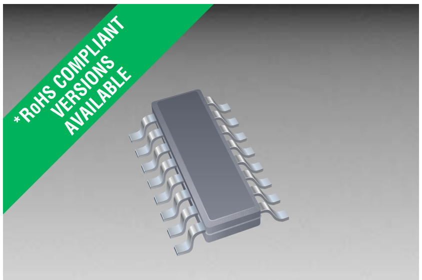


BOURNS®

Features

- Lead free device (RoHS Compliant*)
- Protects 8 lines
- Unidirectional & bidirectional configurations
- ESD protection

Applications

- Audio/video inputs
- RS-232, RS-422 & RS-423 data lines
- Portable electronics
- Medical sensors

CDNBS16-T03~T36C – TVS Diode Array Series

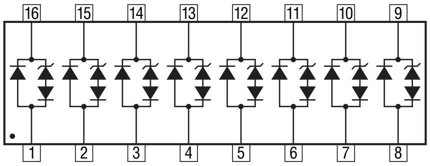
General Information

The markets of portable communications, computing and video equipment are challenging the semiconductor industry to develop increasingly smaller electronic components.

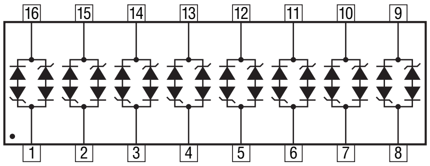
Bourns offers Transient Voltage Suppressor Array diodes for surge and ESD protection applications, in 16 Lead Narrow Body SOIC package size format. The Transient Voltage Suppressor Array series offer a choice of voltage types ranging from 3 V to 36 V in unidirectional and bidirectional configurations. Bourns® Chip Diodes conform to JEDEC standards, are easy to handle on standard pick and place equipment and their flat configuration minimizes roll away.

The Bourns® device will meet IEC 61000-4-2 (ESD), IEC 61000-4-4 (EFT) and IEC 61000-4-5 (Surge) requirements.

UNIDIRECTIONAL



BIDIRECTIONAL



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

Parameter	Symbol	Max.	Unit
Operating Temperature	T_J	-55 to +150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

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

Parameter	Symbol	CDNBS16-														Unit
		Uni-	Bi-	Uni-	Bi-	Uni-	Bi-	Uni-	Bi-	Uni-	Bi-	Uni-	Bi-	Uni-	Bi-	
		T03	T03C	T05	T05C	T08	T08C	T12	T12C	T15	T15C	T24	T24C	T36	T36C	
Minimum Breakdown Voltage @ 1 mA	V_{BR}	4.5		6.0		8.5		13.3		16.7		26.7		40.0		V
Working Peak Voltage	V_{WM}	3.0		5.0		8.0		12.0		15.0		24.0		36.0		V
Maximum Clamping Voltage V_C @ I_P = 1 A[1]	V_C	8.0		9.8		13.4		19.0		25.5		40.0		53.0		V
Maximum Clamping Voltage @ 8/20 µs V_C @ I_{PP}[1]	V_C	23 V @ 43 A		24 V @ 42 A		26 V @ 30 A		33 V @ 21 A		39 V @ 15 A		57 V @ 10 A		72 V @ 7 A		V
Maximum Leakage Current @ V_{WM}	I_D	125		20		10		2		2		2		2		µA
Maximum Capacitance @ 0 V, 1 MHz	$C_{j(SD)}$	15														pF
Temperature Coefficient of V_{BR}		-3		3		9		16		17		26		36		mV/°C
Peak Pulse Power (tp = 8/20 µs)[2]	P_{PP}	500														W
Forward Voltage @ 100 mA, 300 µs – Square Wave[3]	V_F	1.5														V

