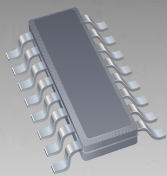


\*RoHS COMPLIANT



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### Features

- RoHS Compliant\*
- ESD protection >40k V
- Protects 2 lines
- Low capacitance - 15 pF

### Applications

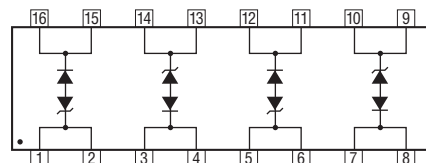
- T1/E1 Ports
- Ethernet Ports
- Wireless LANs
- xDSL Equipment

## CDNBS16-PLC05-6 – Low Capacitance TVS Diode Array

### General Information

The CDNBS16-PLC05-6 device provides ESD, EFT and Surge protection for external ports meeting IEC 61000-4-2 (ESD), IEC 61000-4-4 (EFT) and IEC 61000-4-5 (Surge) requirements.

The Transient Voltage Suppressor offers a choice of Working Peak Reverse Voltage of 5 V and Minimum Breakdown Voltage of 6 V. The device is available in a JEDEC SO-16 package and intended to be mounted directly onto an FR4 printed circuit board.



### Absolute Maximum Ratings (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power (t <sub>p</sub> = 8/20 μs)	P <sub>PK</sub>	3600	W
Peak Pulse Power (t <sub>p</sub> = 10/1000 μs) <sup>NOTE 1</sup>	P <sub>PK</sub>	600	W
Storage Temperature	T <sub>STG</sub>	-55 °C to 150 °C	°C
Operating Temperature	T <sub>OPR</sub>	-55 °C to 150 °C	°C

### Electrical Characteristics (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Minimum Breakdown Voltage @ 1 mA	V <sub>BR</sub>	6	V
Maximum Working Peak Voltage	V <sub>WM</sub>	5	V
Maximum Leakage Current @ V <sub>WM</sub> = 5 V	I <sub>D</sub>	300	μA
Maximum Clamping Voltage @ I <sub>P</sub> = 5 A	V <sub>C</sub>	9.6	V
Typical Junction Capacitance @ 0 V, 1 MHz	C <sub>D</sub>	15	pF
ESD Protection: Per IEC 61000-4-2 Standard			
Minimum Contact Discharge		±8	kV
Minimum Air Discharge		±15	kV
EFT Protection: Per IEC61000-4-4 Standard @ 5/50 ns		40	A
Surge Protection: Per IEC 61000-4-5 Standard @ 8/20 μs			
L3 (Line - Ground)		95	A
L4 (Line - Line)		48	A
L1 (Power)		83	A

Notes:

1. See Peak Pulse Power vs. Pulse Time.



#### 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](http://www.bourns.com)

\*RoHS Directive 2002/95/EC Jan 27 2003 including Annex.

Specifications are subject to change without notice.

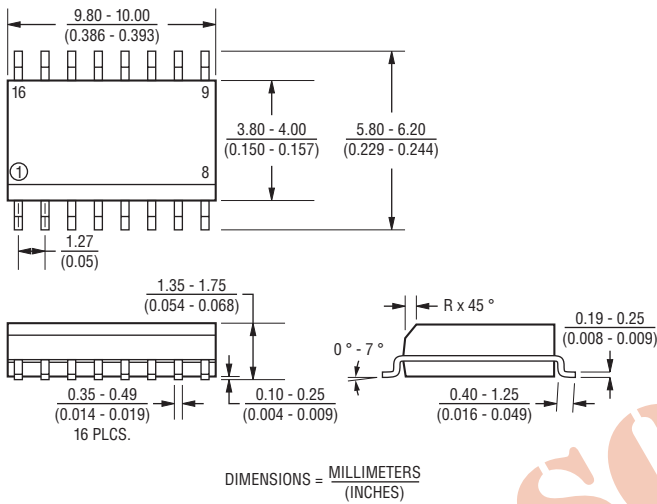
Customers should verify actual device performance in their specific applications.

