

## Features

- RoHS compliant\*
- Low capacitance ~ 2.5 pF
- ESD protection
- Surge protection

## Applications

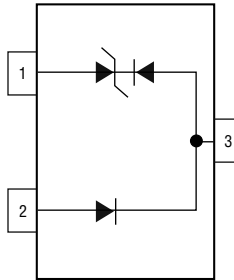
- Personal Digital Assistants (PDAs)
- Mobile phones & accessories
- Memory card protection
- SIM card port protection
- Portable electronics

# CDSOT23-SLVU2.8 - Surface Mount TVS Diode

### General Information

The CDSOT23-SLVU2.8 device provides ESD, EFT and Surge protection for high speed data ports meeting IEC 61000-4-2 (ESD), IEC 61000-4-4 (EFT) and IEC 61000-4-5 (Surge) requirements. The Transient Voltage Suppressor Array offers a Working Peak Reverse Voltage of 2.8 V and Minimum Breakdown Voltage of 3 V.

The SOT23 packaged device will mount directly onto the industry standard SOT23 footprint. Bourns® Chip Diodes conform to JEDEC standards, are easy to handle with standard pick and place equipment and the flat configuration minimizes roll away.



### Additional Information

Click these links for more information:



### Electrical 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>PK</sub>	600	W
Peak Pulse Current (t <sub>p</sub> = 8/20 μs)	I <sub>PPM</sub>	30	A
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C
Operating Temperature	T <sub>OPR</sub>	-55 to +150	°C
Minimum Breakdown Voltage @ 1 mA	V <sub>BR</sub>	3.0	V
Minimum Snap Back Voltage @ 50 mA	V <sub>BR</sub>	2.8	V
Maximum Working Peak Voltage	V <sub>WM</sub>	2.8	V
Maximum Leakage Current @ V <sub>WM</sub> (Pin 3 to Pin 1) or (Pin 2 to Pin 1)	I <sub>D</sub>	1.0	μA
Maximum Clamping Voltage @ I <sub>p</sub> = 2 A	V <sub>C</sub>	5.5	V
Maximum Clamping Voltage @ I <sub>p</sub> = 5 A (Pin 2 to Pin 1)	V <sub>C</sub>	7.0 8.5	V
Maximum Clamping Voltage @ I <sub>p</sub> = 30 A	V <sub>C</sub>	21.0	V
Typical Junction Capacitance @ 0 V, 1 MHz (Pin 3 to Pin 1 & Pin 2) (Pin 2 to Pin 1 with Pin 3 NC)	C <sub>D</sub>	20 2.5	pF
Maximum Junction Capacitance @ 0 V, 1 MHz	C <sub>D</sub>	3	pF
Maximum Peak Reverse Voltage @ I = 10 μA	V <sub>RRM</sub>	40	V
Maximum Reverse Leakage Current @ V <sub>WM</sub>	I <sub>DR</sub>	0.1	μA
Maximum Forward Voltage @ I <sub>F</sub> = 1 A, 120 μS	V <sub>F</sub>	2	V

Note:

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.

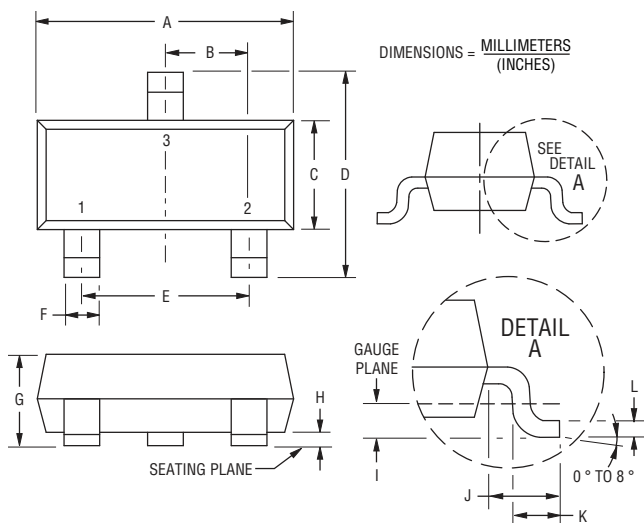
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# CDSOT23-SLVU2.8 - Surface Mount TVS Diode



