

#### **Features**

- Lead free as standard
- RoHS compliant\*
- Low capacitance 2 pF
- ESD protection >15 kV

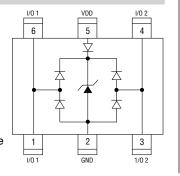


# CDSOT563-0502 - Surface Mount TVS Diode Array

#### **General Information**

The CDSOT563-0502 device provides ESD and EFT protection for high speed data ports meeting IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements. The Transient Voltage Suppressor array offers a Working Peak Reverse Voltage of 5 V and Minimum Breakdown Voltage of 6 V.

The SOT563 packaged device will mount directly onto the industry standard SOT563 footprint. Bourns® Chip Diodes 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:









PRODUCT TECHNICAL INVENTORY SAMPLES

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

Parameter	Symbol	Test Condition	Min.	Тур.	Max.	Unit
Peak Pulse Current	I <sub>PPM</sub>	$(t_p = 8/20 \ \mu s)$			6	Α
Storage Temperature	TSTG		-55	+25	+150	°C
Operating Temperature	TOPR		-40	+25	+125	°C
Working Peak Voltage	V <sub>WM</sub>				5	V
Breakdown Voltage	V <sub>BR</sub>	@ 1 mA, Pin 5 to Pin 2	6		9	V
Leakage Current @ V <sub>WM</sub>	ΙL	$V_{pin5} = 5 \text{ V}, V_{pin2} = 0 \text{ V}, Pin 5 \text{ to Pin 2}$			5	$\mu$ A
Channel Leakage Current @ V <sub>WM</sub>	lСН	V <sub>pin5</sub> = 5 V, V <sub>pin2</sub> = 0 V, Any I/O to Pin 2			1	μΑ
Forward Voltage	V <sub>F</sub>	@ If =15 mA		0.8	1	V
Clamping Voltage	V <sub>clamp_</sub> VDD	$I_{PP} = 5 \text{ A}, t_p = 8/20 \mu \text{s}$		9		V
Channel Input Capacitance	C <sub>IN-1</sub>	V <sub>pin5</sub> = 5 V, V <sub>pin2</sub> = 0 V, V <sub>IN</sub> = 2.5 V, f = 1 MHz		2	2.5	рF
Channel Input Capacitance	C <sub>IN-2</sub>	$V_{pin5}$ = floated, $V_{pin2}$ = 0 V, $V_{IN}$ = 2.5 V, f = 1 MHz	2.8		3.6	pF
Channel to Channel Input Capacitance	CCROSS-1	V <sub>pin5</sub> = 5 V, V <sub>pin2</sub> = 0 V, V <sub>IN</sub> = 2.5 V, f = 1 MHz	0.4		0.5	pF
Channel to Channel Input Capacitance	C <sub>CROSS-2</sub>	$V_{pin5}$ = floated, $V_{pin2}$ = 0 V, $V_{IN}$ = 2.5 V, f = 1 MHz		0.55	0.65	pF



WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

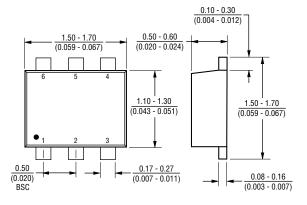
### **Applications**

- Personal Digital Assistant (PDAs)
- Mobile phones and accessories
- Portable electronics
- ADSL / VDSL cards

# CDS0T563-0502 - Surface Mount TVS Diode Array

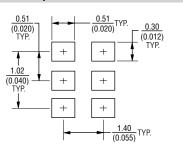
#### **Product Dimensions**

This is a molded SOT563 package with lead free 100 % Matte Sn on the lead frame. It weighs approximately 3 mg and has a flammability rating of UL 94V-0.



DIMENSIONS = MILLIMETERS (INCHES)

#### **Recommended Footprint**

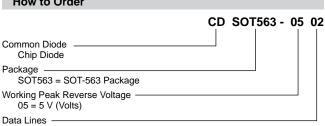


#### **Typical Part Marking**

CDSOT563-0502......52XY ("X" = Date Code; "Y" = Package House)

#### How to Order

02 = 2 Data Lines

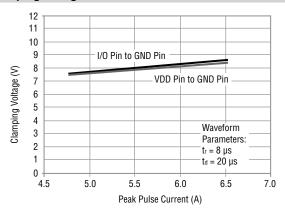


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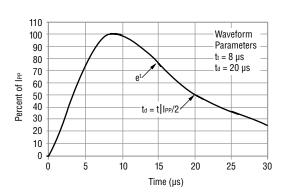
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#### **Rating & Characteristic Curves**

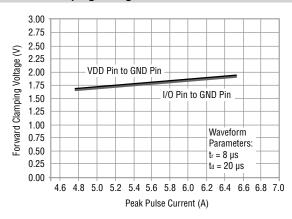
#### Clamping Voltage vs. Peak Pulse Current



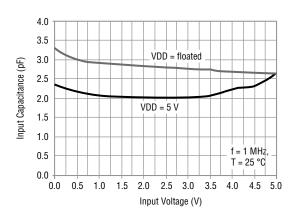
#### **Pulse Waveform**



#### Forward Clamping Voltage vs. Peak Pulse Current



#### Typical Variation of CIN vs. VIN

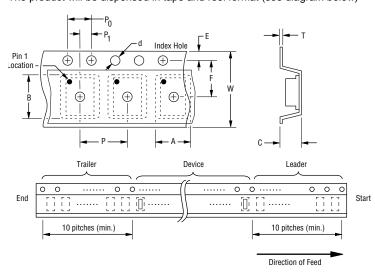


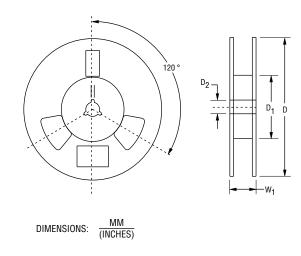
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#### **Packaging Information**

The product will be dispensed in tape and reel format (see diagram below)





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

Item	Symbol	SOT563
Carrier Width	А	$\frac{1.78 \pm 0.05}{(0.069 \pm 0.002)}$
Carrier Length	В	$\frac{1.78 \pm 0.05}{(0.069 \pm 0.002)}$
Carrier Depth	С	$\frac{0.69 \pm 0.05}{(0.027 \pm 0.002)}$
Sprocket Hole	d	$\frac{1.55 \pm 0.05}{(0.061 \pm 0.002)}$
Reel Outside Diameter	D	178 (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	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	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>	14.4 (0.567) MAX.
Quantity per Reel		3000

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#### REV. 04/22

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