

Features

- Lead free as standard
- RoHS compliant*
- Protects 1 line
- ESD protection > 40 KV

Applications

- RS-232, RS-422 & RS-423 data lines
- Portable electronics
- Wireless bus protection
- Control & monitoring systems

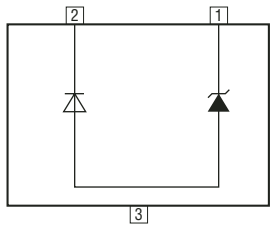
CDSOT23-T03LC~T36LC – Low Capacitance TVS Diode Array Series

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 size format. The Transient Voltage Supressor Array series offers a choice of voltage types ranging from 3 V to 36 V. 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.



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

Parameter	Symbol	Value	Unit
Operating Temperature	T_J	-55 to +150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

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

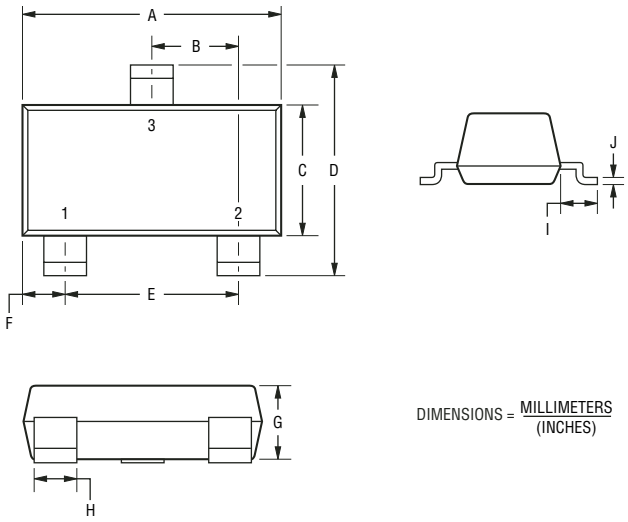
Parameter	Symbol	CDSOT23-							Unit
		T03LC	T05LC	T08LC	T12LC	T15LC	T24LC	T36LC	
Breakdown Voltage @ 1 mA	V_{BR}	4.0	6.0	8.5	13.3	16.7	26.7	40.0	V
Working Peak Voltage	V_{WM}	3.3	5.0	8.0	12.0	15.0	24.0	36.0	V
Maximum Clamping Voltage V_C @ I_P[1]	V_F	7.0	9.8	13.4	19.0	24.0	43.0	51.0	V
Maximum Clamping Voltage @ 8/20 µs V_C @ I_{PP}[1]	V_F	10.9 V @ 43 A	13.5 V @ 42 A	16.9 V @ 34 A	25.9 V @ 27 A	30.0 V @ 17 A	49.0 V @ 12 A	76.8 V @ 9 A	V
Maximum Leakage Current @ V_{WM}	I_D	125	20	10	2	1	1	1	µA
Maximum Cap Bidirectional @ 0 V, 1 MHz	$C_{j(SD)}$	5	5	5	5	5	5	5	pF
Peak Pulse Power (tp = 8/20 µs)[2]	P_{PP}	500							W

Notes:
1. See Pulse Wave Form.
2. See Peak Pulse Power vs. Pulse Time.
3. Positive Potential is applied from Pin 1 to Pin 2 with Pin 2 as ground.
4. Do not test or surge from Pin 2 to Pin 1.

*RoHS Directive 2002/95/EC Jan 27 2003 including Annex
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

Product Dimensions

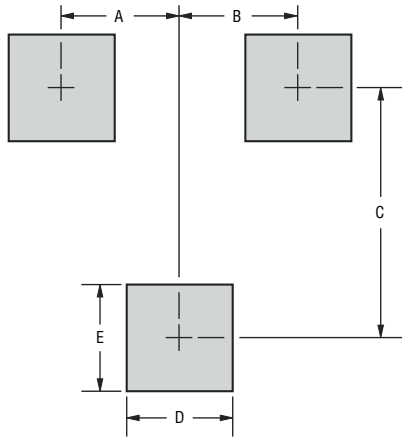
This is a molded JEDEC SOT-23 package with lead free 100 % Sn plating on the lead frame. It weighs approximately 0.6 g and has a flammability rating of UL 94V-0.



DIMENSIONS = MILLIMETERS / (INCHES)

Dimensions	
A	2.80 - 3.04 (0.1102 - 0.1197)
B	0.89 - 1.02 (0.0350 - 0.0401)
C	1.20 - 1.40 (0.0472 - 0.0551)
D	2.10 - 2.50 (0.0830 - 0.0984)
E	1.78 - 2.04 (0.0701 - 0.0807)
F	0.45 - 0.60 (0.0177 - 0.0236)
G	1.78 - 2.04 (0.0701 - 0.0807)
H	0.34 - 0.50 (0.0150 - 0.0200)
I	0.45 - 0.60 (0.0180 - 0.0236)
J	0.085 - 0.177 (0.0034 - 0.0070)

Recommended Footprint



DIMENSIONS = MILLIMETERS / (INCHES)

Dimensions	
A	0.95 (0.037)
B	0.95 (0.037)
C	2.00 (0.079)
D	0.85 (0.033)
E	0.85 (0.033)