# CDNBS16-PLC05-6 – Low Capacitance TVS Diode Array

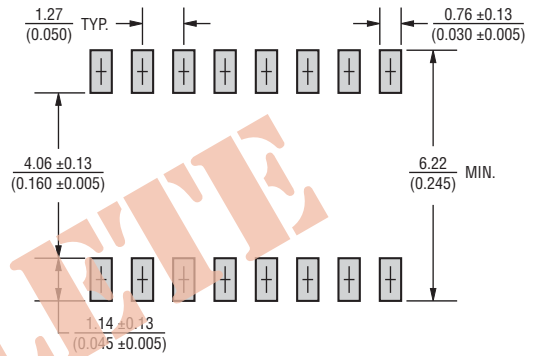
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## Product Dimensions

This is a molded JEDEC SO-16 package with 100% Sn plating on the terminations. It weighs approximately 150 mg and has a flammability rating of UL 94V-0.



## Recommended Footprint



## How To Order

**CD NBS16 - PLC 05 - 6**

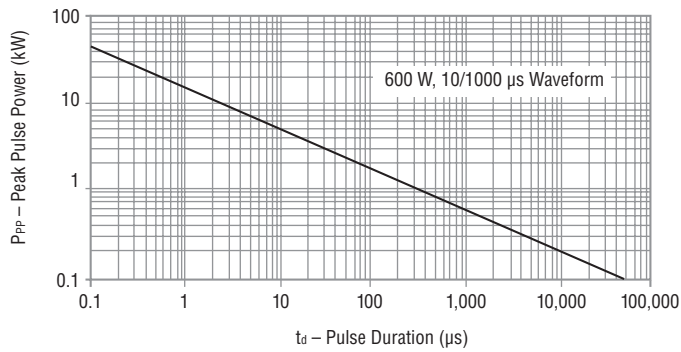
Common Code \_\_\_\_\_  
 Chip Diode \_\_\_\_\_  
 Package \_\_\_\_\_  
 NBS16 = SO-16 Package  
 Model \_\_\_\_\_  
 PLC = Special Model  
 Working Peak Reverse Voltage \_\_\_\_\_  
 05 = 5 V<sub>WM</sub> (Volts)  
 Suffix \_\_\_\_\_  
 6 = 6 V Minimum Voltage Breakdown

