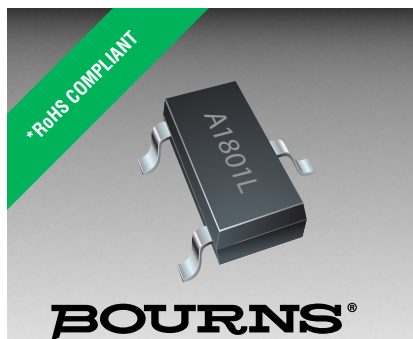




Features

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

Applications

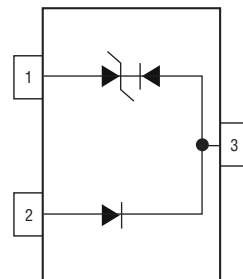
- Personal Digital Assistants (PDAs)
- Mobile phones & accessories
- Memory card protection
- SIM card port protection
- Portable electronics

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.



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

Parameter	Symbol	Value	Unit
Peak Pulse Power (t _p = 8/20 μs) ¹	P _{PK}	600	W
Peak Pulse Current (t _p = 8/20 μs)	I _{PPM}	30	A
Storage Temperature	T _{STG}	-55 to +150	°C
Operating Temperature	T _{OPR}	-55 to +150	°C
Minimum Breakdown Voltage @ 1 mA	V _{BR}	3.0	V
Minimum Snap Back Voltage @ 50 mA	V _{BR}	2.8	V
Maximum Working Peak Voltage	V _{WM}	2.8	V
Maximum Leakage Current @ V _{WM} (Pin 3 to Pin 1) or (Pin 2 to Pin 1)	I _D	1.0	μA
Maximum Clamping Voltage @ I _p = 2 A	V _C	5.5	V
Maximum Clamping Voltage @ I _p = 5 A (Pin 2 to Pin 1)	V _C	7.0 8.5	V
Maximum Clamping Voltage @ I _p = 30 A	V _C	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 _D	20 2.5	pF
Maximum Junction Capacitance @ 0 V, 1 MHz	C _D	3	pF
Maximum Peak Reverse Voltage @ I = 10 μA	V _{RRM}	40	V
Maximum Reverse Leakage Current @ V _{WM}	I _{DR}	0.1	μA
Maximum Forward Voltage @ I _F = 1 A, 120 μS	V _F	2	V

Note:

1. See Peak Pulse Power vs. Pulse Time.



WARNING Cancer and Reproductive Harm - 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.

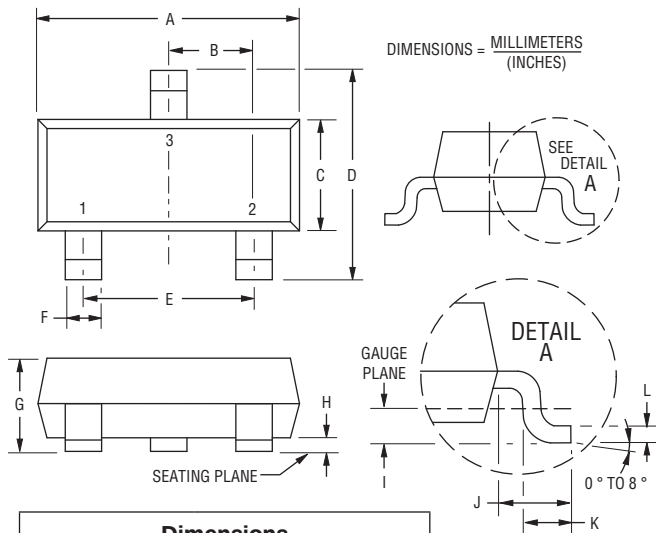
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CDSOT23-SLVU2.8 - Surface Mount TVS Diode

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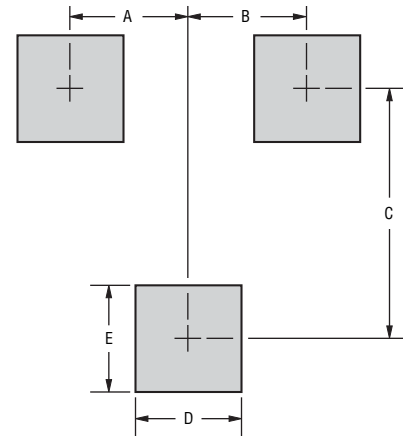
Product Dimensions

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	$\frac{0.08 - 0.20}{(0.003 - 0.008)}$

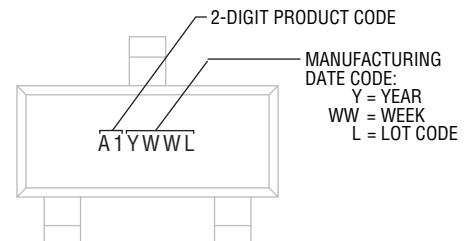
Recommended Footprint



DIMENSIONS = MILLIMETERS
(INCHES)

