

## 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<sub>A</sub> = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Peak Pulse Power @ 8/20 μs	P <sub>pk</sub>			75	W
Peak Pulse Current @ 8/20 μs	I <sub>pp</sub>			5	A
Operating Temperature	T <sub>OPR</sub>	-40	+25	+125	°C
Storage Temperature	T <sub>STG</sub>	-55	+25	+150	°C
Working Peak Voltage	V <sub>wm</sub>	4.7	5.0		V
Breakdown Voltage @ 1 mA	V <sub>BR</sub>	5.1	7.0		V
Leakage Current @ 5V	I <sub>L</sub>		0.1	2.0	μA
Capacitance @ 0V 1 MHz	C <sub>J</sub>		15	20	pF
Clamping Voltage @ I <sub>pp</sub> = 5 A 8/20 μs	V <sub>c</sub>			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



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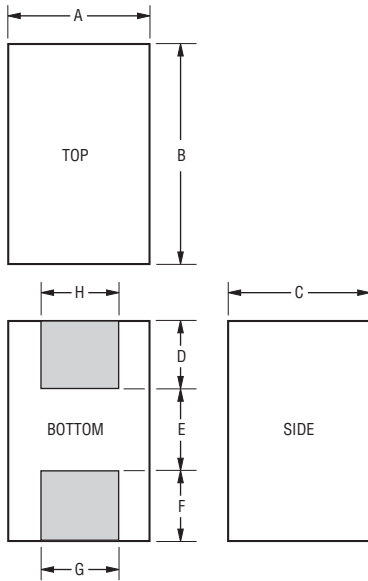
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# CDDFN2-T5.0C - Surface Mount TVS Diode



## Product Dimensions

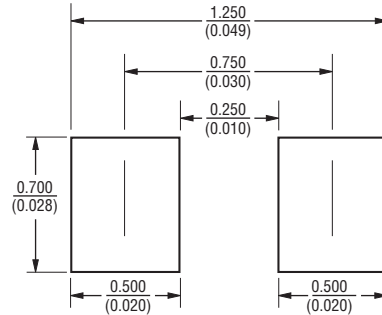
This is a Molded DFN-2 package with lead free 100 % Sn plating on the terminations. It weighs approximately 10 mg.



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

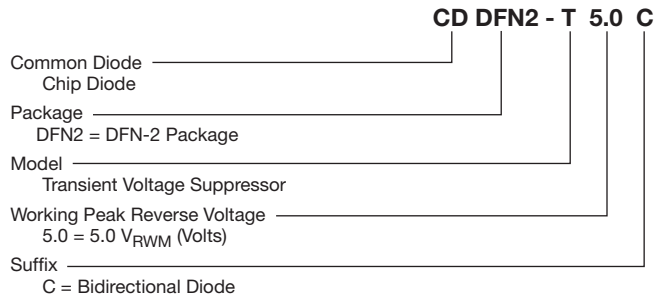
## Recommended PCB Footprint



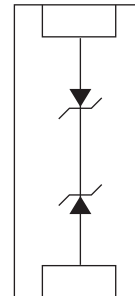
## Typical Part Marking

CDDFN2-T5.0C ..... E5

## How to Order



## Block Diagram

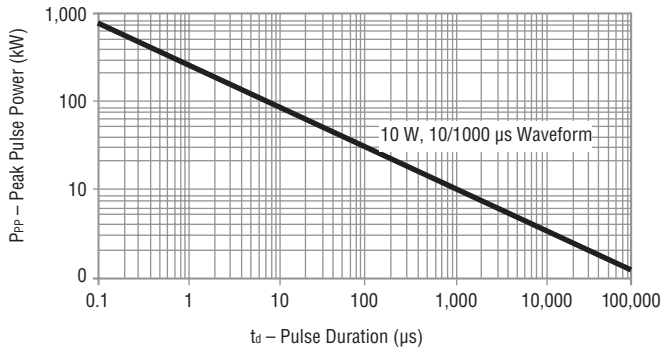


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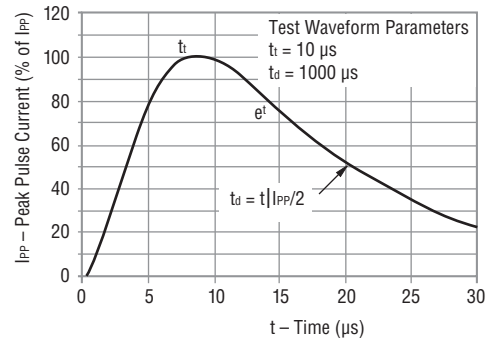
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## Rating & Characteristic Curves

