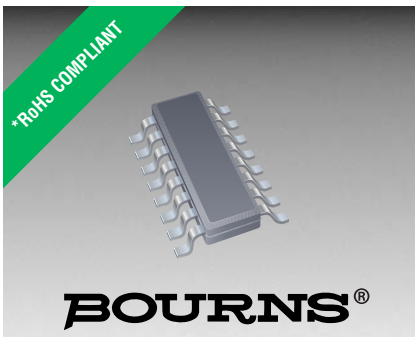




Features

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

Applications

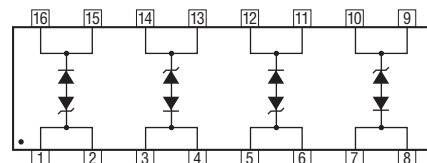
- T1/E1 Ports
- Ethernet Ports
- Wireless LANs
- xDSL Equipment

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

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20 \mu\text{s}$)	P_{PK}	3600	W
Peak Pulse Power ($t_p = 10/1000 \mu\text{s}$) ^{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 (@ $T_A = 25^\circ\text{C}$ 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 @ $V_{WM} = 5 \text{ V}$	I_D	300	μA
Maximum Clamping Voltage @ $I_P = 5 \text{ A}$	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.



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

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

Specifications are subject to change without notice.

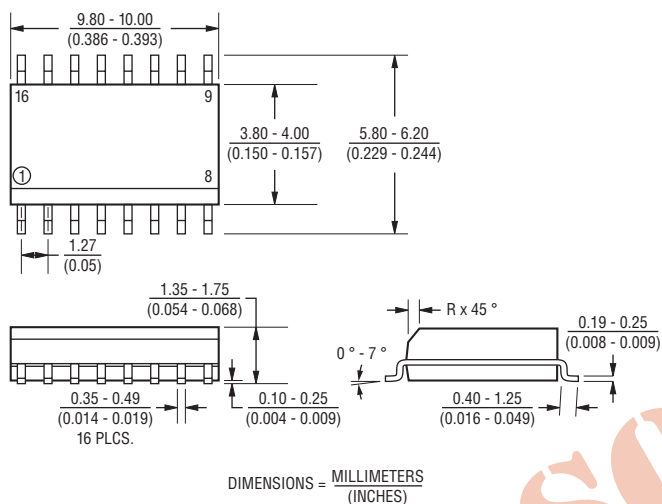
Customers should verify actual device performance in their specific applications.

CDNBS16-PLC05-6 – Low Capacitance TVS Diode Array

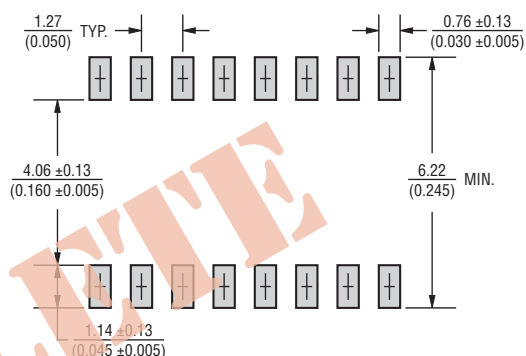
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Product Dimensions

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

Typical Part Marking

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

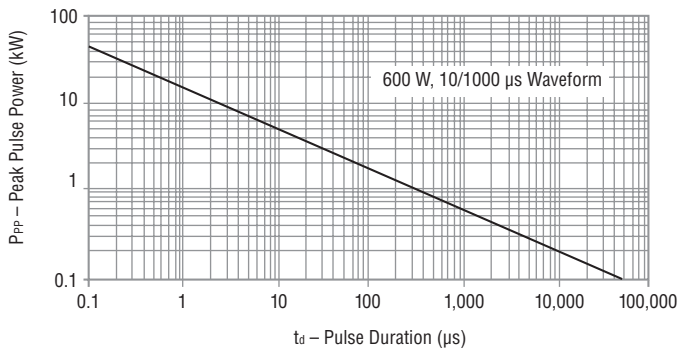
Common Code **CD**
 Chip Diode
 Package **NBS16** = SO-16 Package
 Model **PLC** = Special Model
 Working Peak Reverse Voltage **05** = 5 V_{WM} (Volts)
 Suffix **6** = 6 V Minimum Voltage Breakdown

CDNBS16-PLC05-6 – Low Capacitance TVS Diode Array

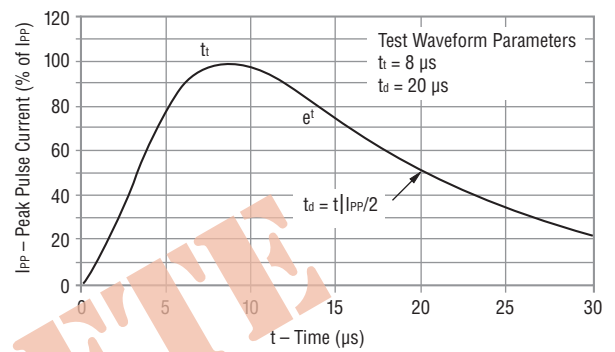
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Performance Graphs

