

## Features

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

## Applications

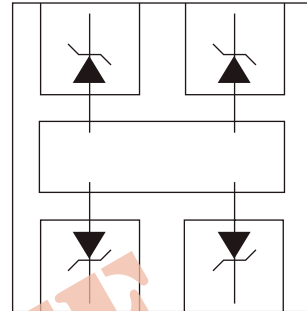
- Personal Digital Assistants (PDAs)
- Mobile Phones & Accessories
- Memory Card Protection
- SIM Card Port Protection
- Portable Electronics

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

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $t_p = 8/20\ \mu\text{s}$ ) <sup>NOTE 1</sup>	$P_{PP}$	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 (@ $T_A = 25\text{ }^\circ\text{C}$ 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	$\mu\text{A}$
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		$\pm 8$ $\pm 15$	kV kV
EFT Protection: Per IEC61000-4-4: Standard Maximum @ 5/50 ns		40	A

Notes:

1. See Peak Pulse Power vs. Pulse Time.

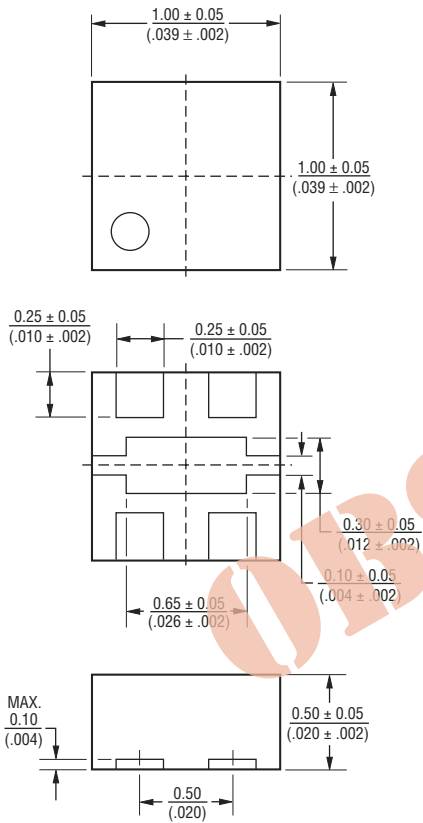
\*RoHS Directive 2002/95/EC Jan 27 2003 including Annex  
Specifications are subject to change without notice.  
Customers should verify actual device performance in their specific applications.

# CDDFN4-T05 – Surface Mount TVS Diode Array

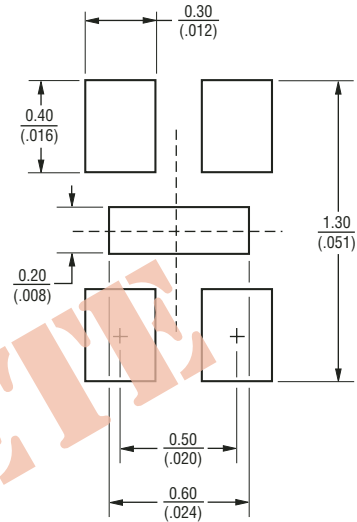


## Product Dimensions

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.

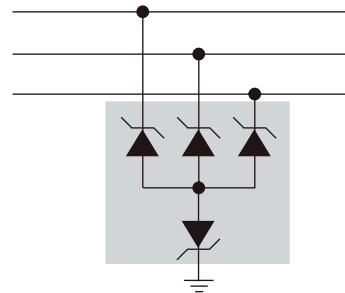
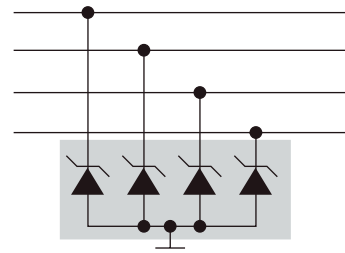


## Recommended Footprint



## Typical Application

Possible configurations for 3 or 4 data line protection



## Typical Part Marking

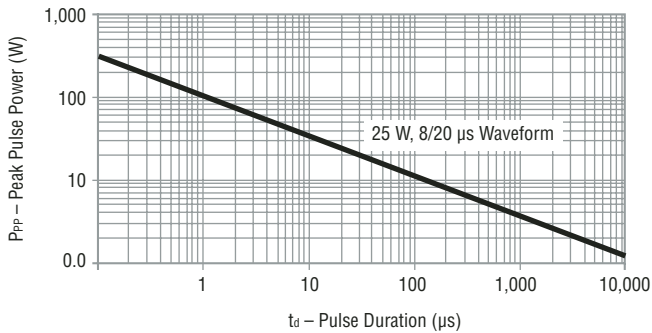
CDDFN4-T05C .....SD4

# CDDFN4-T05 – Surface Mount TVS Diode Array

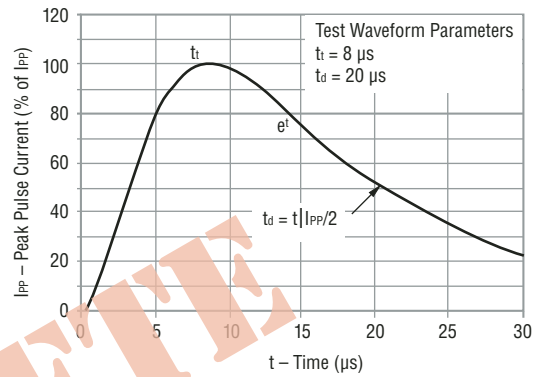
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## Rating & Characteristic Curves

