

Features

- Bidirectional TVS
- Low capacitance - 12 pF
- ESD protection >15 kV
- Fits 0402 footprint

This series is currently available but not recommended for new designs.

CDDFN2-TxxC Series - Surface Mount TVS Diode

General Information

The CDDFN2-TxxC Series 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.



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

Parameter	Symbol	CDDFN2-			Unit
		5.0C	12C	24C	
Peak Pulse Power @ 8/20 μs	P_{pk}	75	25	47	W
Peak Pulse Current @ 8/20 μs	I_{pp}	5	1	1	A
Operating Temperature	T_{OPR}	-40 to +125			°C
Storage Temperature	T_{STG}	-55 to +150			°C

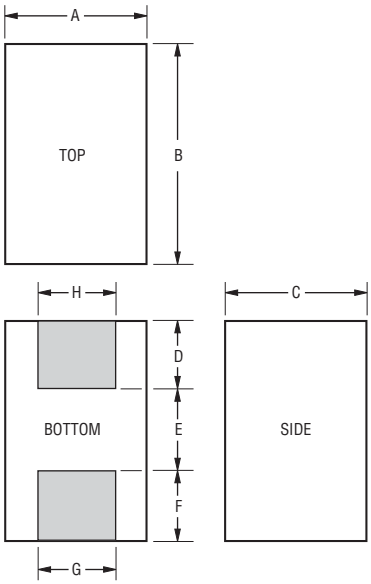
Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	CDDFN2-			Unit
		5.0C	12C	24C	
Maximum Working Peak Voltage	V_{wm}	5.0	12	24	V
Minimum Breakdown Voltage @ 1 mA	V_{BR}	6.0	13	25	V
Maximum Leakage Current @ V_{wm}	I_L	2.0			μA
Typical Capacitance @ 0 V 1 MHz	C_J	15	12	10	pF
Maximum Capacitance @ 0 V 1 MHz	C_J	20			pF
Maximum Clamping Voltage @ Ipp 8/20 μs	V_C	15	25	47	V
ESD Protection per IEC 61000-4-2 Minimum Contact Discharge Minimum Air Discharge	 ESD ESD	 8 15			 kV kV

*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

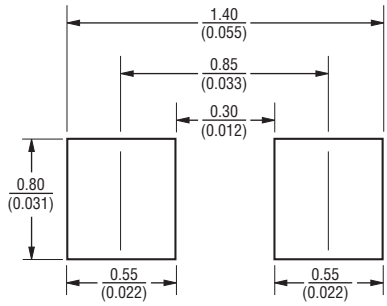
This is a Molded DFN-2 package with lead free 100 % Au plating on the terminations. It weighs approximately 10 mg.



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

DIMENSIONS: MM (INCHES)

Recommended PCB Footprint



Typical Part Marking

CDDFN2-T5.0C E5
CDDFN2-T12C E2
CDDFN2-T24C E4

How to Order

CD DFN2 - T 5.0 C

Common Diode
Chip Diode

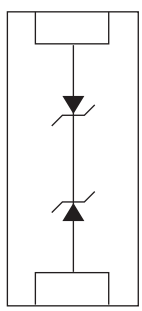
Package
DFN2 = DFN-2 Package

Model
Transient Voltage Suppressor

Working Peak Reverse Voltage
5.0 = 5.0 V_{RWM} (Volts)
12.0 = 12.0 V_{RWM} (Volts)
24.0 = 24.0 V_{RWM} (Volts)

Suffix
C = Bidirectional Diode

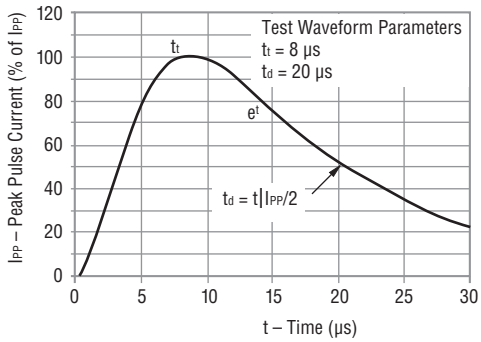
Block Diagram



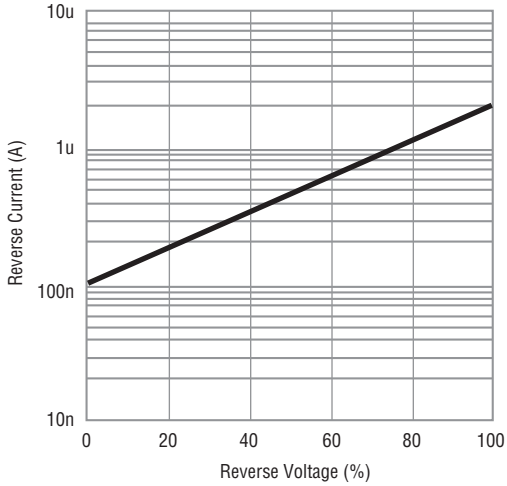
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Rating & Characteristic Curves