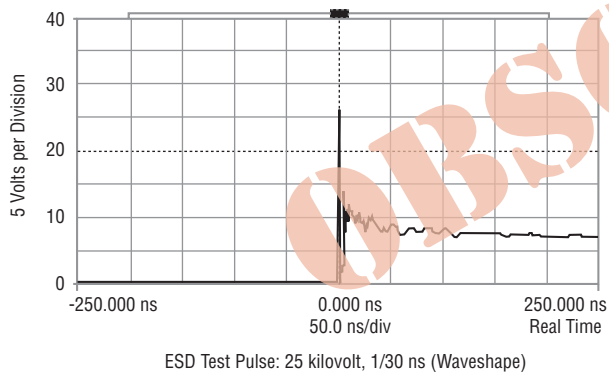
Peak Pulse Power vs Pulse Time



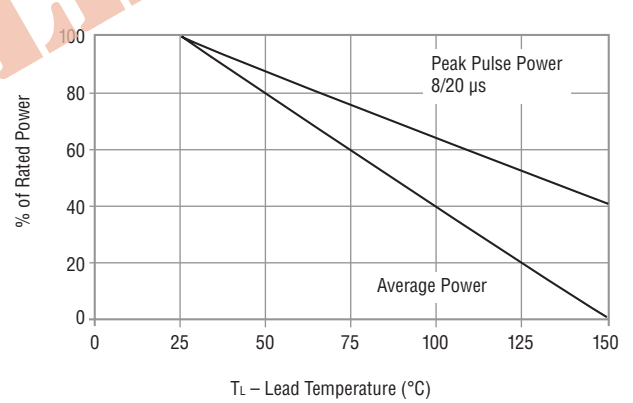
Pulse Wave Form



ESD Pulse Response



Power Derating Curve

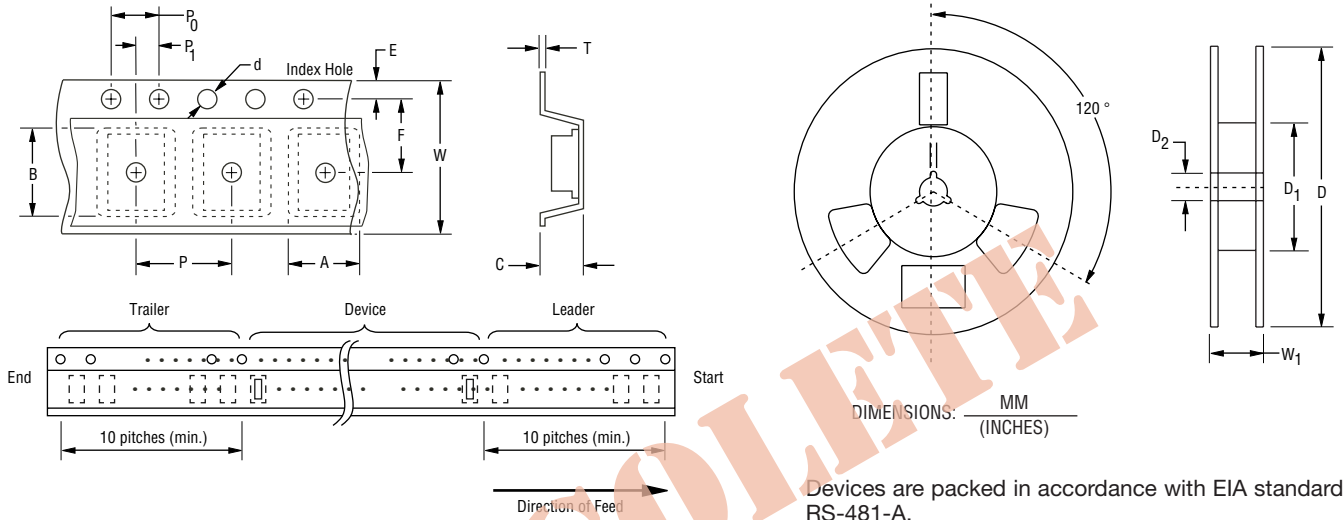


CDNBS16-PLC05-6 – Low Capacitance TVS Diode Array

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Packaging Specifications

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



Item	Symbol	NSOIC 16L
Carrier Width	A	6.7 ± 0.10 (0.264 ± 0.004)
Carrier Length	B	10.5 ± 0.10 (0.413 ± 0.004)
Carrier Depth	C	2.10 ± 0.10 (0.083 ± 0.004)
Sprocket Hole	d	1.55 ± 0.05 (0.061 ± 0.002)
Reel Outside Diameter	D	330 (12.992)
Reel Inner Diameter	D ₁	80.0 (3.1500) MIN.
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	8.00 ± 0.10 (0.315 ± 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	16.00 ± 0.20 (0.630 ± 0.008)
Reel Width	W ₁	18.4 (0.724) MAX.
Quantity per Reel	-	2500

REV. 09/09

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Customers should verify actual device performance in their specific applications.