

Features

- RoHS compliant*
- ESD protection >40k V
- Protects 14 lines
- Low capacitance - 3 pF

Applications

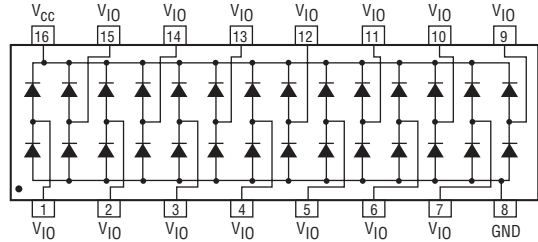
- Ethernet ports
- Portable electronics
- Wireless LANs
- xDSL equipment

CDNBS16-SR720 – Steering Diode Arrays

General Information

The CDNBS16-SR720 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 Steering Diode array provides up to 14 lines of protection using the “rail to rail” clamping technique with low leakage current and low capacitance per line. The device is available in a JEDEC SO-16 package and is 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
Power Dissipation - Continuous	P _{PD}	145	mW
Storage Temperature	T _{STG}	-55 to +150	°C
Operating Temperature	T _{OPR}	-55 to +150	°C

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Typical Forward Voltage @ 8/20 μs 1 A	V _F	2	V
Repetitive Peak Reverse Voltage ^(Note 1)	V _{RRM}	30	V
Maximum Peak Pulse Current @ 8/20 μs	I _{FM}	12	A
Maximum Leakage Current @ 20 V	I _R	20	nA
Maximum Quiescent Supply Current @ 20 V	I _Q	200	nA
Typical Junction Capacitance @ 0 V 1 MHz ^(Note 2)	C _J	3	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 @ 5/50 ns		40	A
Surge Protection per IEC 61000-4-5 @ 8/20 μs			
Level 1 (Line-Gnd)		12	A
Level 2 (Line-Line)		12	A

Notes:

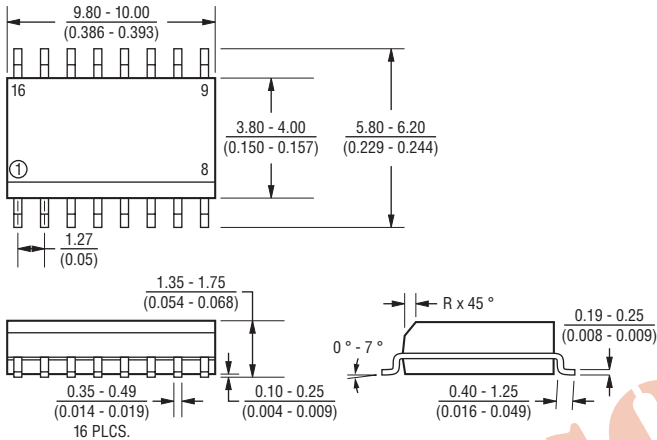
1. V_{RRM} is +V_{CC} for Pin 16 and -V_{EE} for Pin 1.
2. Measure capacitance C_J between any I/O pins to ground and divide by 2.

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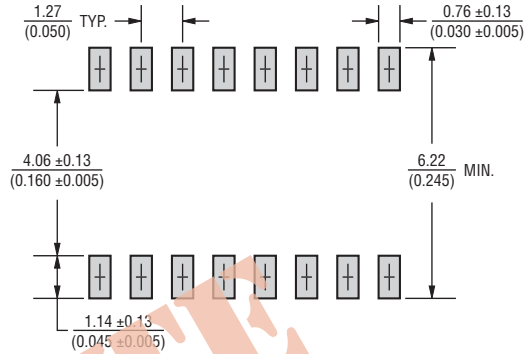
Product Dimensions

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



DIMENSIONS = MILLIMETERS
(INCHES)

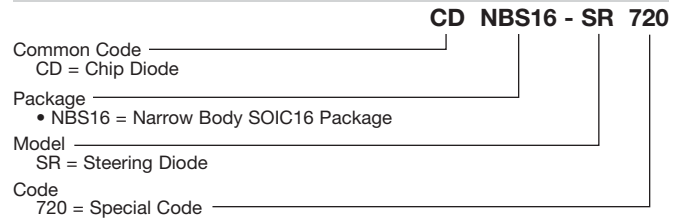
Recommended Footprint



Typical Part Marking

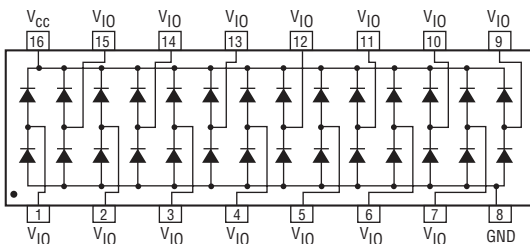
CDNBS16-SR720SR720

How To Order



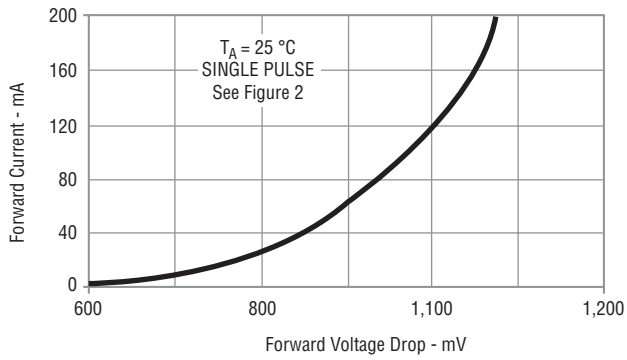
Block Diagram

The device block diagrams below include the pin names and basic electrical connections associated with each channel.

