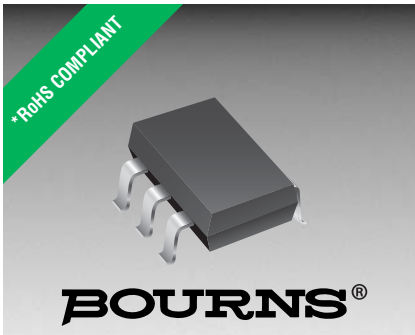




Features

- Lead free device (RoHS compliant*)
- Unidirectional & bidirectional configurations
- Protects 4 or 5 lines
- ESD, EFT & surge protection

Applications

- Cell phones
- PDAs and notebooks
- Digital cameras
- MP3 Players and GPS

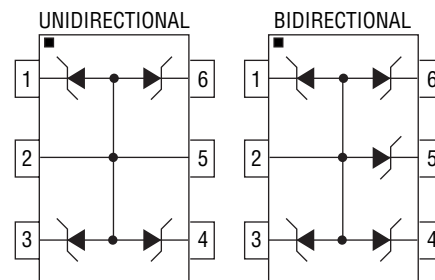
CDSOT236-T05~T24C Series – TVS Diode Arrays

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 ESD, EFT and surge protection applications, in SOT23-6 package size format. The Transient Voltage Suppressor Array series offers a choice of voltage types ranging from 5 V to 24 V in a bidirectional configuration. 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.



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

Parameter	Symbol	Value	Unit
Peak Pulse Power (t _p = 8/20 μs) ¹	P _{PP}	350	W
Operating Temperature	T _J	-55 °C to 150 °C	°C
Storage Temperature	T _{STG}	-55 °C to 150 °C	°C

Parameter	Symbol	CDSOT236-								Unit
		Uni-T05	Bi-T05C	Uni-T12	Bi-T12C	Uni-T15	Bi-T15C	Uni-T24	Bi-T24C	
Min. Breakdown Voltage @ 1 mA	V _{BR}	6.0	6.0	13.3	13.3	16.7	16.7	26.7	26.7	V
Working Peak Voltage	V _{WM}	5.0	5.0	12.0	12.0	15.0	15.0	24.0	24.0	V
Maximum Clamping Voltage @ I _p = 1A	V _C	9.8	9.8	19.0	19.0	24.0	24.0	43.0	43.0	V
Maximum Clamping Voltage @ 8/20 μs @ I _{pp}	V _C	21.0 V @ 17 A	21.0 V @ 17 A	29.2 V @ 12 A	29.2 V @ 12 A	34.6 V @ 10 A	34.6 V @ 10 A	58.3 V @ 6 A	58.3 V @ 6 A	V
Maximum Leakage Current @ V _{WM}	I _D	20	20	1	1	1	1	1	1	μA
Typical Capacitance @ 0 V, 1 MHz	C _J	150	150	80	80	50	50	40	40	pF



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.

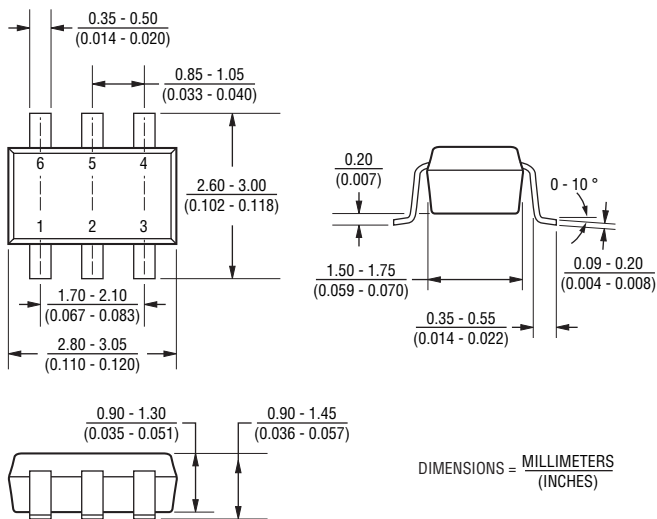
CDSOT236-T05~T24C Series – TVS Diode Arrays