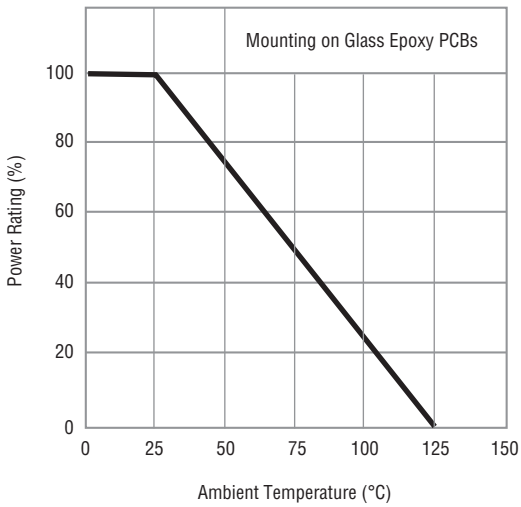
Pulse Waveform



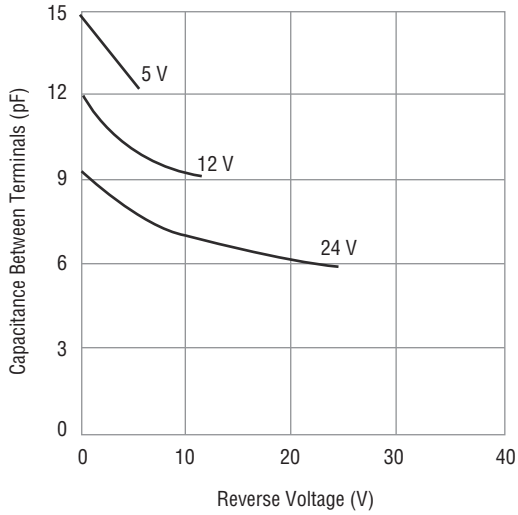
Reverse Characteristics



Power Derating Curve



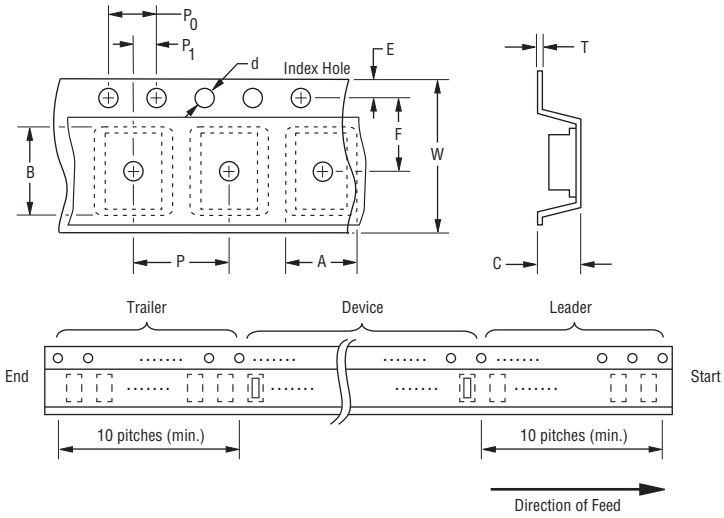
Capacitance Between Terminals

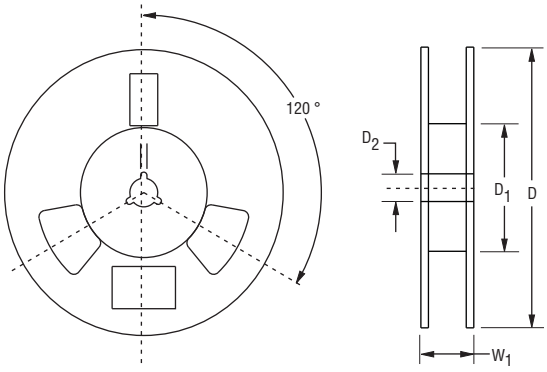


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Packaging Information

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	0.80 ± 0.10 (0.031 ± 0.004)
Carrier Length	B	1.20 ± 0.10 (0.047 ± 0.004)
Carrier Depth	C	0.70 ± 0.10 (0.027 ± 0.004)
Sprocket Hole	d	1.55 ± 0.05 (0.061 ± 0.002)
Reel Outside Diameter	D	178 (7.008)
Reel Inner Diameter	D_1	50.0 (1.969) MIN.
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	4.00 ± 0.10 (0.157 ± 0.004)
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 ± 0.10 (0.008 ± 0.004)
Tape Width	W	8.00 ± 0.20 (0.315 ± 0.008)
Reel Width	W_1	14.4 (0.567) MAX.
Quantity per Reel	--	5000

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