



Features

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

Applications

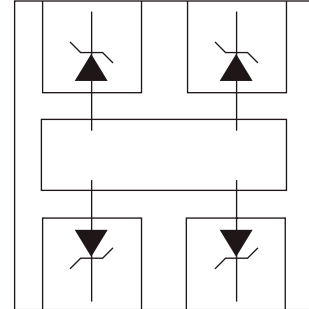
- Personal Digital Assistants (PDAs)
- Mobile Phones & Accessories
- Memory Card Protection
- SIM Card Port Protection
- Portable Electronics

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 °C Unless Otherwise Noted)

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

Electrical Characteristics (@ T_A = 25 °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 V	I _D	0.1	μA
Maximum Clamping Voltage @ I _{PP} = 2 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.

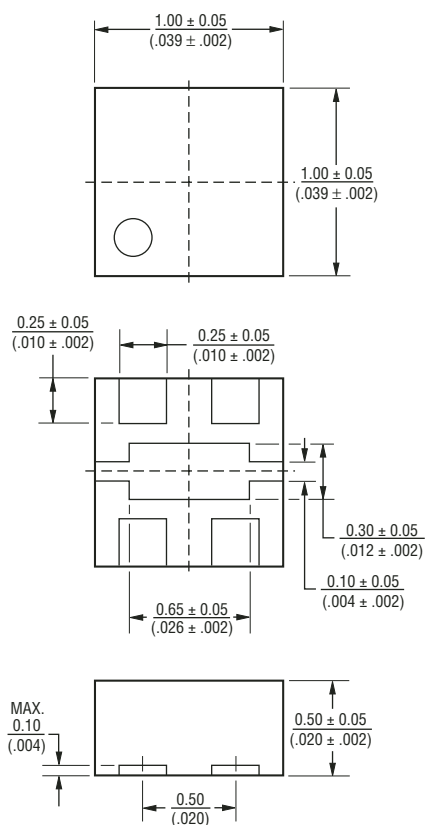
*RoHS Directive 2002/95/EC Jan 27 2003 including Annex
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

CDDFN4-T05 – Surface Mount TVS Diode Array

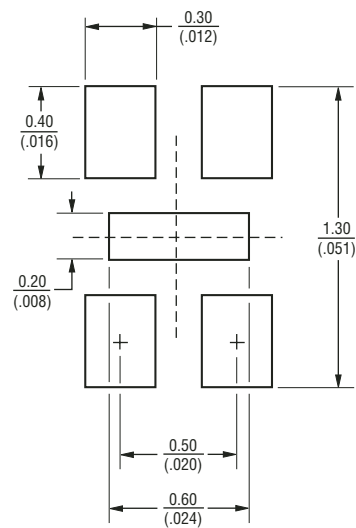
BOURNS®

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.

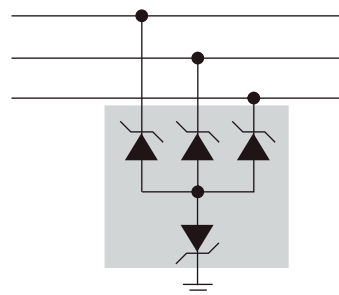
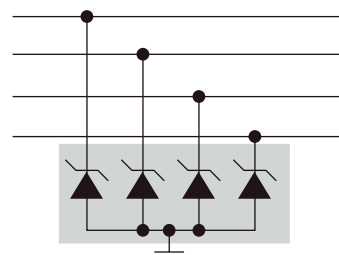