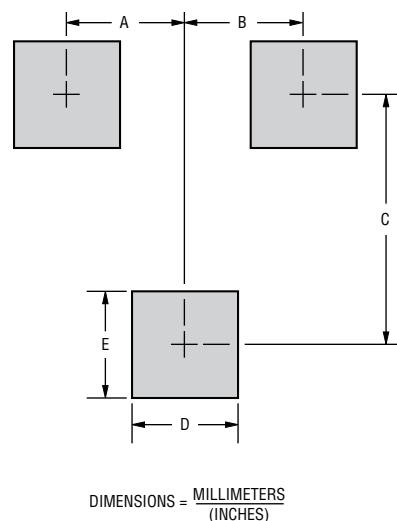
## Product Dimensions

This is a molded JEDEC SOT-323 package with 100 % Matte Sn plating on the lead frame. It weighs approximately 8 mg and has a flammability rating of UL 94V-0.



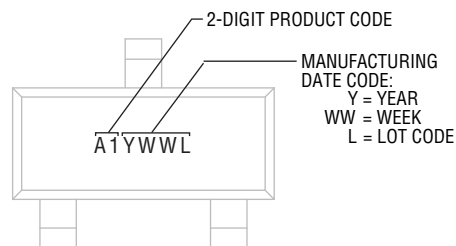
Dimensions	
A	$\frac{2.80 - 3.00}{(0.110 - 0.118)}$
B	$\frac{0.95}{(0.037)}$ BSC
C	$\frac{1.20 - 1.40}{(0.047 - 0.055)}$
D	$\frac{2.10 - 2.49}{(0.083 - 0.098)}$
E	$\frac{1.90}{(0.075)}$ BSC
F	$\frac{0.30 - 0.50}{(0.012 - 0.019)}$
G	$\frac{0.89 - 1.17}{(0.035 - 0.046)}$
H	$\frac{0.05 - 0.015}{(0.002 - 0.006)}$
I	$\frac{0.25}{(0.010)}$ BSC
J	$\frac{0.46 - 0.64}{(0.018 - 0.025)}$
K	$\frac{0.40 - 0.58}{(0.016 - 0.023)}$
L	$\frac{0.08 - 0.20}{(0.003 - 0.008)}$

## Recommended Footprint



Dimensions	
A	$\frac{0.95}{(0.037)}$
B	$\frac{0.95}{(0.037)}$
C	$\frac{2.00}{(0.079)}$
D	$\frac{0.85}{(0.033)}$
E	$\frac{0.85}{(0.033)}$

## Typical Part Marking



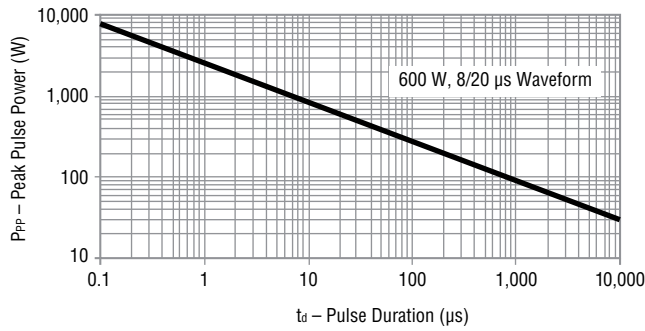
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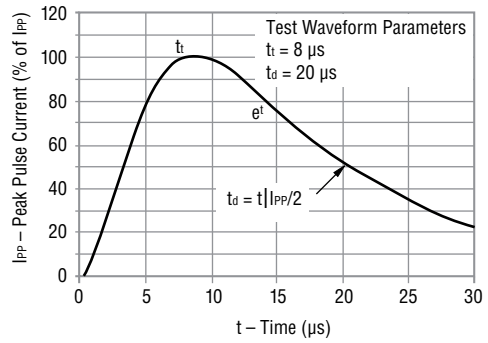


