



## Features

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

## Applications

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

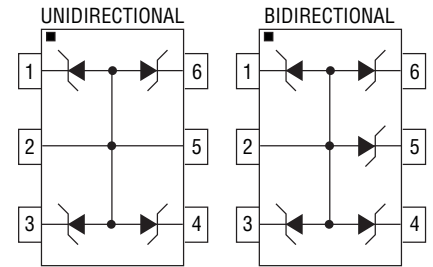
# CDSOT236-T05~T24C Series - TVS Diode Arrays

## General Information

Portable communications, computing and video equipment manufacturers 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<sub>A</sub> = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power (t <sub>p</sub> = 8/20 μs) <sup>1</sup>	P <sub>PP</sub>	350	W
Operating Temperature	T <sub>J</sub>	-55 to +150	°C
Storage Temperature	T <sub>STG</sub>	-55 to +150	°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 <sub>BR</sub>	6.0	6.0	13.3	13.3	16.7	16.7	26.7	26.7	V
Working Peak Voltage	V <sub>WM</sub>	5.0	5.0	12.0	12.0	15.0	15.0	24.0	24.0	V
Max. Clamping Voltage @ I <sub>P</sub> = 1 A	V <sub>C</sub>	9.8	9.8	19.0	19.0	24.0	24.0	43.0	43.0	V
Max. Clamping Voltage @ 8/20 μs @ I <sub>PP</sub>	V <sub>C</sub>	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
Max. Leakage Current @ V <sub>WM</sub>	I <sub>D</sub>	20	20	1	1	1	1	1	1	μA
Typ. Capacitance @ 0 V, 1 MHz	C <sub>J</sub>	150	150	80	80	50	50	40	40	pF

Notes:

1. See Peak Pulse Power vs. Pulse Time.



**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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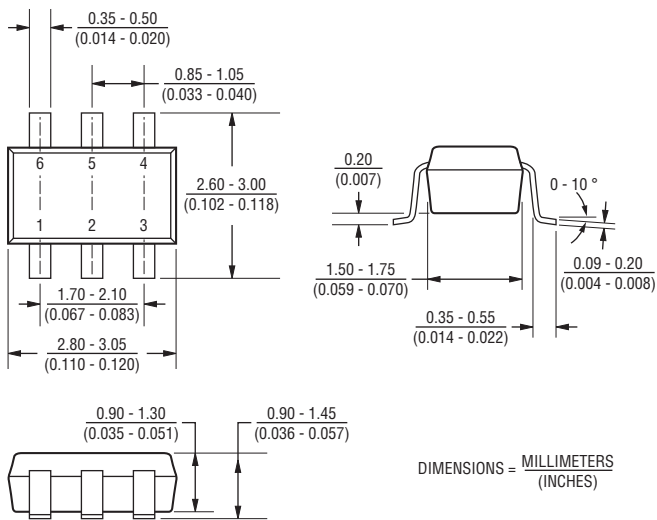
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**BOURNS®**

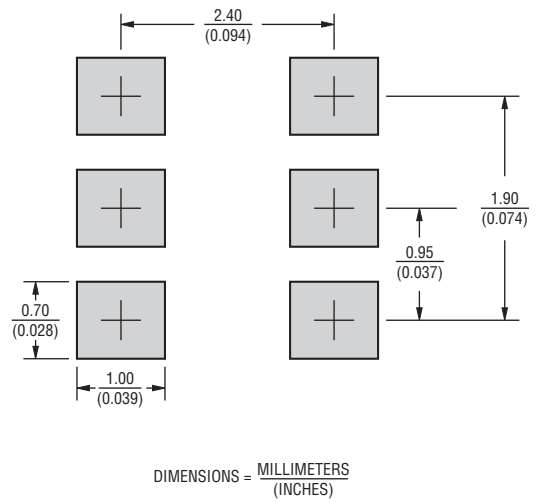
## Mechanical Characteristics

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.