BOURNS®

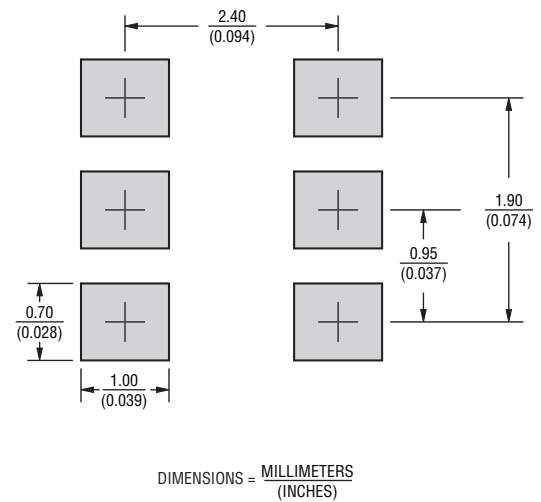
Mechanical Characteristics

This is a molded JEDEC SOT23-6 package with lead free 100 % Tin (Sn) on the lead frame. It weighs approximately 15 mg and has a flammability rating of UL 94V-0.

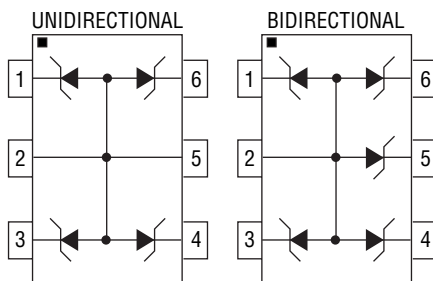
Product Dimensions



Recommended Footprint



Block Diagram



Typical Part Marking

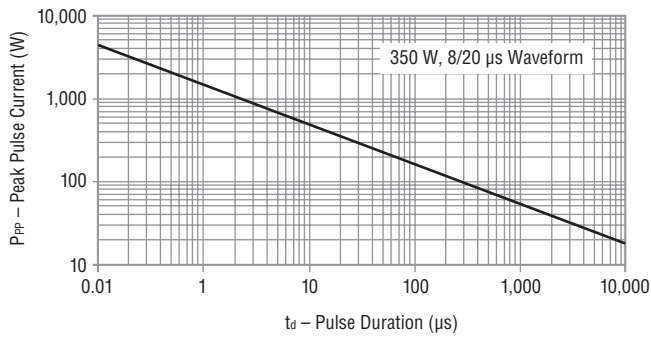
CDSOT236-T05.....	PRH
CDSOT236-T05C	PRL
CDSOT236-T12.....	PRI
CDSOT236-T12C	PRM
CDSOT236-T15.....	PRJ
CDSOT236-T15C	PRN
CDSOT236-T24.....	PRK
CDSOT236-T24C	PRO