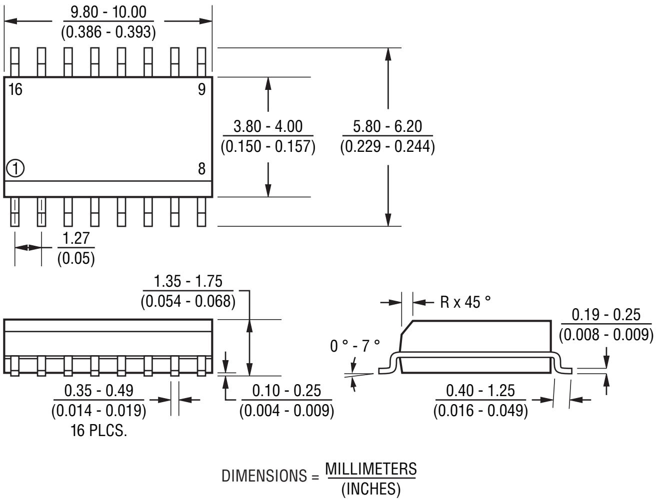
Notes:
1. See Pulse Wave Form.
2. See Peak Pulse Power vs. Pulse Time.
3. Only applies to unidirectional devices.
4. Part numbers with a “C” suffix are bidirectional devices, i.e., CDNBS16-T03C.

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

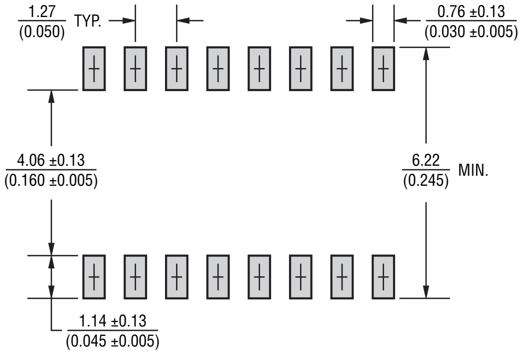
Mechanical Characteristics

This is a molded JEDEC Narrow Body SO-16 package with lead free 100 % Sn plating on the lead frame. It weighs approximately 30 mg and has a flammability rating of UL 94V-0.

Product Dimensions



Recommended Footprint



How To Order

CD NBS16 - T 03 C

Common Code
Chip Diode

Package
NBS16 = 16L NSOIC Package

Model
T = Transient Voltage Supressor

Working Peak Reverse Voltage
03 = 3 V_{RWM} (Volts)

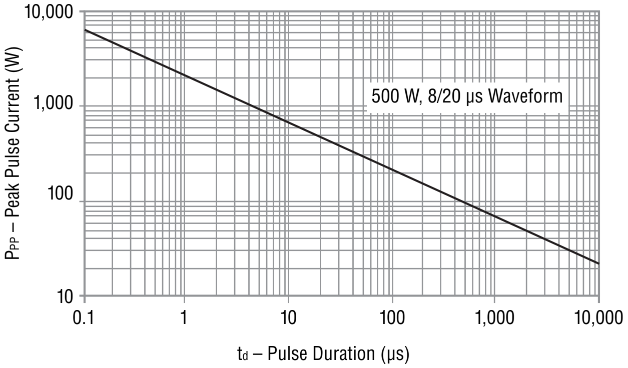
Suffix
C = Bidirectional Diode

Typical Part Marking

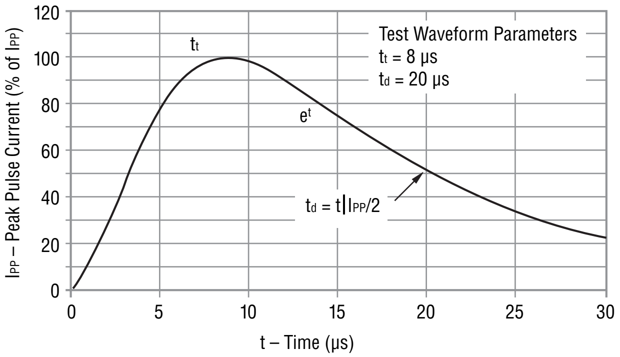
CDNBS16-T03	**CDNBS16-T03**
CDNBS16-T05	**CDNBS16-T05**
CDNBS16-T08	**CDNBS16-T08**
CDNBS16-T12	**CDNBS16-T12**
CDNBS16-T15	**CDNBS16-T15**
CDNBS16-T24	**CDNBS16-T24**
CDNBS16-T36	**CDNBS16-T36**
CDNBS16-T03C	**CDNBS16-T03C**
CDNBS16-T05C	**CDNBS16-T05C**
CDNBS16-T08C	**CDNBS16-T08C**
CDNBS16-T12C	**CDNBS16-T12C**
CDNBS16-T15C	**CDNBS16-T15C**
CDNBS16-T24C	**CDNBS16-T24C**
CDNBS16-T36C	**CDNBS16-T36C**