Recommended Footprint



Typical Application

Possible configurations for 3 or 4 data line protection



Typical Part Marking

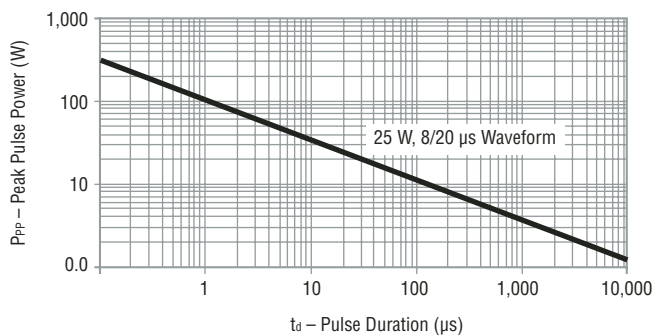
CDDFN4-T05CSD4

CDDFN4-T05 – Surface Mount TVS Diode Array

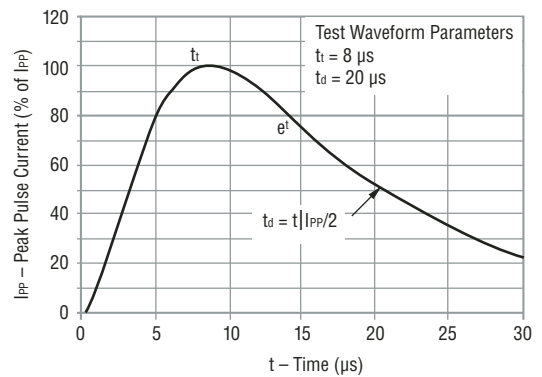
BOURNS®

Rating & Characteristic Curves

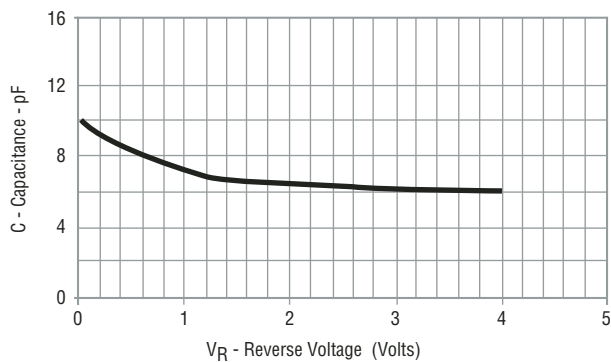
Peak Pulse Power vs Pulse Time



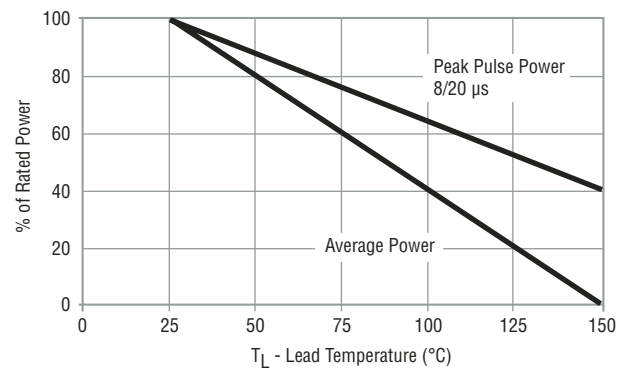
Peak Pulse Curve



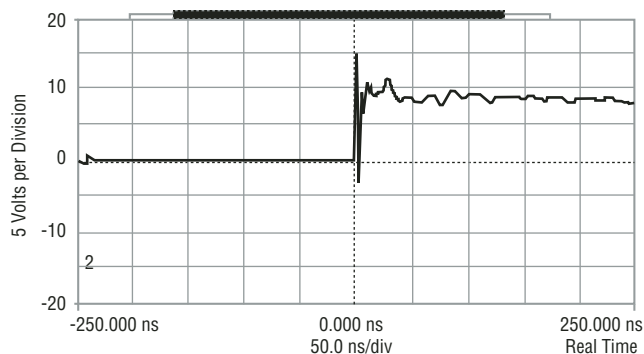
Typical Capacitance vs Voltage



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

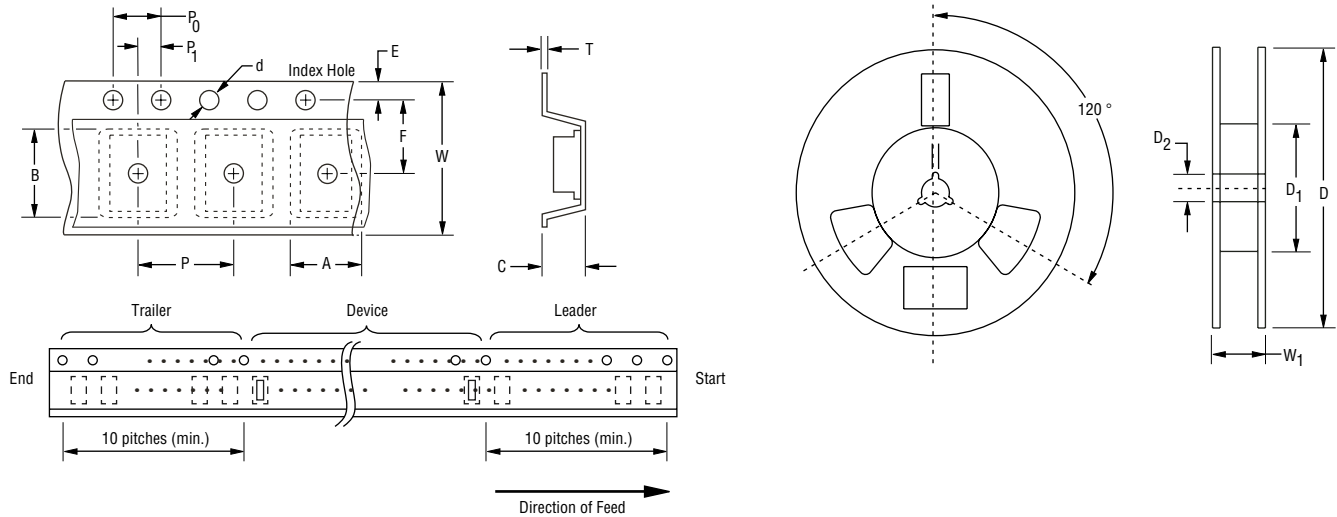
05 = 5 V_{RWM} (Volts)

CDDFN4-T05 – Surface Mount TVS Diode Array

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-4
Carrier Width	A	$\frac{1.17 \pm 0.10}{(0.046 - 0.004)}$
Carrier Length	B	$\frac{1.17 \pm 0.10}{(0.046 - 0.004)}$