## Typical Part Marking

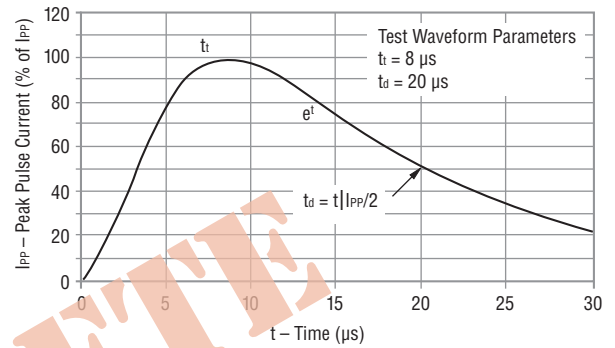
CDNBS16-PLC05-6..... **PLC05-6**

Performance Graphs

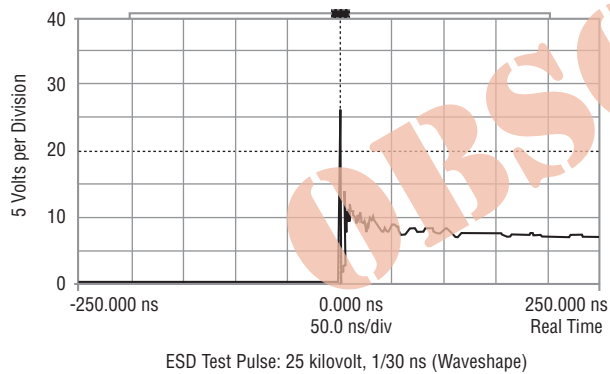
Peak Pulse Power vs Pulse Time



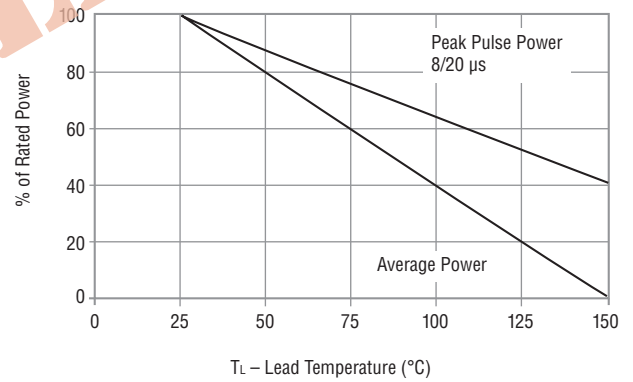
Pulse Wave Form



ESD Pulse Response



Power Derating Curve



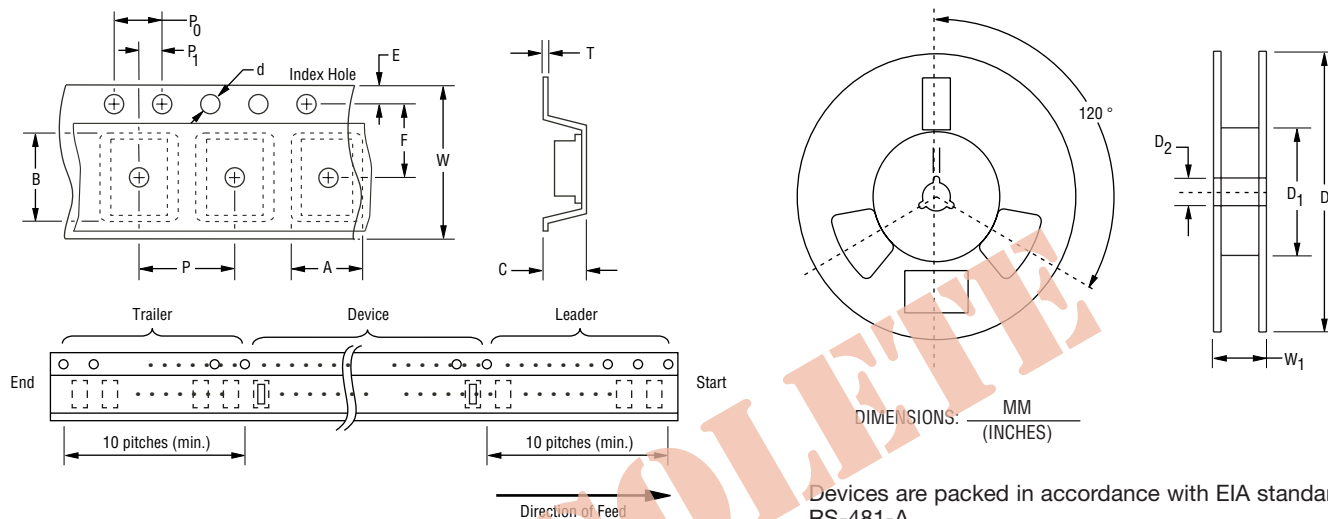
Specifications are subject to change without notice. Customers should verify actual device performance in their specific applications.

# CDNBS16-PLC05-6 – Low Capacitance TVS Diode Array

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## Packaging Specifications

The product will be dispensed in Tape and Reel format (see diagram below).



Devices are packed in accordance with EIA standard RS-481-A.

Item	Symbol	NSOIC 16L
Carrier Width	A	$6.7 \pm 0.10$ (0.264 ± 0.004)
Carrier Length	B	$10.5 \pm 0.10$ 0.413 ± 0.004
Carrier Depth	C	$2.10 \pm 0.10$ 0.083 ± 0.004
Sprocket Hole	d	$1.55 \pm 0.05$ (0.061 ± 0.002)
Reel Outside Diameter	D	$330$ (12.992)
Reel Inner Diameter	D <sub>1</sub>	$80.0$ (3.1500) MIN.
Feed Hole Diameter	D <sub>2</sub>	$13.0 \pm 0.20$ (0.512 ± 0.008)
Sprocket Hole Position	E	$1.75 \pm 0.10$ (0.069 ± 0.004)
Punch Hole Position	F	$3.50 \pm 0.05$ (0.138 ± 0.002)
Punch Hole Pitch	P	$8.00 \pm 0.10$ (0.315 ± 0.004)
Sprocket Hole Pitch	P <sub>0</sub>	$4.00 \pm 0.10$ (0.157 ± 0.004)
Embossment Center	P <sub>1</sub>	$2.00 \pm 0.05$ (0.079 ± 0.002)
Overall Tape Thickness	T	$0.20 \pm 0.10$ (0.008 ± 0.004)
Tape Width	W	$16.00 \pm 0.20$ (0.630 ± 0.008)
Reel Width	W <sub>1</sub>	$18.4$ (0.724) MAX.
Quantity per Reel	-	2500

REV. 09/09

Specifications are subject to change without notice.  
Customers should verify actual device performance in their specific applications.