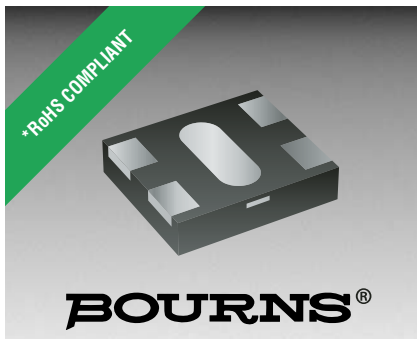




Features

- RoHS compliant*
- Protects 3 bidirectional or 4 unidirectional lines
- ESD protection >25k V

Applications

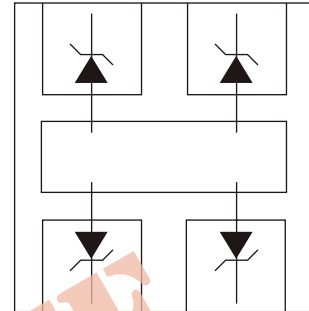
- Personal Digital Assistants (PDAs)
- Mobile Phones & Accessories
- Memory Card Protection
- SIM Card Port Protection
- Portable Electronics

CDDFN4-T05 – Surface Mount TVS Diode Array

General Information

The CDDFN4-T05 device provides ESD protection for external ports meeting IEC 61000-4-2 Level 4 ESD and IEC 61000-4-4 EFT requirements. The Transient Voltage Suppressor Array, protecting up to 4 data lines, offers a Working Peak Reverse Voltage of 5 V and Minimum Breakdown Voltage of 6 V.

The low profile 0.50 mm DFN-4 device measures 1.00 mm x 1.00 mm and is easy to handle with standard pick and place equipment and the flat configuration minimizes roll away.



Thermal Characteristics (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20 \mu\text{s}$) ^{NOTE 1}	P_{PP}	25	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 $^\circ\text{C}$ to +150 $^\circ\text{C}$	$^\circ\text{C}$
Operating Temperature	T_{OPR}	-40 $^\circ\text{C}$ to +85 $^\circ\text{C}$	$^\circ\text{C}$

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Minimum Breakdown Voltage @ 1 mA	V_{BR}	6	V
Maximum Working Peak Voltage	V_{WM}	5	V
Maximum Leakage Current @ $V_{WM} = 3 \text{ V}$	I_D	0.1	μA
Maximum Clamping Voltage @ $I_{PP} = 2 \text{ A}$	V_C	12	V
Typical Forward Voltage @ 10 mA	V_F	1.0	V
Typical Junction Capacitance @ 0 V, 1 MHz	C_D	10.5	pF
Typical Junction Capacitance @ 2.5 V, 1 MHz	C_D	7.0	pF
ESD Protection: Per IEC 61000-4-2 Standard Minimum Contact Discharge Minimum Air Discharge		± 8 ± 15	kV kV
EFT Protection: Per IEC61000-4-4: Standard Maximum @ 5/50 ns		40	A

Notes:

1. See Peak Pulse Power vs. Pulse Time.

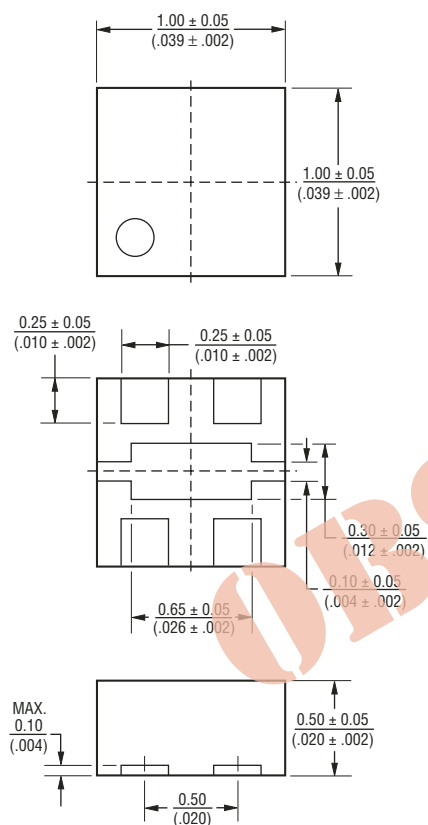
*RoHS Directive 2002/95/EC Jan 27 2003 including Annex
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

