

Features

- Bidirectional TVS 5 V
- Low capacitance - 15 pF
- ESD protection >15 kV
- Fits 0402 footprint

Applications

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

CDDFN2-T5.0C - Surface Mount TVS Diode

General Information

The CDDFN2-T5.0C device provides ESD and EFT protection for external ports of electronic devices such as cellular phones, hand held electronics and other portable electronic devices.

The device measures 1.05 mm x 0.65 mm and is available in a DFN-2 package and is intended to be mounted directly onto an FR4 printed circuit board. The device will fit an 0402 footprint.

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



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

Parameter	Symbol	Min.	Typ.	Max.	Unit
Peak Pulse Power @ 8/20 μs	P _{pk}			75	W
Peak Pulse Current @ 8/20 μs	I _{pp}			5	A
Operating Temperature	T _{OPR}	-40	+25	+125	°C
Storage Temperature	T _{STG}	-55	+25	+150	°C
Working Peak Voltage	V _{WM}	4.7	5.0		V
Breakdown Voltage @ 1 mA	V _{BR}	5.1	7.0		V
Leakage Current @ 5V	I _L		0.1	2.0	μA
Capacitance @ 0V 1 MHz	C _J		15	20	pF
Clamping Voltage @ I _{pp} = 5 A 8/20 μs	V _C			15	V
ESD Protection per IEC 61000-4-2					
Contact Discharge	ESD	8			kV
Air Discharge	ESD	15			kV
EFT Protection per IEC 61000-4-4	EFT			40	A



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

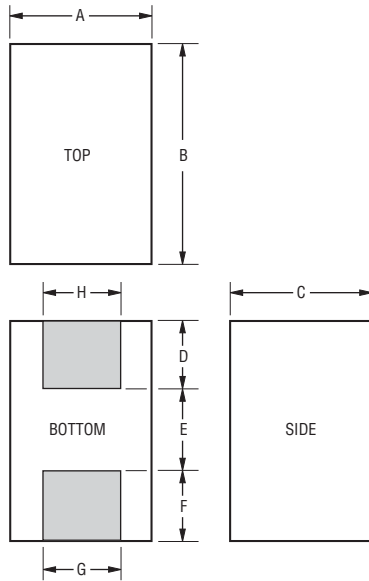
*RoHS Directive 2002/95/EC Jan 27 2003 including Annex.
 Specifications are subject to change without notice.
 Customers should verify actual device performance in their specific applications

CDDFN2-T5.0C - Surface Mount TVS Diode

BOURNS®

Product Dimensions

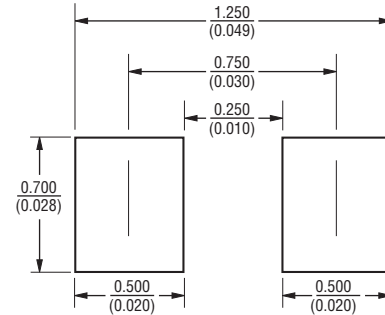
This is a Molded DFN-2 package with lead free 100 % Sn plating on the terminations. It weighs approximately 10 mg.



Dimensions	
A	$\frac{0.55-0.65}{(0.022-0.026)}$
B	$\frac{0.95-1.05}{(0.037-.041)}$
C	$\frac{0.45-0.55}{(0.018-.022)}$
D	$\frac{0.30}{(0.012)}$
E	$\frac{0.43}{(0.017)}$
F	$\frac{0.30}{(0.012)}$
G	$\frac{0.50}{(0.020)}$
H	$\frac{0.50}{(0.020)}$

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

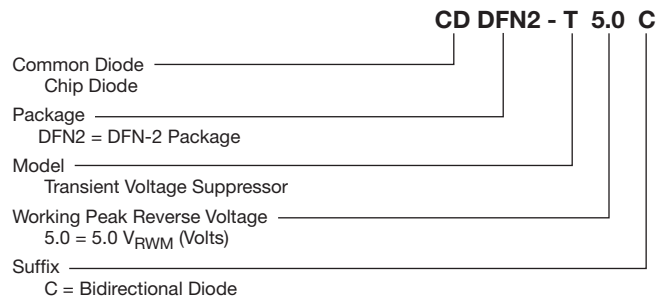
Recommended PCB Footprint



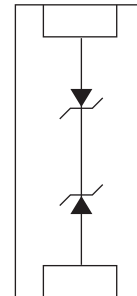
Typical Part Marking

CDDFN2-T5.0C E5

How to Order



Block Diagram



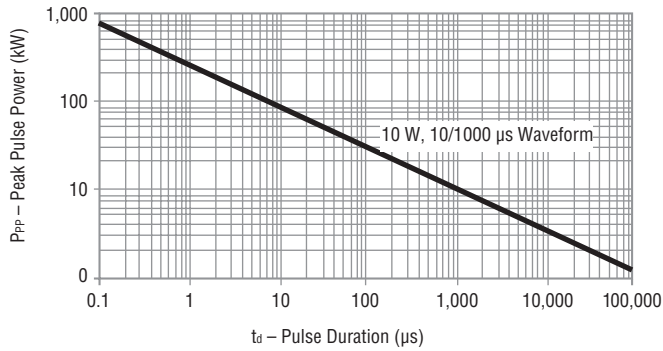
Specifications are subject to change without notice. Customers should verify actual device performance in their specific applications