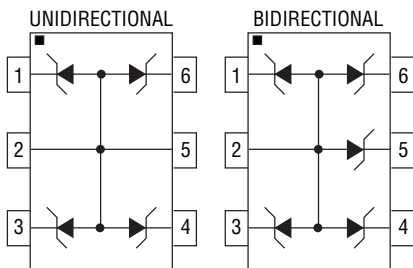
### Product Dimensions



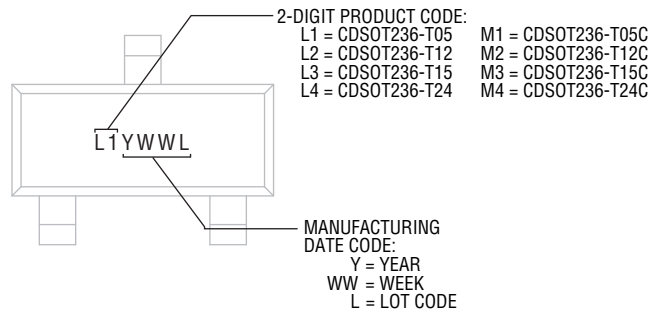
### Recommended Footprint



### Block Diagram



### Typical Part Marking



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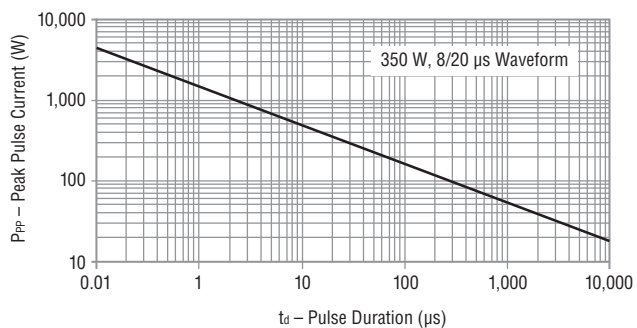
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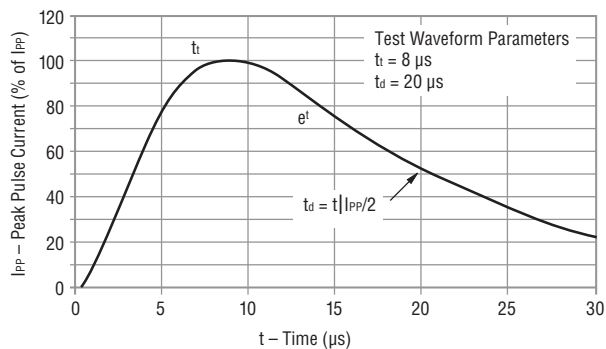


## Performance Graphs

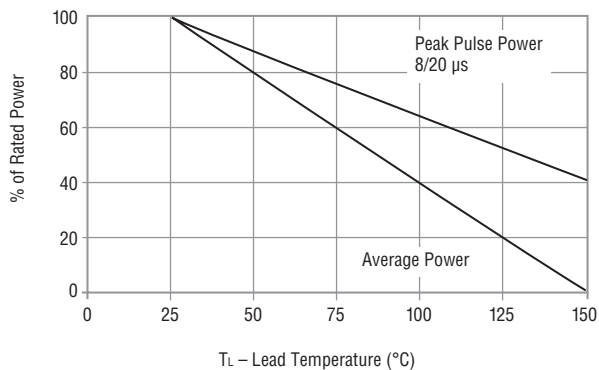
### Peak Pulse Power vs. Pulse Time



### Pulse Waveform



### Power Derating Curve



### How to Order

**CD SOT236 - T 05 C**

Common Code \_\_\_\_\_  
 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 \_\_\_\_\_

### Environmental Specifications

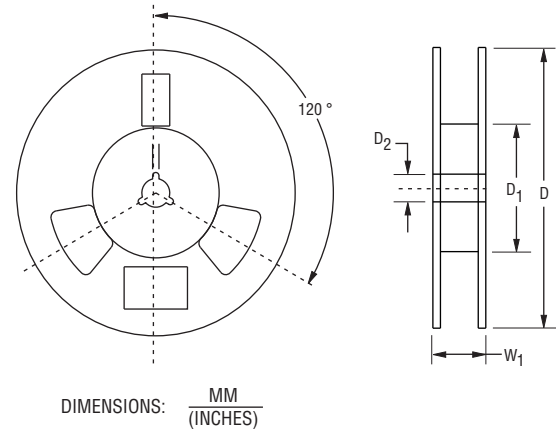
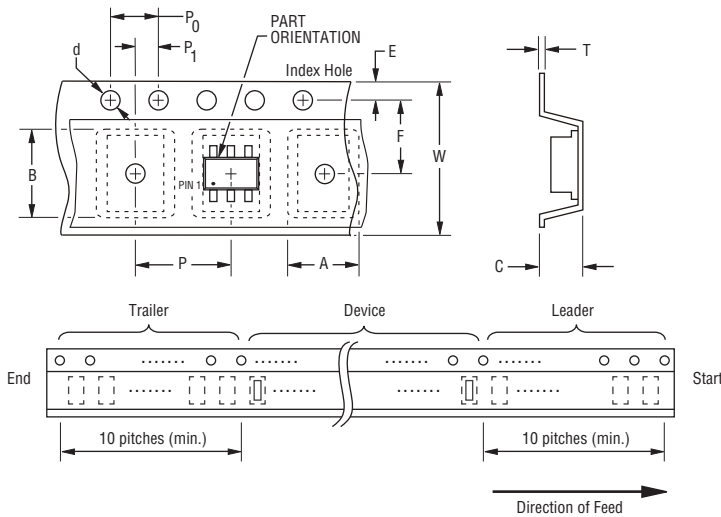
Moisture Sensitivity Level ..... 1  
 ESD Classification (HBM)..... 3B

# CDSOT236-T05~T24C Series - TVS Diode Arrays

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## Packaging Information

The product is packaged in tape and reel format per EIA-481 standard.



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 <sub>1</sub>	$\frac{50.0}{(1.969)}$ MIN.
Feed Hole Diameter	D <sub>2</sub>	$\frac{13.0 \pm 0.20}{(0.512 \pm 0.008)}$
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 <sub>0</sub>	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Embossment Center	P <sub>1</sub>	$\frac{2.00 \pm 0.05}{(0.079 \pm 0.002)}$
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 <sub>1</sub>	$\frac{14.4}{(0.567)}$ MAX.
Quantity per Reel	--	3000

**BOURNS®**

**Asia-Pacific:**

Tel: +886-2 2562-4117

Email: asiacus@bourns.com

**Europe:**

Tel: +36 88 885 877

Email: eurocus@bourns.com

**The Americas:**

Tel: +1-951 781-5500

Email: americus@bourns.com

[www.bourns.com](http://www.bourns.com)

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