CDDFN4-T05 – Surface Mount TVS Diode Array

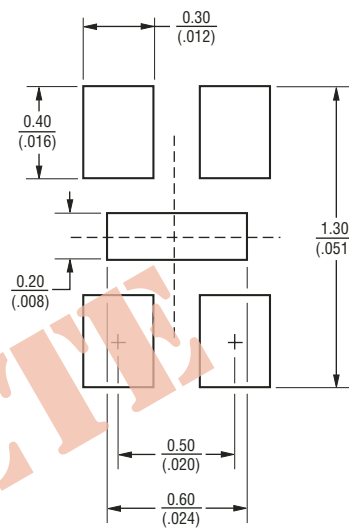
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Product Dimensions

This is a Molded DFN-4 package with NiPdAu on the pads. It weighs approximately 8 mg and has a flammability rating of UL 94V-0.

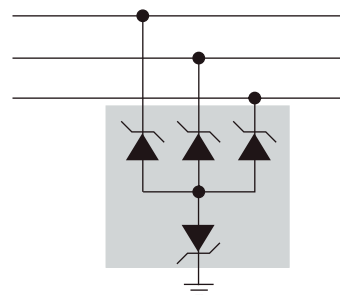
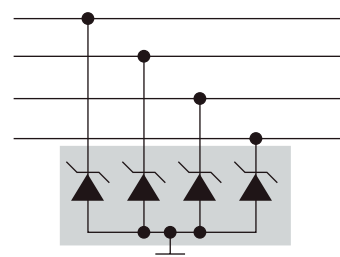


Recommended Footprint



Typical Application

Possible configurations for 3 or 4 data line protection



Typical Part Marking

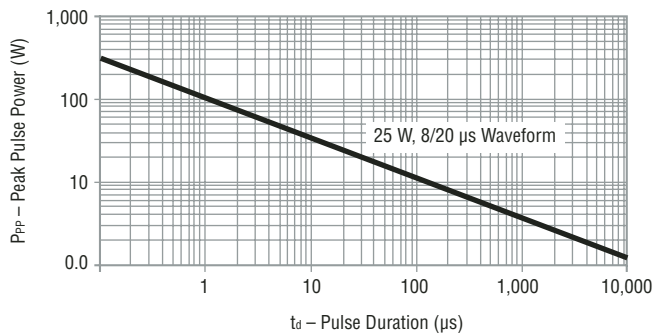
CDDFN4-T05CSD4

CDDFN4-T05 – Surface Mount TVS Diode Array

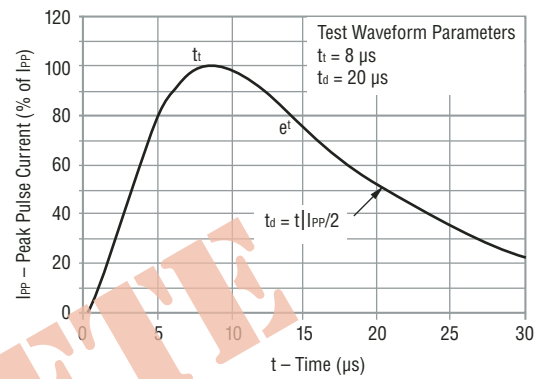
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Rating & Characteristic Curves

