

Features

- RoHS compliant*
- Protects four lines
- ESD protection
- Low capacitance - 3.5 pF

Applications

- Ethernet - 10/100/100 Base T
- Cellular phones
- Video/graphics cards
- USB 2.0 interface
- DVI interface

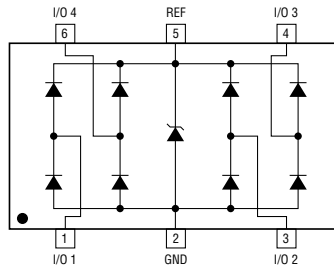
CDSOT23-SRV05-4 – Steering Diode TVS Array Combo

General Information

The markets of portable communications, computing and video equipment are challenging the semiconductor industry to develop increasingly smaller electronic components.

Bourns offers Transient Voltage Suppressor Array diodes for surge and ESD protection applications, in compact chip package SOT23-6 size. 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 assist in meeting 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 Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Min.	Nom.	Max.	Unit
Peak Pulse Current ($t_p = 8/20 \mu s$)	I_{PP}			30	A
Peak Pulse Power ($t_p = 8/20 \mu s$) ¹	P_{PP}			500	W
Working Peak Reverse Voltage	V_{WM}			5	V
Breakdown Voltage @ 1 mA	V_{BR}	6			V
Leakage Current @ V_{WM}	I_D			5	μA
Capacitance	$C_{j(SD)}$		3.5	5	pF
Forward Surge Rating (1/20 s @ 25 °C, $I_F = 10$ mA)	V_F			1.5	V
Clamping Voltage (per IEC 61000-4-5) 8/20 μs)	@ $I_{PP} = 1$ A	V_C		12	V
	@ $I_{PP} = 5$ A			15	
ESD Protection (per IEC 61000-4-2) Contact Discharge Air Discharge	ESD			30 30	kV
EFT Protection (per IEC 61000-4-4 Level 4 I/O, Signal, Data & Control Lines @ 5/50 ns)	EFT			2	kV

Notes:

1. See Peak Pulse Power vs. Pulse Time.

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

Parameter	Symbol	Min.	Nom.	Max.	Unit
Operating Temperature	T_J	-55	+25	+150	°C
Storage Temperature	T_{STG}	-55	+25	+150	°C



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. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

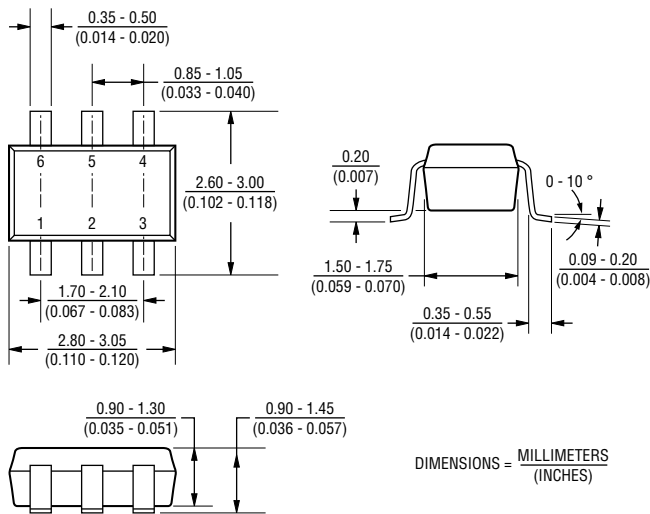
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Mechanical Characteristics

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

Product Dimensions



How to Order

CD SOT23 - SRV 05 - 4

Common Code _____
 CD = Chip Diode

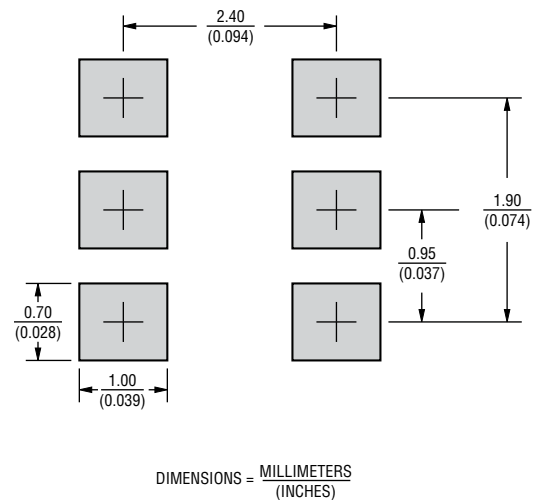
Package _____
 SOT23 = SOT23-6 Package

Model _____
 SRV = Steering Diode Array

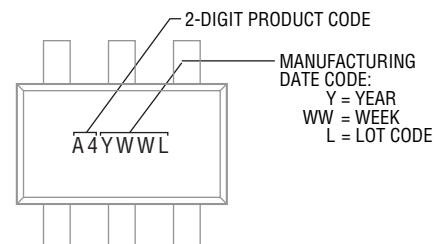
Working Peak Reverse Voltage _____
 05 = 5 V_{RWM} (Volts)