## Performance Graphs

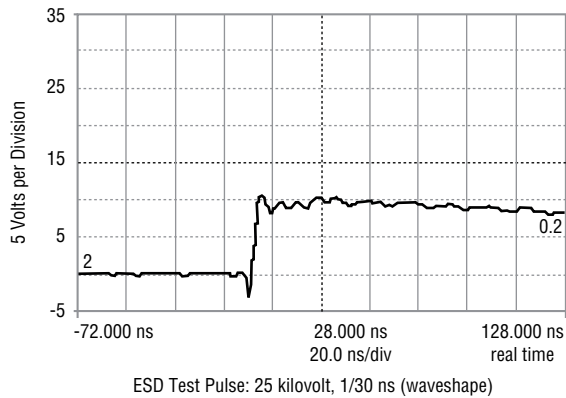
### Peak Pulse Power vs. Pulse Time



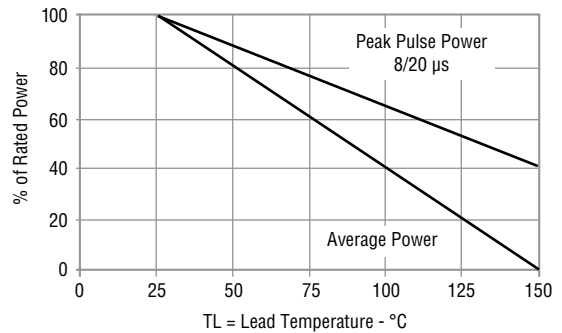
### Pulse Waveform



### Overshoot & Clamping Voltage



### Power Derating Curve



### How to Order

#### CD SOT23 - SLVU 2.8

Common Code \_\_\_\_\_  
 Chip Diode \_\_\_\_\_  
 Package \_\_\_\_\_  
 • SOT23 = SOT23 Package  
 Model \_\_\_\_\_  
 SLVU = Special Model  
 Working Peak Reverse Voltage \_\_\_\_\_  
 2.8 = 2.8  $V_{RWM}$  (Volts)

### Environmental Specifications

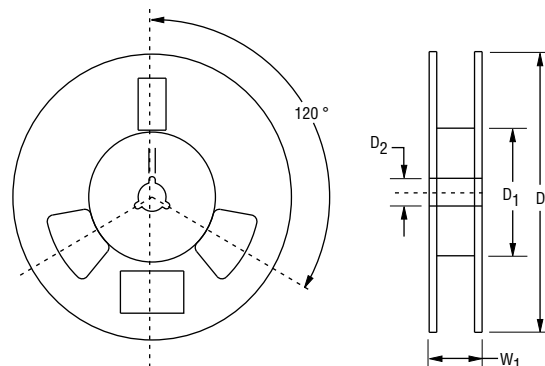
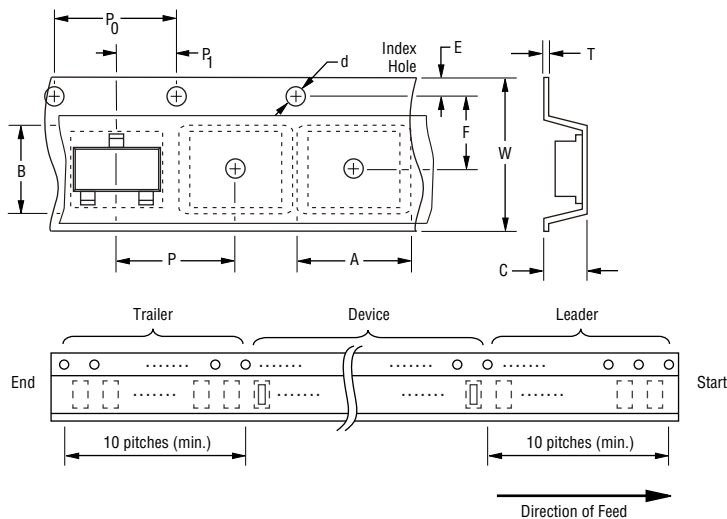
Moisture Sensitivity Level ..... 1  
 ESD Classification (HBM) ..... 3B

# CDSOT23-SLVU2.8 - Surface Mount TVS Diode



## Packaging Information

The surface mount product is packaged in an 8 mm x 4 mm tape and reel format per EIA-481 standard.



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

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

Item	Symbol	SOT23
Carrier Width	A	$\frac{2.25 \pm 0.10}{(0.088 \pm 0.004)}$
Carrier Length	B	$\frac{2.34 \pm 0.10}{(0.092 \pm 0.004)}$
Carrier Depth	C	$\frac{1.22 \pm 0.10}{(0.048 \pm 0.004)}$
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	--	3,000



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