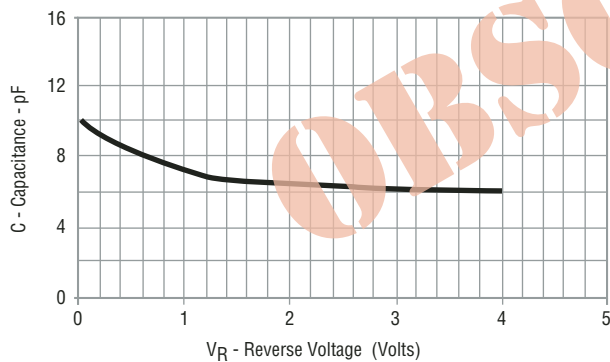
Peak Pulse Power vs Pulse Time



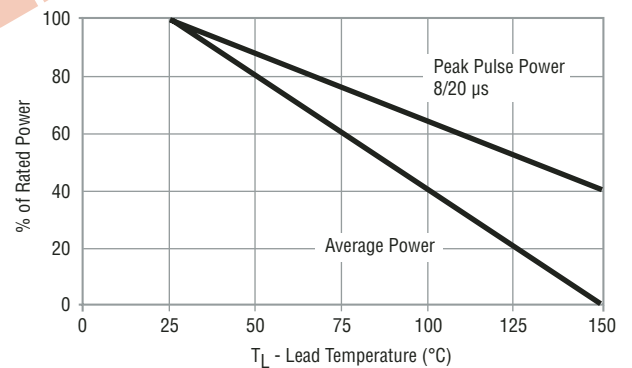
Peak Pulse Curve



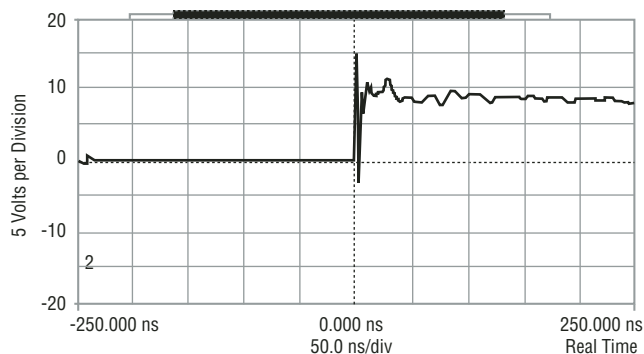
Typical Capacitance vs Voltage



Typical Capacitance vs Voltage



Overshoot & Clamping Voltage



How To Order

Common Code **CD DFN4 - T 05**

Chip Diode

Package

- DFN4 = DFN-4 Package

Model

T = Transient Voltage Suppressor

Working Peak Reverse Voltage

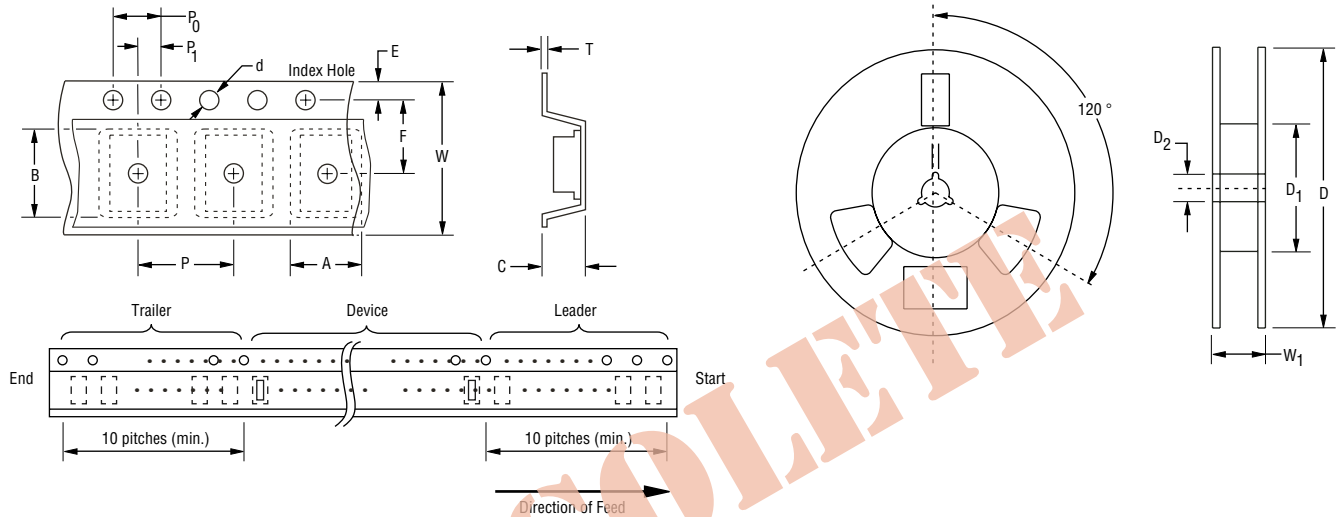
05 = 5 V_{RWM} (Volts)

CDDFN4-T05 – Surface Mount TVS Diode Array

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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-4
Carrier Width	A	1.17 ± 0.10 (0.046 - 0.004)
Carrier Length	B	1.17 ± 0.10 (0.046 - 0.004)
Carrier Depth	C	0.66 ± 0.10 (0.026 - 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 Min. (1.969)
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 Max. (0.567)
Quantity per Reel	—	3,000



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