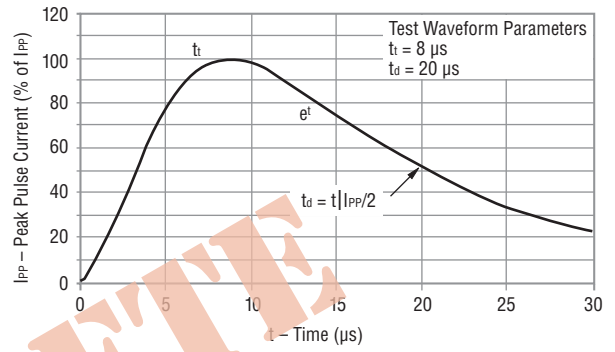


Performance Graphs

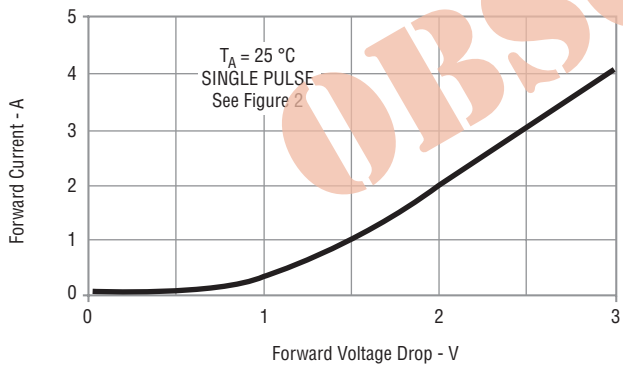
Peak Pulse Power vs Pulse Time



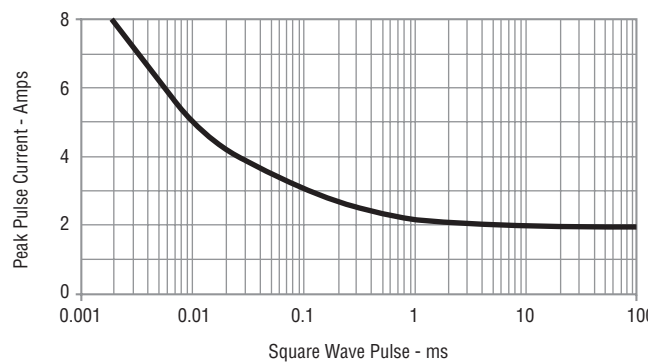
Pulse Waveform



CDNBS08-T05L ESD Pulse Response



Power Derating Curve

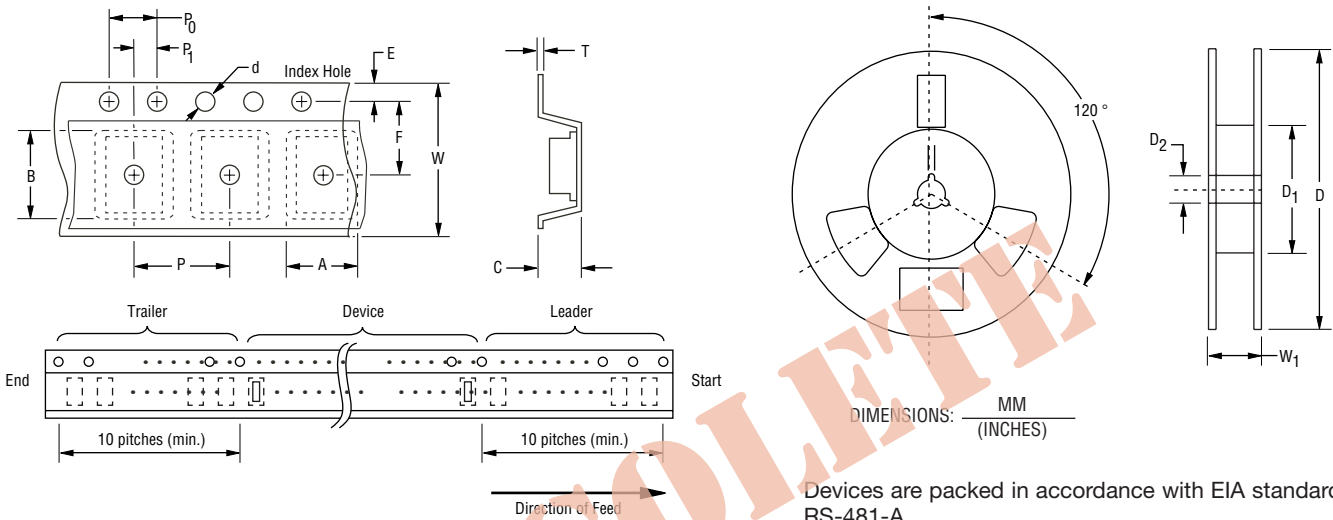


CDNBS16-SR720 – Steering Diode Arrays

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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	$\frac{6.7 \pm 0.10}{(0.264 \pm 0.004)}$
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	$\frac{80.0}{(3.1500)}$ 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	$\frac{18.4}{(0.724)}$ 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.



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