Number of Protection Lines _____

Recommended Footprint



Typical Part Marking



Environmental Specifications

Moisture Sensitivity Level 1
 ESD Classification (HBM) 3B

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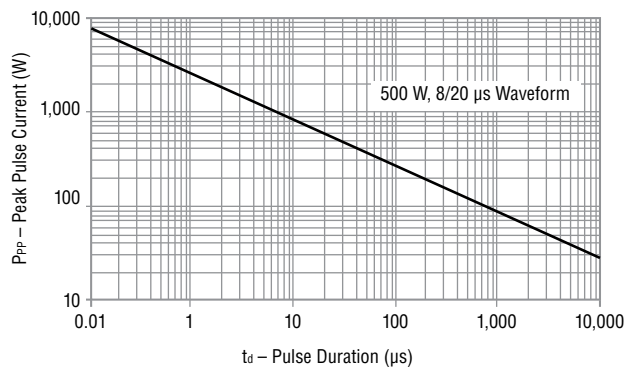
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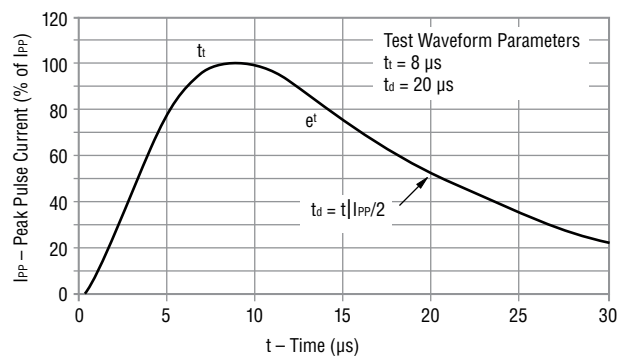
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Performance Graphs

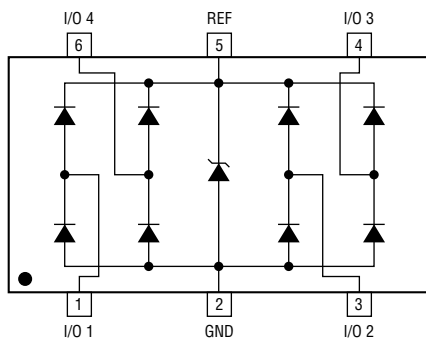
Peak Pulse Power vs. Pulse Time



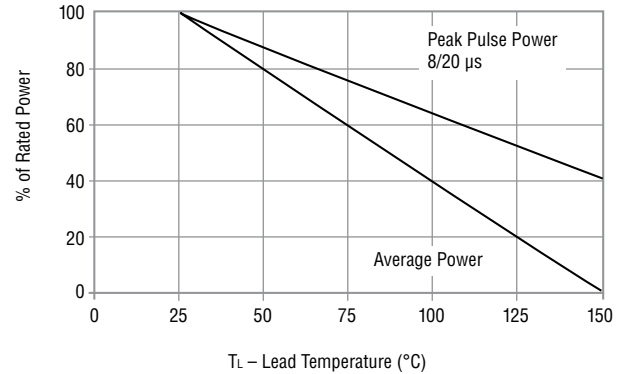
Pulse Waveform



Block Diagram



Power Derating Curve



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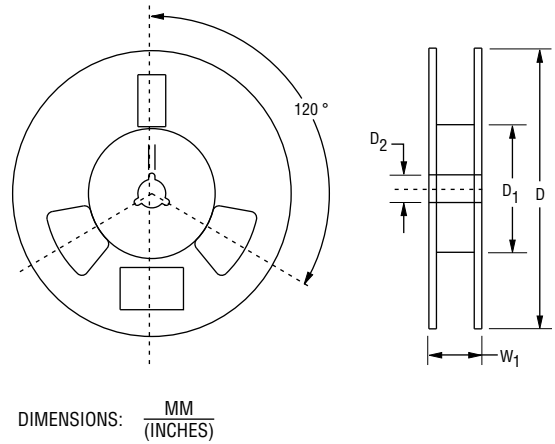
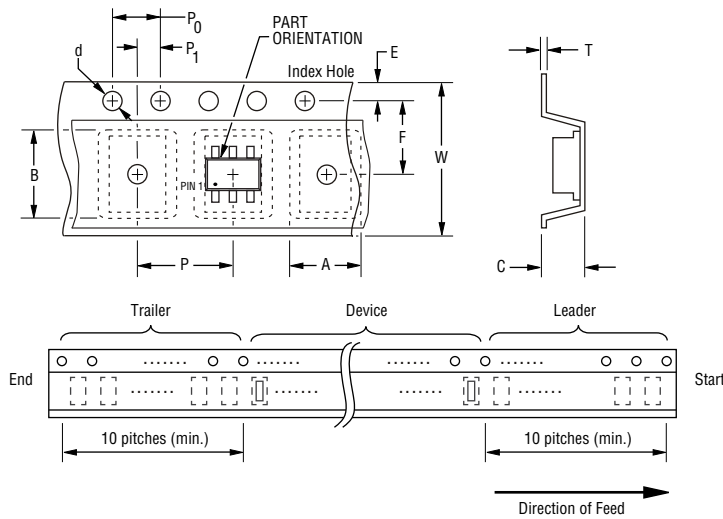
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Packaging Information

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 ₁	$\frac{50.0}{(1.969)} \text{ MIN.}$
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	$\frac{14.4}{(0.567)} \text{ MAX.}$
Quantity per Reel	--	3000

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