How To Order

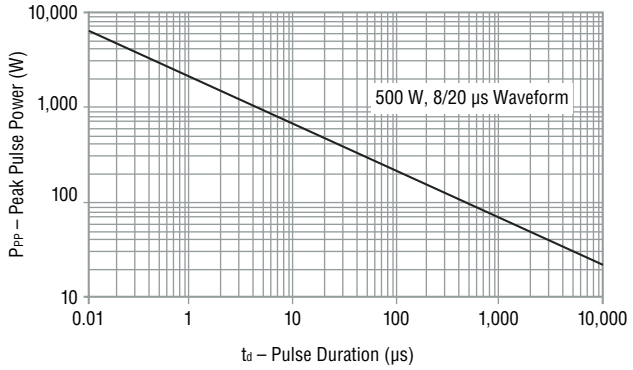
CD S0T23 - T 03 LC

- Common Code: Chip Diode
- Package: • S0T23 = S0T23 Package
- Model: T = Transient Voltage Supressor
- Working Peak Voltage: 3 = 3 V_{RWM} (Volts)
- Suffix: LC = Low Capacitance Diode

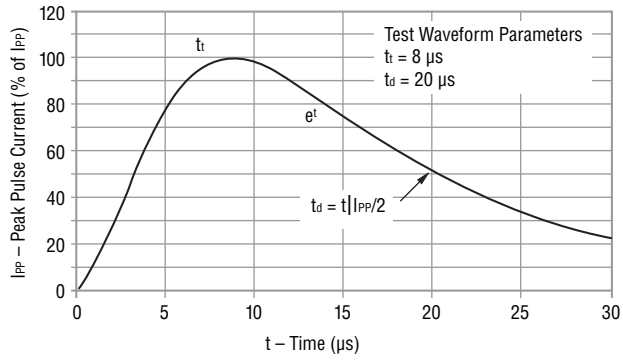
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Performance Graphs

Peak Pulse Power vs Pulse Time

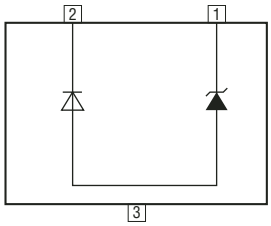


Pulse Wave Form

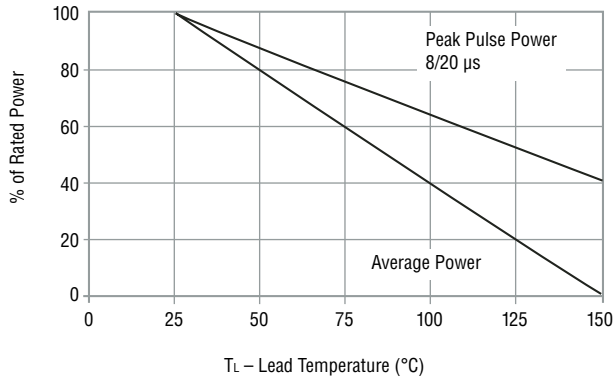


Block Diagram

The device block diagram below includes the pin names and basic electrical connections.



Power Derating Curve



Typical Part Marking

CDSOT23-T03LC 03L

CDSOT23-T05LC 05L

CDSOT23-T08LC 08L

CDSOT23-T12LC 12L

CDSOT23-T15LC 15L

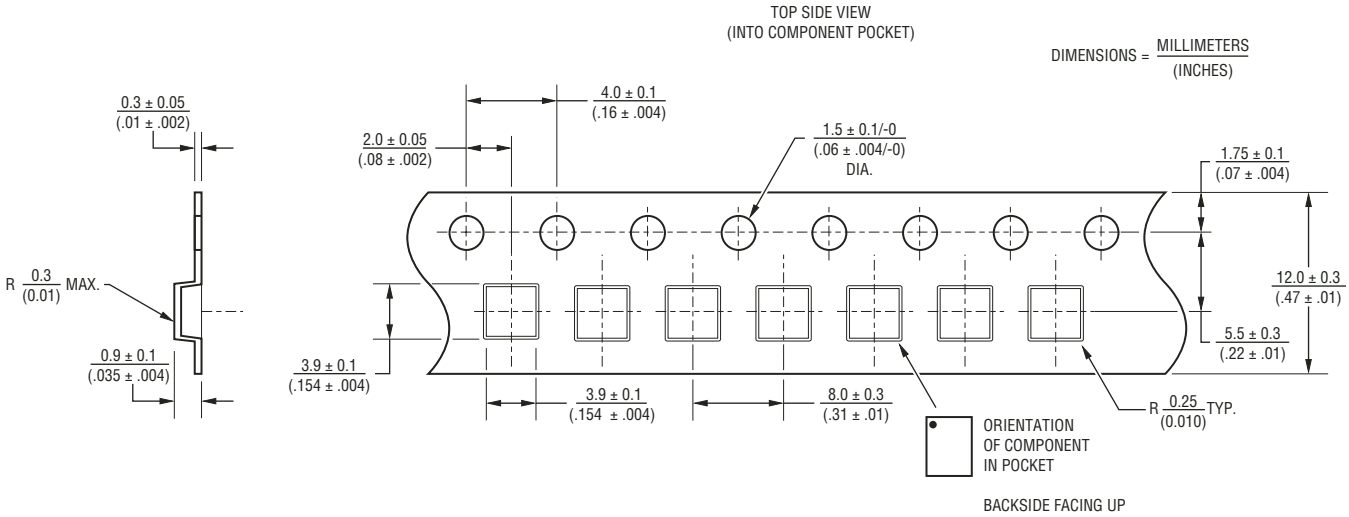
CDSOT23-T24LC 24L

CDSOT23-T36LC 36L

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Packaging

The surface mount product is packaged in a 12 mm x 8 mm Tape and Reel format per EIA-481 standard.



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