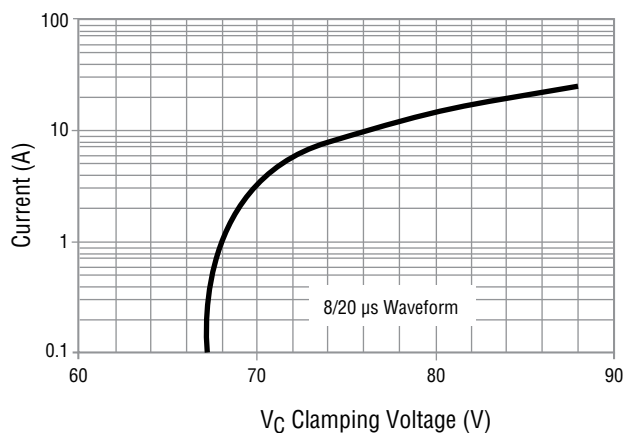
Typical Leakage vs. Junction Temperature



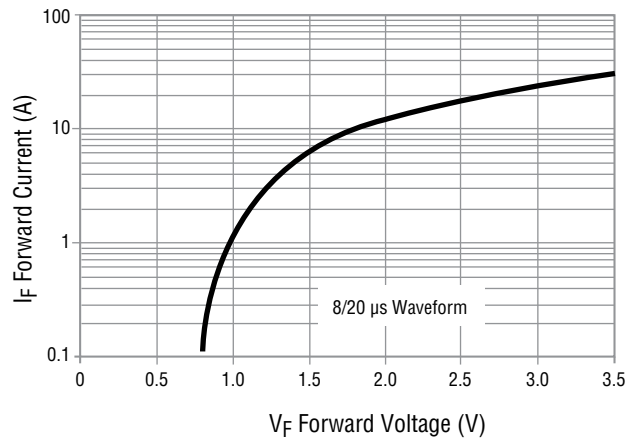
Typical Capacitance vs. Reverse Voltage



Typical Clamping Voltage vs. Current



Typical Forward Voltage vs. Forward Current

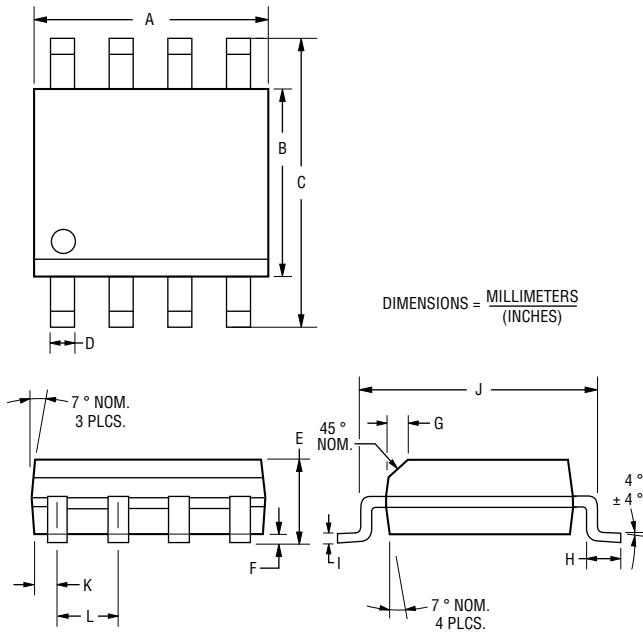


# CDNBS08-T58CC - Common Cathode TVS Diode



## Product Dimensions

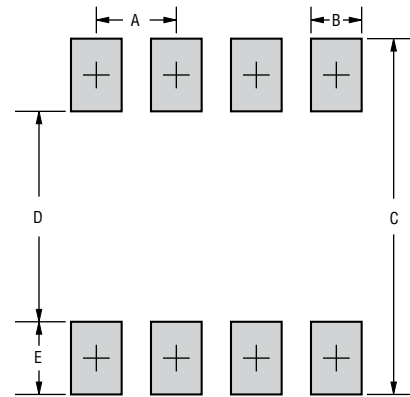
This is an RoHS compliant molded JEDEC narrow body SO-8 package with 100 % Sn plating on the lead frame. It weighs approximately 15 mg and has a flammability rating of UL 94V-0.