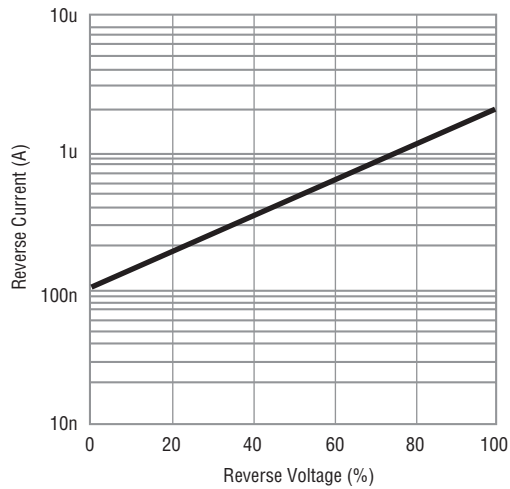
### Peak Pulse Power vs. Pulse Time



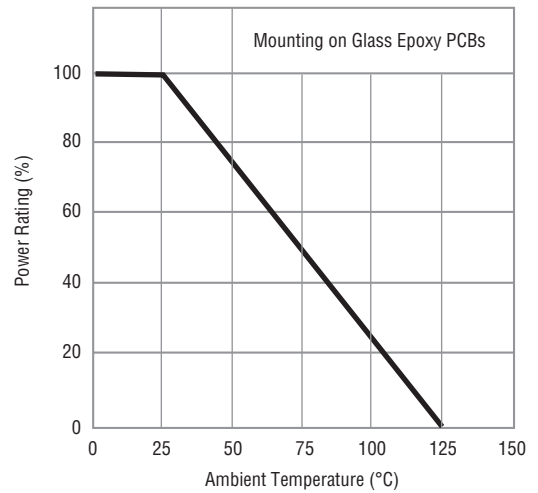
### Pulse Waveform



### Reverse Characteristics



### Power Derating Curve

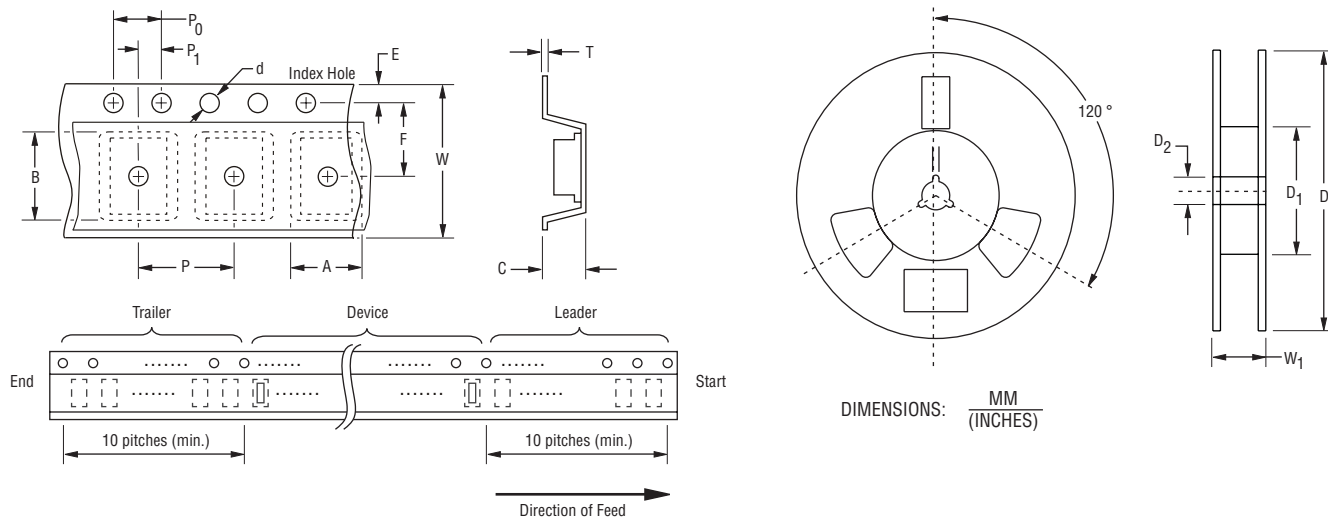


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## Packaging Information

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



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 <sub>1</sub>	$\frac{50.0}{(1.969)}$ 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	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
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	$\frac{8.00 \pm 0.20}{(0.315 \pm 0.008)}$
Reel Width	W <sub>1</sub>	$\frac{14.4}{(0.567)}$ MAX.
Quantity per Reel	--	5000