

#### **Features**

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

Certain models are currently available but not recommended for new designs:
CDSOT236-T15
CDSOT236-T15C
CDSOT236-T24

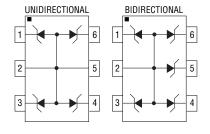
CDSOT236T24C

# CDS0T236-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.

#### **Additional Information**

Click these links for more information:









PRODUCT TECHNICAL INVENTORY SAMPLES
SELECTOR LIBRARY

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#### Electrical & Thermal Characteristics (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $t_p = 8/20 \mu s$ ) <sup>1</sup>	P <sub>PP</sub>	350	W
Operating Temperature	TJ	-55 to +150	°C
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C

		CDSOT236-								
Parameter	Symbol	Uni- T05	Bi- T05C	Uni- T12	Bi- T12C	Uni- T15	Bi- T15C	Uni- T24	Bi- T24C	Unit
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 @ IPP	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	μΑ
Typ. Capacitance @ 0 V, 1 MHz	CJ	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

### **Applications**

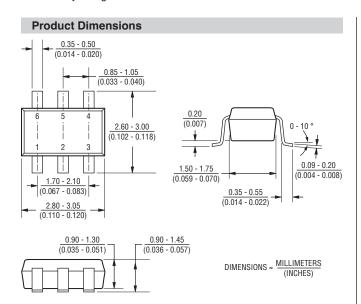
- Cell phones
- PDAs and notebooks
- Digital cameras
- GPS
- MP3 players

# CDS0T236-T05~T24C Series - TVS Diode Arrays

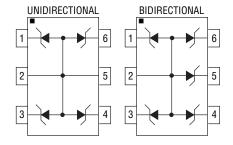
### **BOURNS**®

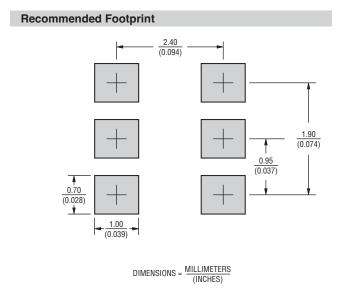
#### **Mechanical Characteristics**

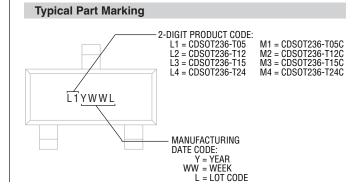
This is a molded JEDEC SOT23-6 package with lead free 100 % Tin (Sn) on the lead frame. It weighs approximately 15 mg and has a flammability rating of UL 94V-0.



#### **Block Diagram**





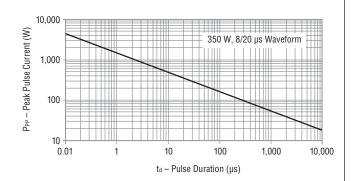


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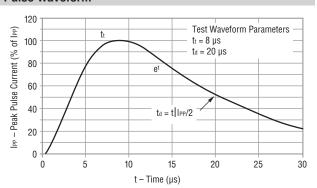
### BOURNS

#### **Performance Graphs**

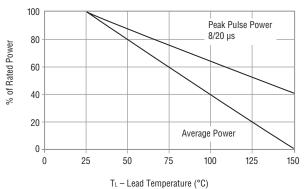
#### Peak Pulse Power vs. Pulse Time

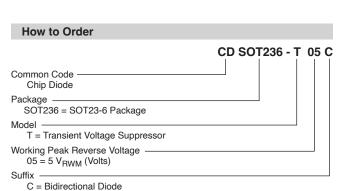


#### **Pulse Waveform**



#### **Power Derating Curve**





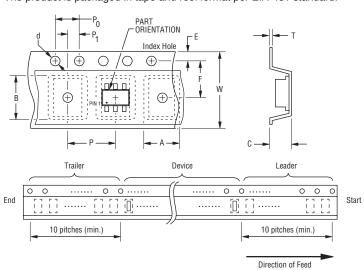
#### **Environmental Specifications**

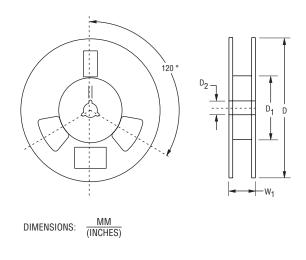
# CDS0T236-T05~T24C Series - TVS Diode Arrays

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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	А	$\frac{3.90 \pm 0.10}{(0.154 \pm 0.004)}$					
Carrier Length	В	$\frac{3.90 \pm 0.10}{(0.154 \pm 0.004)}$					
Carrier Depth	С	$\frac{0.90 \pm 0.10}{(0.035 \pm 0.004)}$					
Sprocket Hole	d	$\frac{1.55 \pm 0.05}{(0.061 \pm 0.002)}$					
Reel Outside Diameter	D	<u>178</u> (7.008)					
Reel Inner Diameter	D <sub>1</sub>	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	Е	$\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$					
Punch Hole Position	F	$\frac{3.50 \pm 0.05}{(0.138 \pm 0.002)}$					
Punch Hole Pitch	Р	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$					
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	Т	$\frac{0.20 \pm 0.10}{(0.008 \pm 0.004)}$					
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**®

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#### REV. 08/22

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