Performance Graphs

Peak Pulse Power vs Pulse Time



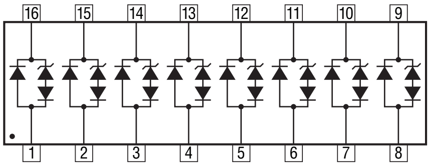
Pulse Wave Form



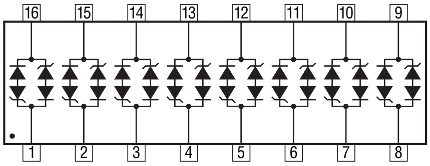
Block Diagram

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

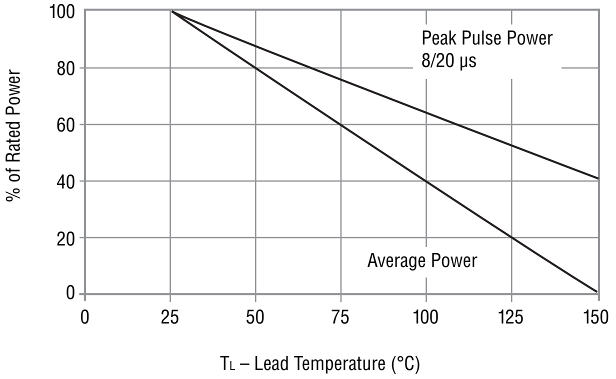
UNIDIRECTIONAL



BIDIRECTIONAL



Power Derating Curve

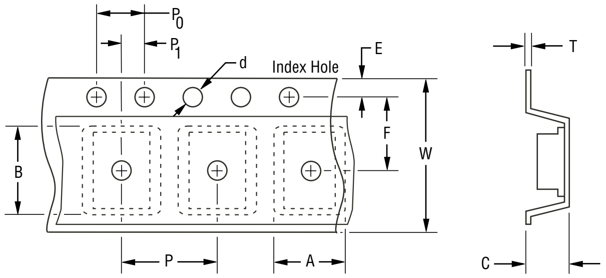


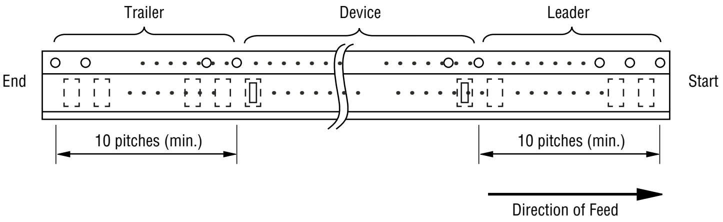
Device Pinout

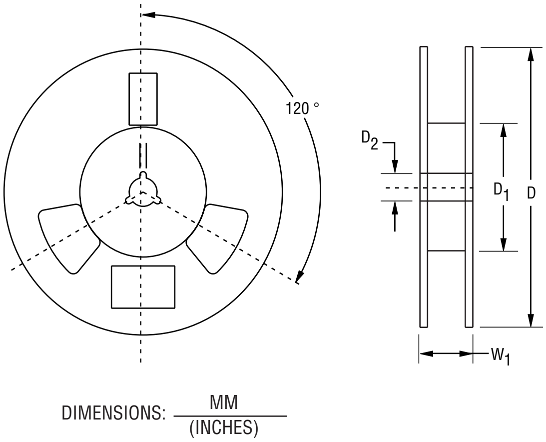
Pin	Function	Pin	Function
1	GND	9	I/O 1
2	GND	10	I/O 2
3	GND	11	I/O 3
4	GND	12	I/O 4
5	GND	13	I/O 5
6	GND	14	I/O 6
7	GND	15	I/O 7
8	GND	16	I/O 8

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 ± 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. 07/11

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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