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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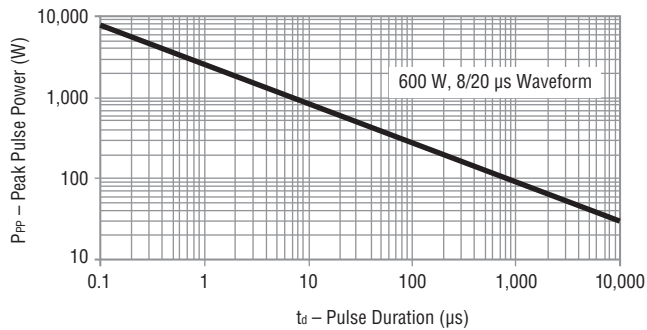
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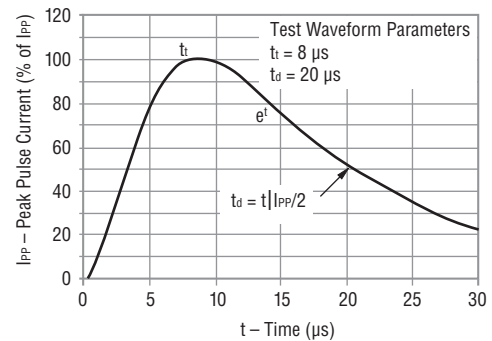
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Performance Graphs

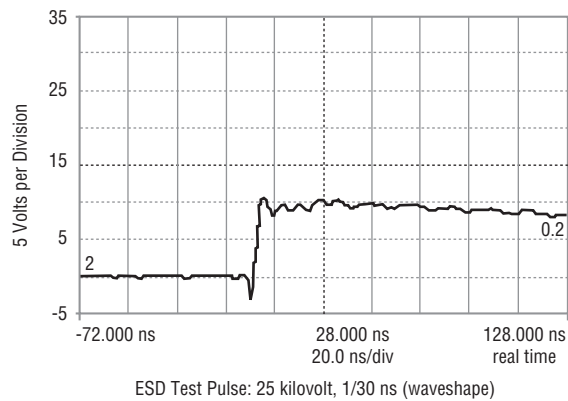
Peak Pulse Power vs. Pulse Time



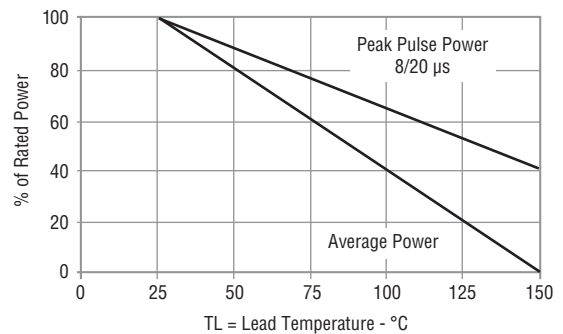
Pulse Waveform



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 Level1
 ESD Classification (HBM).....3B

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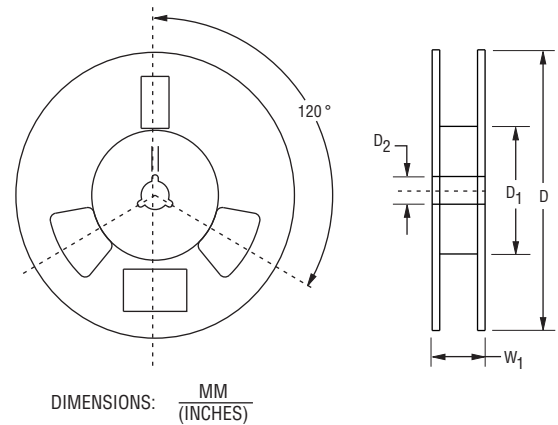
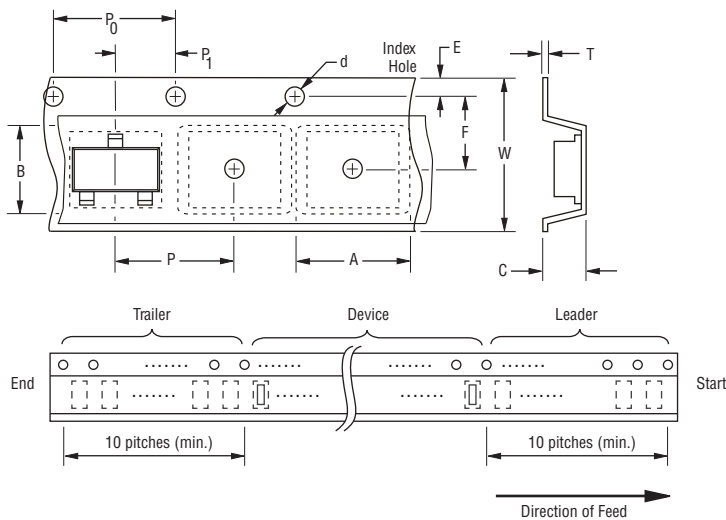
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CDSOT23-SLVU2.8 - Surface Mount TVS Diode

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Packaging Information

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



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 ₁	$\frac{50.0}{(1.969)}$ 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	$\frac{14.4}{(0.567)}$ MAX.
Quantity per Reel	--	3,000

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