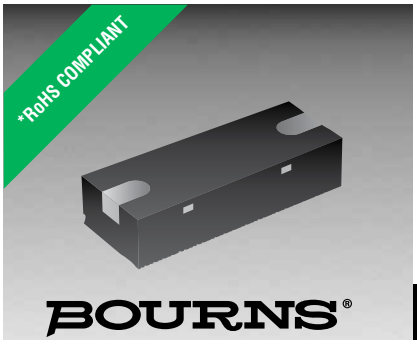


Features

- Bidirectional TVS 3.3 V
- Low capacitance - 13 pF
- ESD protection 15 kV
- 0402 DFN package
- RoHS compliant*

Applications

- Computers and peripherals
- Communication systems
- Audio & video equipment
- Portable instrumentation
- Handheld portable devices

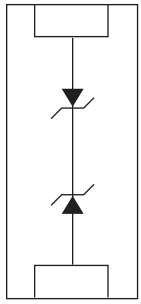
CDDFN2-T3.3B - Surface Mount TVS Diode

General Information

The Bourns® Model CDDFN2-T3.3B low capacitance device provides ESD, EFT and surge protection for external ports of electronic devices such as cellular phones, handheld electronics and other portable electronic devices.

The device measures 1.0 mm x 0.60 mm x 0.55 mm and is available in a DFN-2 package intended to be mounted directly onto an FR4 printed circuit board. The device will fit a 0402 footprint.

The device is designed to meet IEC 61000-4-2 (ESD), IEC 61000-4-4 (EFT) and IEC61000-4-5 (Surge) protection requirements.



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

Parameter	Symbol	Value	Unit
Storage Temperature	T_{STG}	-55 to +150	°C
Operating Temperature	T_{OPR}	-55 to +85	°C
ESD Protection per IEC 61000-4-2 Contact Discharge Air Discharge	 ESD ESD	 15 15	 kV kV
EFT Protection per IEC 61000-4-4 (5/50 ns)	EFT	50	A
Peak Pulse Current per IEC 61000-4-5 (8/20 µs)	I_{pp}	5	A

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
Working Peak Voltage	V_{WM}	-3.3		3.3	V
Breakdown Voltage @ 1 mA	V_{BR}	4		6.5	V
Leakage Current @ 3.3 V	I_L		0.1	1.0	µA
Capacitance @ 0 V, 1 MHz	C_J		13.5	16.5	pF
Clamping Voltage @ I_{PP} = 5 A, 8/20 µs	V_C		6.5	8	V

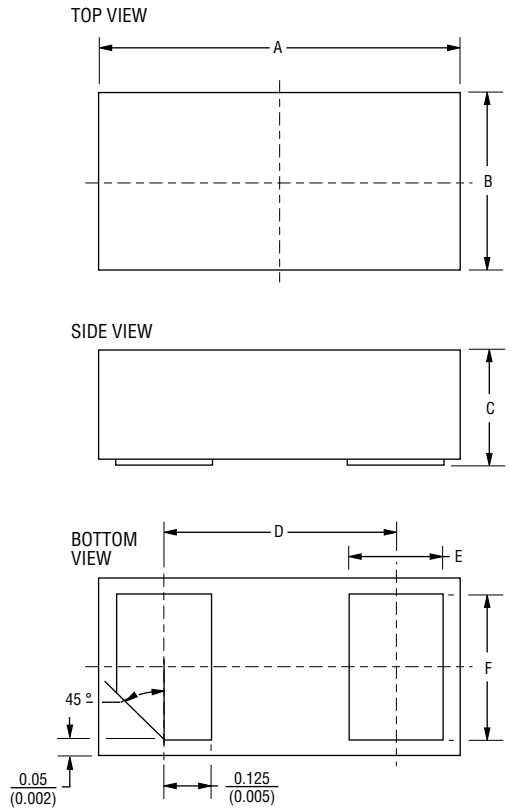
BOURNS®

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*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.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.

Product Dimensions

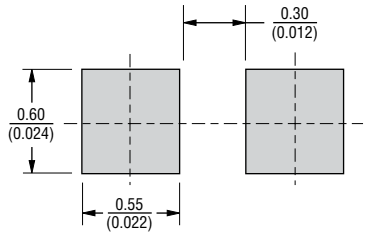
This is a molded DFN-2 package weighing approximately 0.9 mg.



Symbol	Dimensions		
	Min.	Nom.	Max.
A	0.95 (0.037)	1.00 (0.039)	1.05 (0.041)
B	0.55 (0.022)	0.60 (0.024)	0.65 (0.026)
C	0.41 (0.016)	0.45 (0.018)	0.50 (0.020)
D		0.65 (0.026)	
E	0.20 (0.008)	0.25 (0.010)	0.30 (0.012)
F	0.45 (0.018)	0.50 (0.020)	0.55 (0.022)

DIMENSIONS: MM (INCHES)

Recommended PCB Footprint



Typical Part Marking

CDDFN2-T3.3B ..... Y

How to Order

CD DFN2 - T 3.3 B

Common Diode
Chip Diode

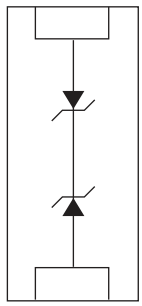
Package
DFN2 = DFN-2 Package

Model
Transient Voltage Suppressor

Working Peak Reverse Voltage
3.3 = 3.3 V_{RWM} (Volts)