CDSOT236-T05~T24C Series – TVS Diode Arrays

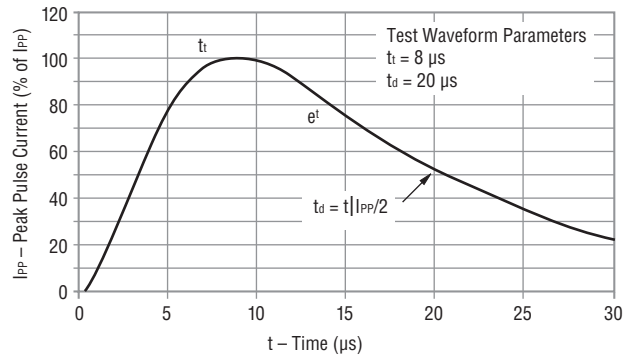
BOURNS®

Performance Graphs

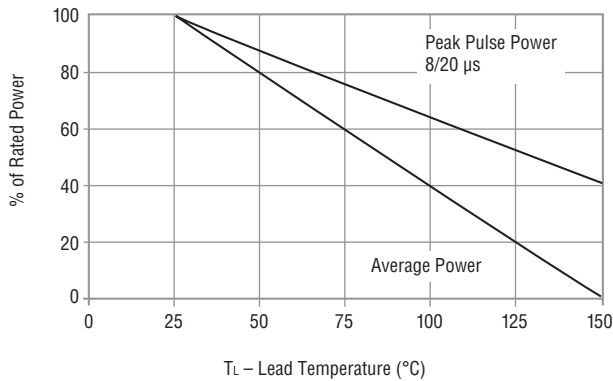
Peak Pulse Power vs Pulse Time



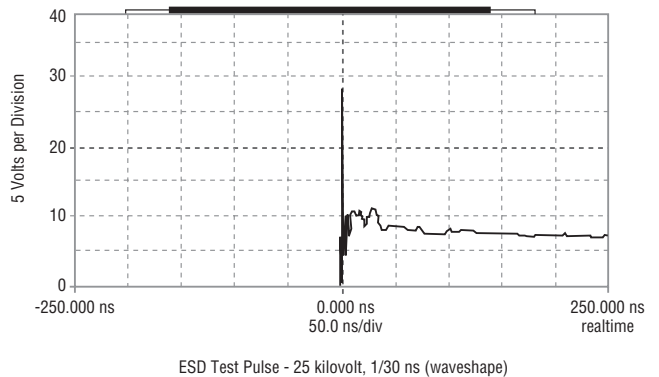
Pulse Wave Form



Power Derating Curve



Overshoot & Clamping Voltage



How To Order

CD SOT236 - T 05 C

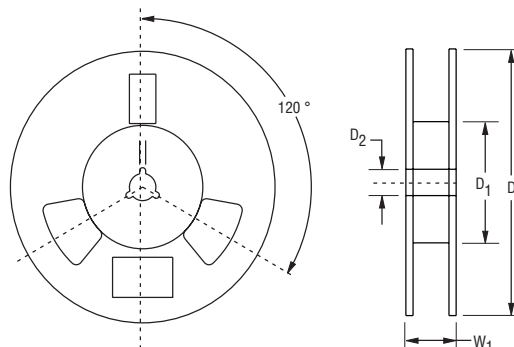
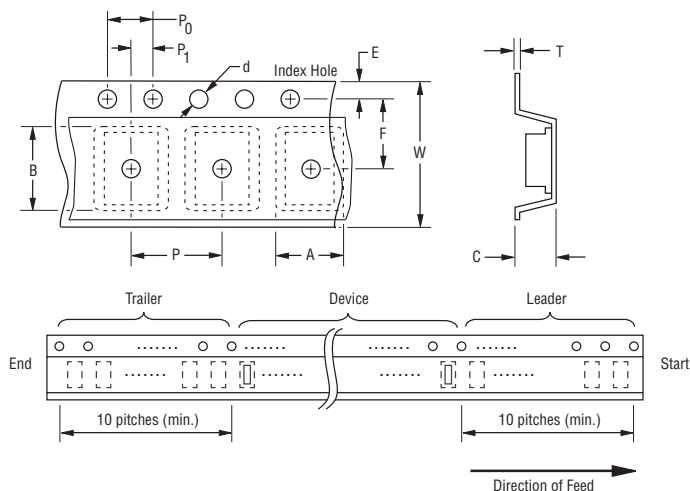
Common Code _____
 CD = Chip Diode
 Package _____
 SOT236 = SOT23-6 Package
 Model _____
 T = Transient Voltage Suppressor
 Working Peak Reverse Voltage _____
 05 = 5 V_{RWM} (Volts)
 Suffix _____
 C = Bidirectional Diode

CDSOT236-T05~T24C Series – TVS Diode Arrays

BOURNS®

Packaging Information

The product will be dispensed in tape and reel format (see diagram below)



DIMENSIONS ARE: $\frac{\text{MM}}{(\text{INCHES})}$

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

Item	Symbol	SOT23-6
Carrier Width	A	$\frac{3.90 \pm 0.10}{(0.154 \pm 0.004)}$
Carrier Length	B	$\frac{3.90 \pm 0.10}{(0.154 \pm 0.004)}$
Carrier Depth	C	$\frac{0.90 \pm 0.10}{(0.035 \pm 0.004)}$
Sprocket Hole	d	$\frac{1.55 \pm 0.05}{(0.061 \pm 0.002)}$
Reel Outside Diameter	D	$\frac{178}{(7.008)}$
Reel Inner Diameter	D ₁	$\frac{50.0}{(1.969)} \text{ MIN.}$
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	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
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	$\frac{8.00 \pm 0.20}{(0.315 \pm 0.008)}$
Reel Width	W ₁	$\frac{14.4}{(0.567)} \text{ MAX.}$
Quantity per Reel	--	3000

REV. 02/09

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