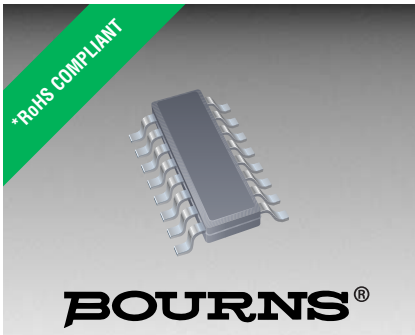




Features

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

Applications

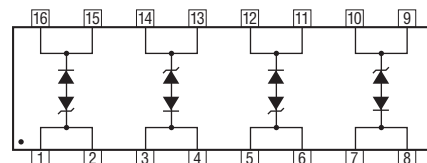
- T1/E1 Ports
- Ethernet Ports
- Wireless LANs
- xDSL Equipment

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_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20 \mu s$)	P_{PK}	3600	W
Peak Pulse Power ($t_p = 10/1000 \mu s$) ^{NOTE 1}	P_{PK}	600	W
Storage Temperature	T_{STG}	-55 °C to 150 °C	°C
Operating Temperature	T_{OPR}	-55 °C to 150 °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 @ $V_{WM} = 5 V$	I_D	300	μA
Maximum Clamping Voltage @ $I_P = 5 A$	V_C	9.6	V
Typical Junction Capacitance @ 0 V, 1 MHz	C_D	15	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 @ 5/50 ns		40	A
Surge Protection: Per IEC 61000-4-5 Standard @ 8/20 μs L3 (Line - Ground) L4 (Line - Line) L1 (Power)		95 48 83	A A 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.

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

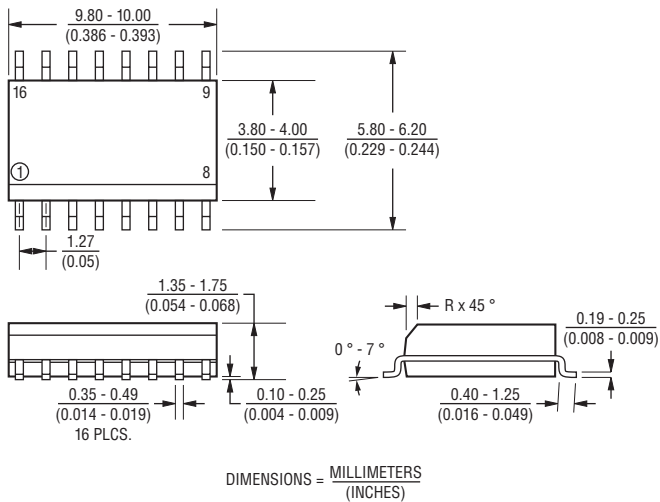
www.bourns.com

CDNBS16-PLC05-6 – Low Capacitance TVS Diode Array

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Product Dimensions

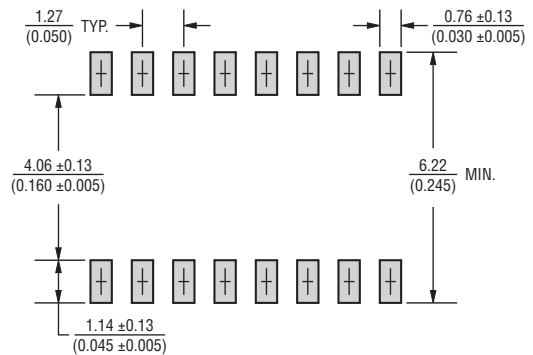
This is a molded JEDEC SO-16 package with 100% Sn plating on the terminations. It weighs approximately 150 mg and has a flammability rating of UL 94V-0.



Typical Part Marking

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

Recommended Footprint



How To Order

CD NBS16 - PLC 05 - 6

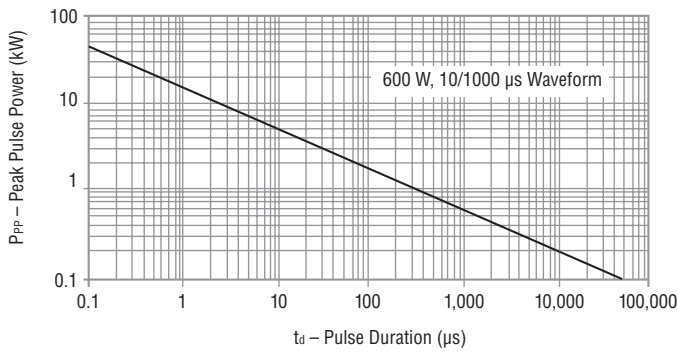
Common Code _____
 Chip Diode _____
 Package _____
 NBS16 = SO-16 Package
 Model _____
 PLC = Special Model
 Working Peak Reverse Voltage _____
 05 = 5 V_{WM} (Volts)
 Suffix _____
 6 = 6 V Minimum Voltage Breakdown