Suffix
B = Bidirectional Diode

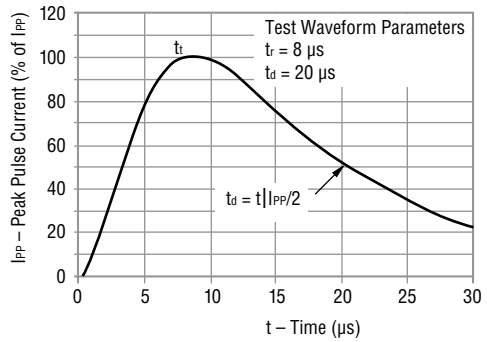
Block Diagram



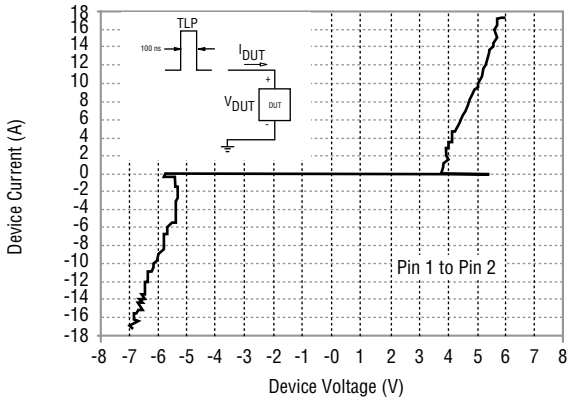
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Performance Graphs

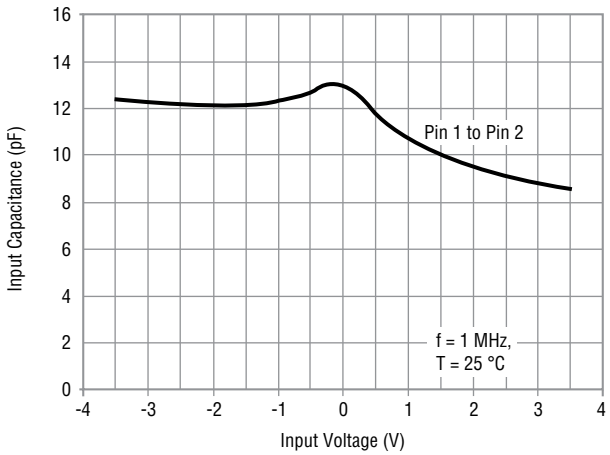
Pulse Waveform



TLP I-V Plot



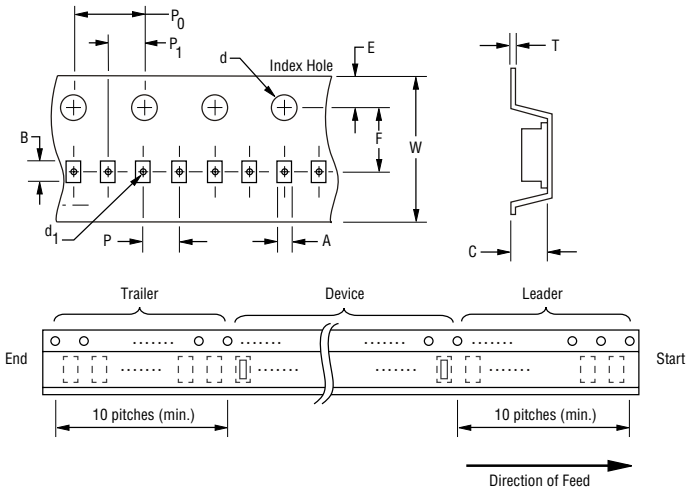
Typical Capacitance Variation of C_{IN} vs V_{IN}

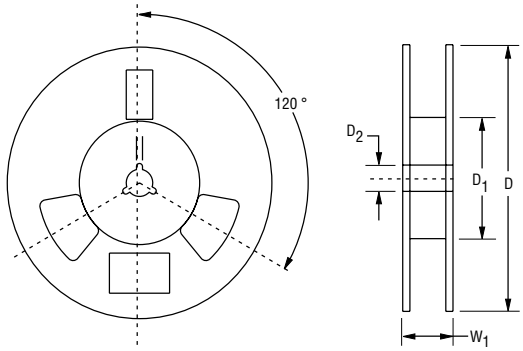


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Packaging Information

The surface mount product is packaged in an 8 mm x 4 mm tape and reel format per EIA-481 standard.





DIMENSIONS: MM / (INCHES)

Item	Symbol	DFN-2
Carrier Width	A	0.70 ± 0.05 / (0.028 ± 0.002)
Carrier Length	B	1.15 ± 0.05 / (0.045 ± 0.002)
Carrier Depth	C	0.47 ± 0.05 / (0.019 ± 0.002)
Sprocket Hole	d	1.55 ± 0.05 / (0.061 ± 0.002)
Reel Outside Diameter	D	179.0 ± 1.00 / (7.05 ± 0.04)
Punch Hole	d_1	0.4± 0.05 / 0.016 ± 0.002
Reel Inner Diameter	D_1	60.0 ± 0.50 / 2.362 ± 0.02
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	2.00 ± 0.05 / (0.079 ± 0.002)
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 ± 0.05 / (0.008 ± 0.002)
Tape Width	W	8.00 ± 0.10 / (0.315 ± 0.004)
Reel Width	W_1	14.4 / (0.567) MAX.
Quantity per Reel	--	12,000

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