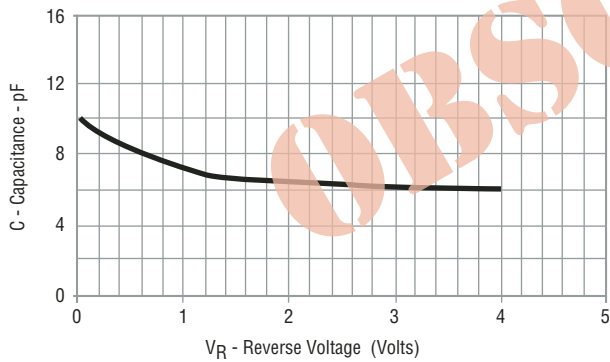
### Peak Pulse Power vs Pulse Time



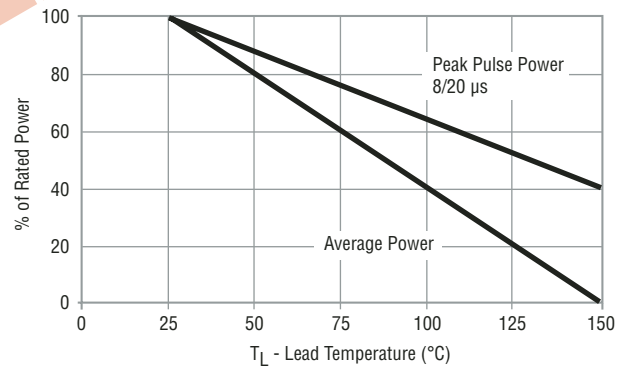
### Peak Pulse Curve



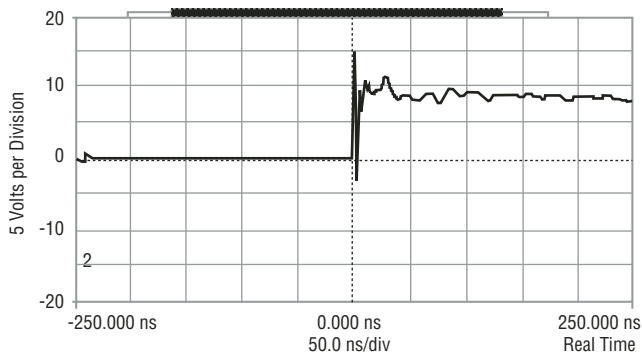
### Typical Capacitance vs Voltage



### Typical Capacitance vs Voltage



### Overshoot & Clamping Voltage



### How To Order

**CD DFN4 - T 05**

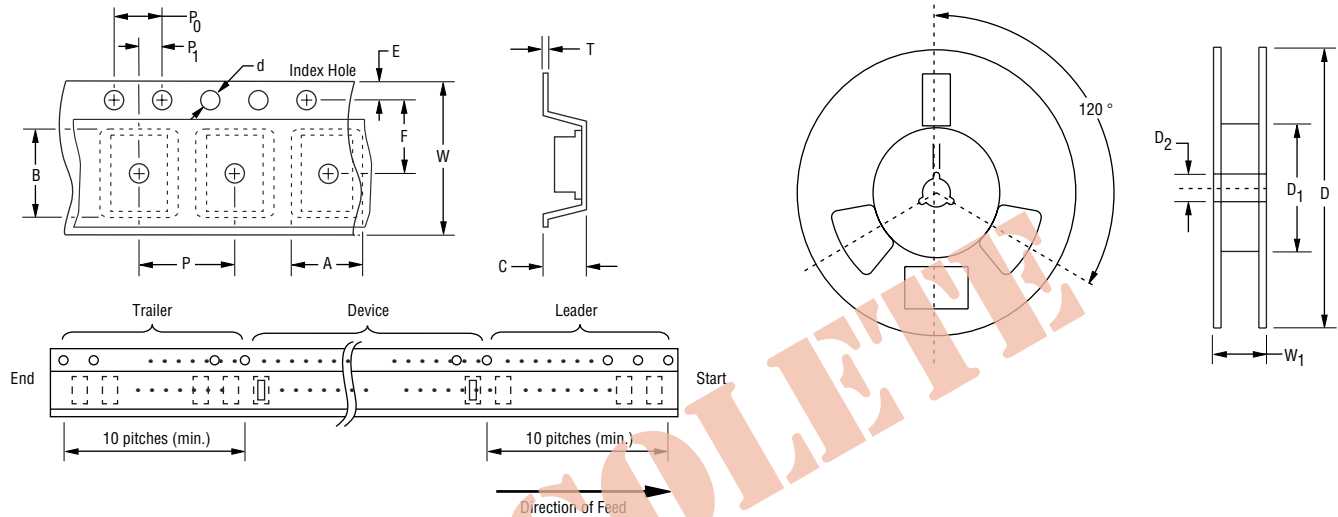
Common Code \_\_\_\_\_  
 Chip Diode \_\_\_\_\_  
 Package \_\_\_\_\_  
 • DFN4 = DFN-4 Package  
 Model \_\_\_\_\_  
 T = Transient Voltage Suppressor  
 Working Peak Reverse Voltage \_\_\_\_\_  
 05 = 5  $V_{RWM}$  (Volts)

# 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	$\frac{1.17 \pm 0.10}{(0.046 - 0.004)}$
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 <sub>1</sub>	$\frac{50.0}{(1.969)}$ Min.
Feed Hole Diameter	D <sub>2</sub>	$\frac{13.0 \pm 0.20}{(0.512 - 0.008)}$
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 <sub>0</sub>	$\frac{4.00 \pm 0.10}{(0.157 - 0.004)}$
Embossment Center	P <sub>1</sub>	$\frac{2.00 \pm 0.05}{(0.079 - 0.002)}$
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 <sub>1</sub>	$\frac{14.4}{(0.567)}$ Max.
Quantity per Reel	—	3,000



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