CDNBS16-PLC05-6 – Low Capacitance TVS Diode Array

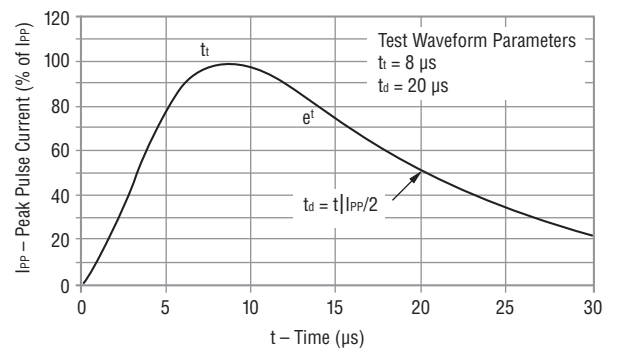
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Performance Graphs

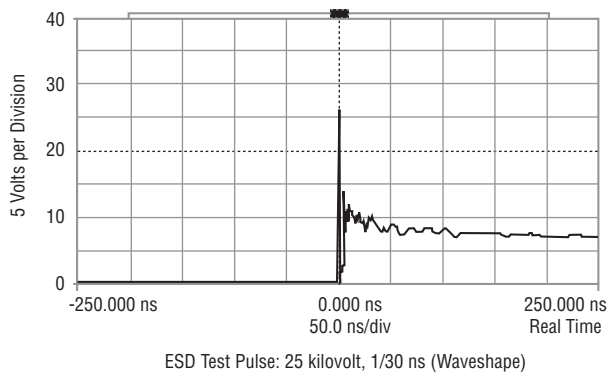
Peak Pulse Power vs Pulse Time



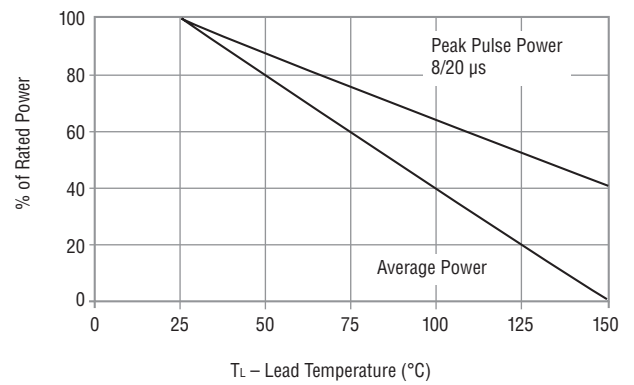
Pulse Wave Form



ESD Pulse Response



Power Derating Curve

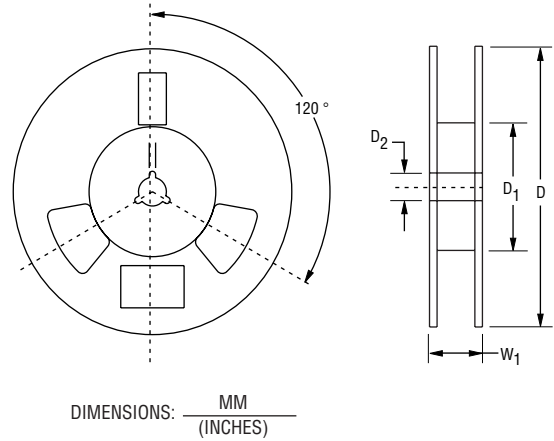
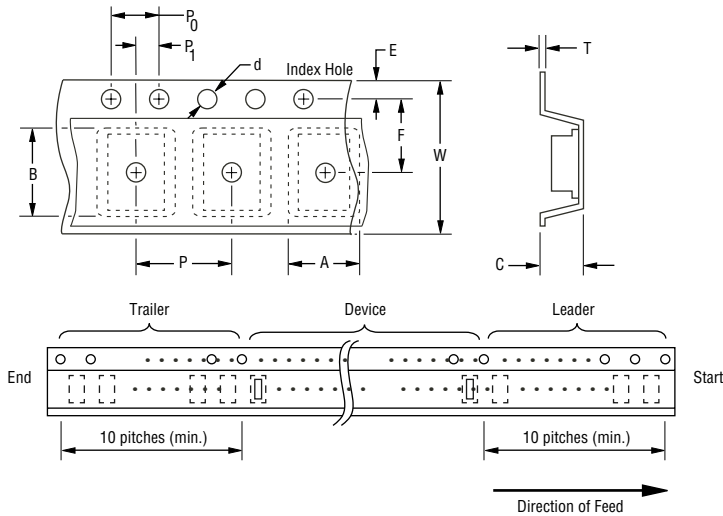


CDNBS16-PLC05-6 – Low Capacitance TVS Diode Array

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

REV. 09/09

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