CDDFN2-T5.0C - Surface Mount TVS Diode

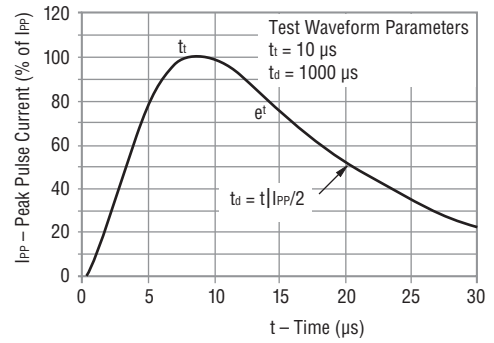
BOURNS®

Rating & Characteristic Curves

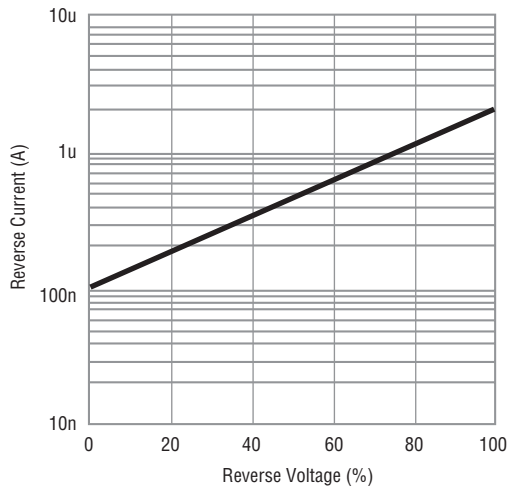
Peak Pulse Power vs. Pulse Time



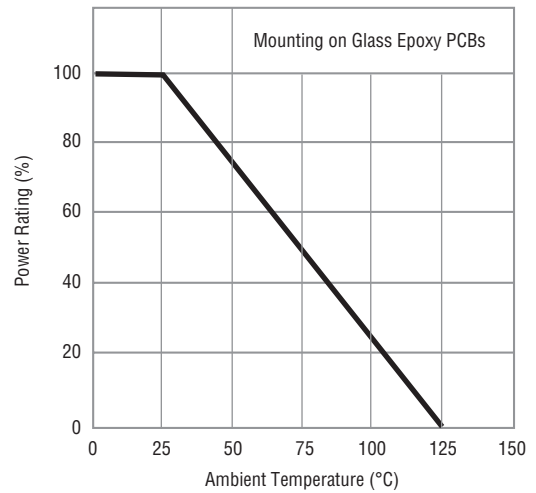
Pulse Waveform



Reverse Characteristics



Power Derating Curve



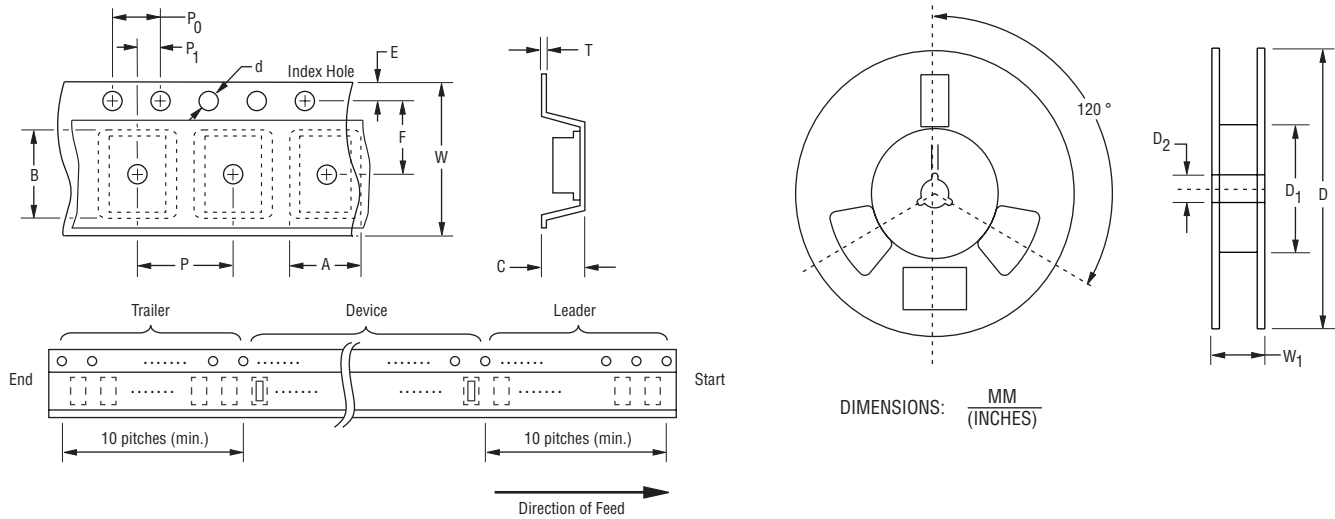
Specifications are subject to change without notice.
 Customers should verify actual device performance in their specific applications

CDDFN2-T5.0C - Surface Mount TVS Diode

BOURNS®

Packaging Information

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



Item	Symbol	DFN-2
Carrier Width	A	$\frac{0.80 \pm 0.10}{(0.031 \pm 0.004)}$
Carrier Length	B	$\frac{1.20 \pm 0.10}{(0.047 \pm 0.004)}$
Carrier Depth	C	$\frac{0.70 \pm 0.10}{(0.027 \pm 0.004)}$
Sprocket Hole	d	$\frac{1.55 \pm 0.05}{(0.061 \pm 0.002)}$
Reel Outside Diameter	D	$\frac{178}{(7.008)}$
Reel Inner Diameter	D ₁	$\frac{50.0}{(1.969)}$ 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	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
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	$\frac{8.00 \pm 0.20}{(0.315 \pm 0.008)}$
Reel Width	W ₁	$\frac{14.4}{(0.567)}$ MAX.
Quantity per Reel	--	5000

07/09

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