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



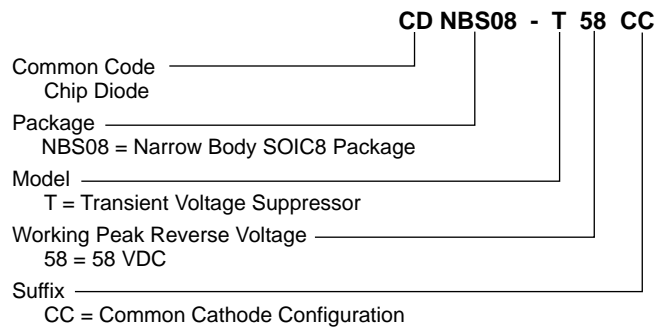
Dimensions	
A	$\frac{1.27}{(0.050)}$
B	$\frac{0.51}{(0.020)}$
C	$\frac{6.80}{(0.268)}$
D	$\frac{4.20}{(0.165)}$
E	$\frac{1.30}{(0.051)}$

DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

## Typical Part Marking

CDNBS08-T58CC .....4T58CC

## How to Order



Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

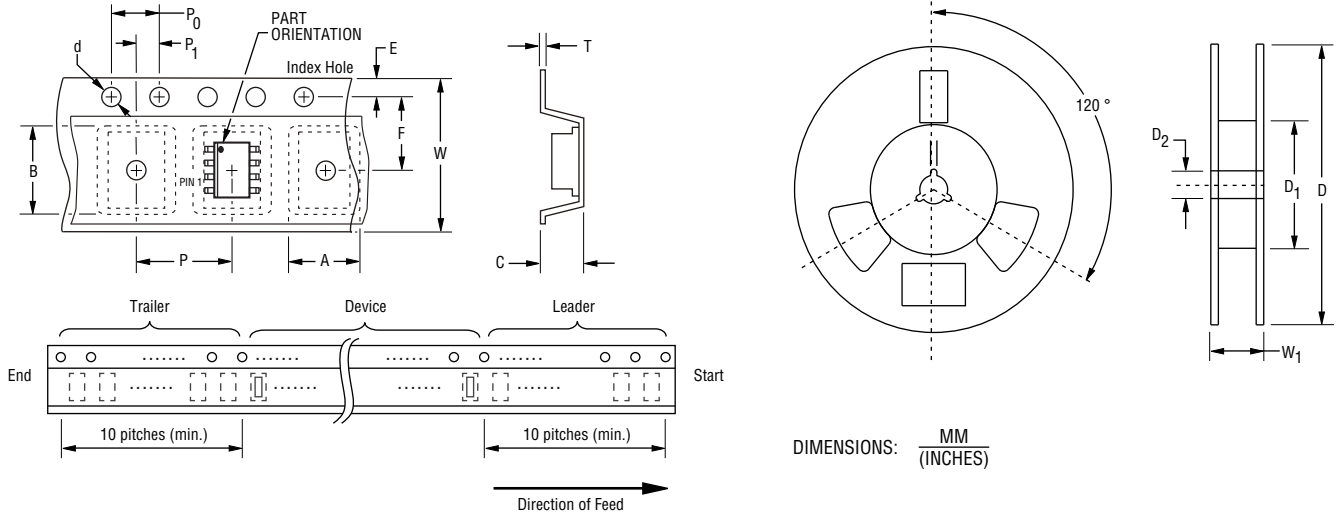
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# CDNBS08-T58CC - Common Cathode TVS Diode

**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 <sub>1</sub>	$\frac{80.0}{(3.1500)}$ MIN.
Feed Hole Diameter	D <sub>2</sub>	$\frac{13.0 \pm 0.20}{(0.512 \pm 0.008)}$
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 <sub>0</sub>	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Embossment Center	P <sub>1</sub>	$\frac{2.00 \pm 0.05}{(0.079 \pm 0.002)}$
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 <sub>1</sub>	$\frac{18.4}{(0.724)}$ MAX.
Quantity per Reel	--	2500

REV. 08/19

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