

## Features

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

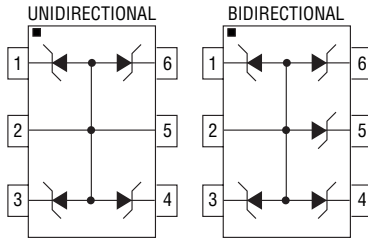
## CDSOT236-T05~T12C Series - TVS Diode Arrays

### 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 12 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.



### Additional Information

Click these links for more information:



### 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	
Min. Breakdown Voltage @ 1 mA	V <sub>BR</sub>	6.0	6.0	13.3	13.3	V
Working Peak Voltage	V <sub>WM</sub>	5.0	5.0	12.0	12.0	V
Max. Clamping Voltage @ I <sub>P</sub> = 1 A	V <sub>C</sub>	9.8	9.8	19.0	19.0	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	V
Max. Leakage Current @ V <sub>WM</sub>	I <sub>D</sub>	20	20	1	1	μA
Typ. Capacitance @ 0 V, 1 MHz	C <sub>J</sub>	150	150	80	80	pF

Notes:

1. See Peak Pulse Power vs. Pulse Time.



**CALIFORNIA WARNING:** Can expose you to lead, a carcinogen and reproductive toxicant. See [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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## Applications

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

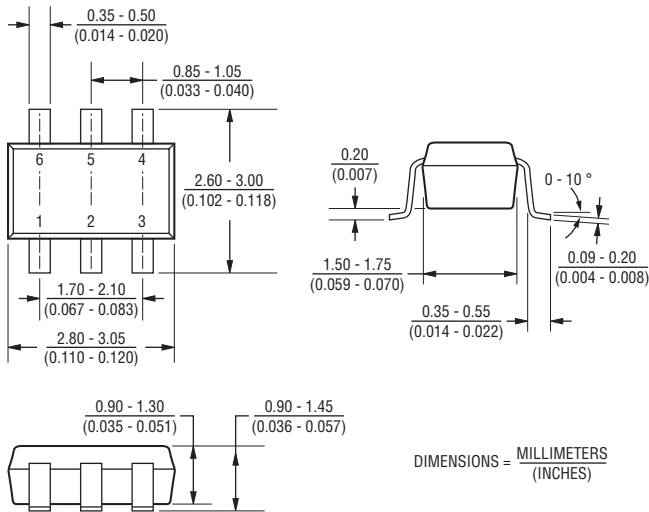
# CDSOT236-T05~T12C Series - TVS Diode Arrays

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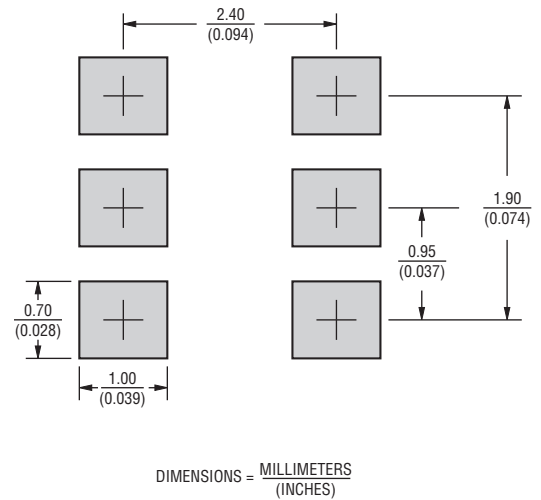
## Mechanical Characteristics

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.

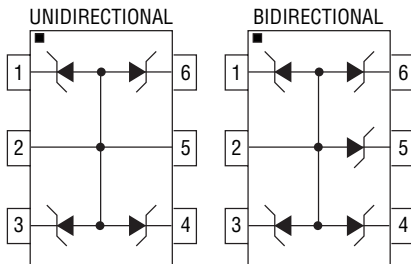
### Product Dimensions



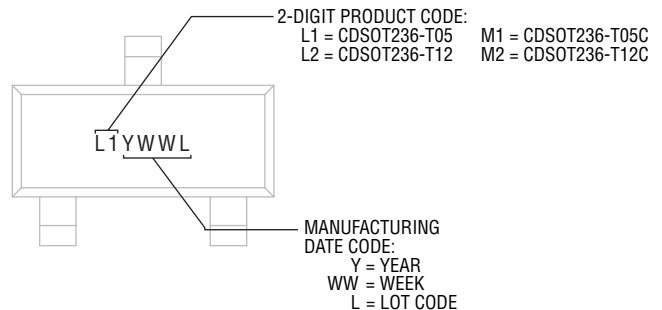
### Recommended Footprint



### Block Diagram



### Typical Part Marking



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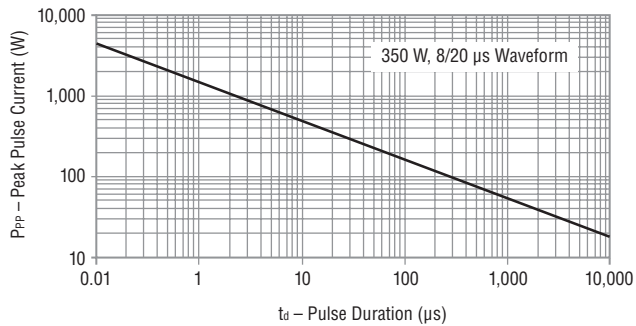
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# CDSOT236-T05~T12C Series - TVS Diode Arrays