Carrier Depth	C	$\frac{0.66 \pm 0.10}{(0.026 - 0.004)}$
Sprocket Hole	d	$\frac{1.55 \pm 0.05}{(0.061 - 0.002)}$
Reel Outside Diameter	D	$\frac{178}{(7.008)}$
Reel Inner Diameter	D ₁	$\frac{50.0}{(1.969)} \text{ Min.}$
Feed Hole Diameter	D ₂	$\frac{13.0 \pm 0.20}{(0.512 - 0.008)}$
Sprocket Hole Position	E	$\frac{1.75 \pm 0.10}{(0.069 - 0.004)}$
Punch Hole Position	F	$\frac{3.50 \pm 0.05}{(0.138 - 0.002)}$
Punch Hole Pitch	P	$\frac{4.00 \pm 0.10}{(0.157 - 0.004)}$
Sprocket Hole Pitch	P ₀	$\frac{4.00 \pm 0.10}{(0.157 - 0.004)}$
Embossment Center	P ₁	$\frac{2.00 \pm 0.05}{(0.079 - 0.002)}$
Overall Tape Thickness	T	$\frac{0.20 \pm 0.10}{(0.008 - 0.004)}$
Tape Width	W	$\frac{8.00 \pm 0.20}{(0.315 - 0.008)}$
Reel Width	W ₁	$\frac{14.4}{(0.567)} \text{ Max.}$
Quantity per Reel	—	3,000



Reliable Electronic Solutions

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