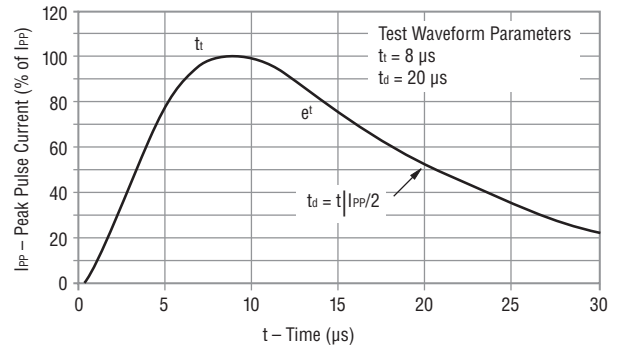


## Performance Graphs

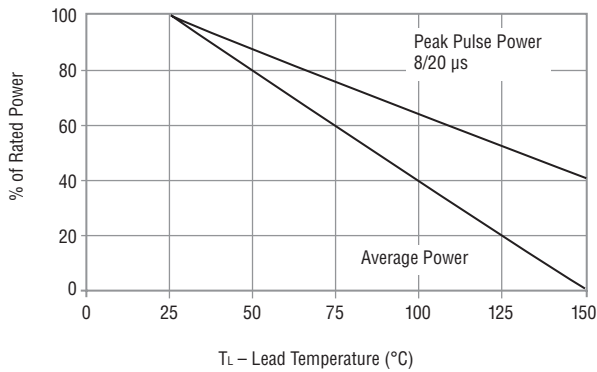
### Peak Pulse Power vs. Pulse Time



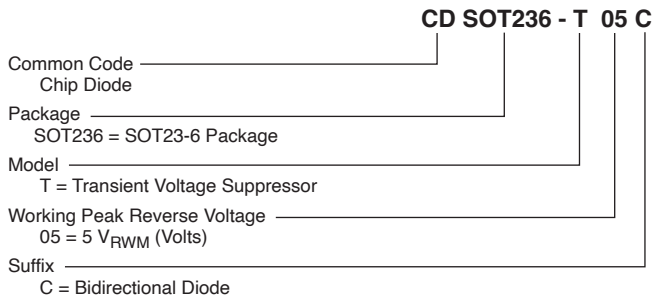
### Pulse Waveform



### Power Derating Curve



### How to Order



### Environmental Specifications

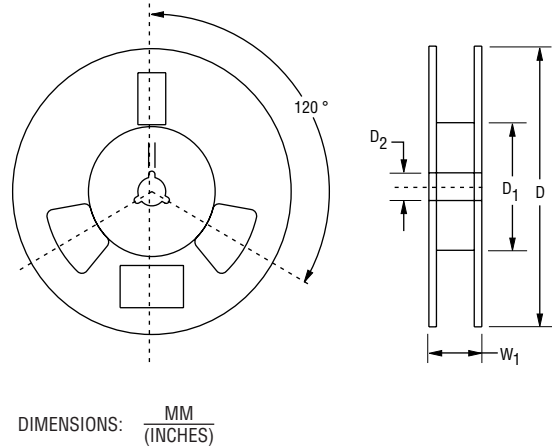
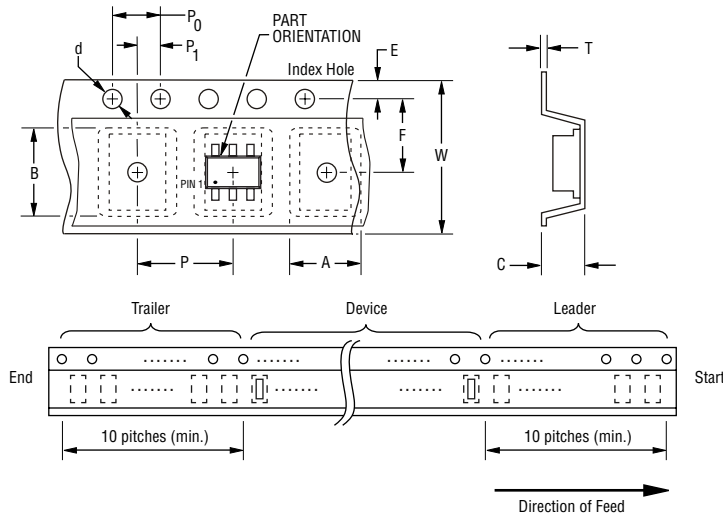
Moisture Sensitivity Level.....	1
ESD Classification (HBM).....	3B

# CDSOT236-T05~T12C 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](mailto:asiacus@bourns.com)

Europe: Tel: +36 88 885 877 • Email: [eurocus@bourns.com](mailto:eurocus@bourns.com)

Mexico: Tel: +52 614 478 0400 • Email: [mexicus@bourns.com](mailto:mexicus@bourns.com)

The Americas: Tel: +1-951 781-5500 • Email: [americus@bourns.com](mailto:americus@bourns.com)

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