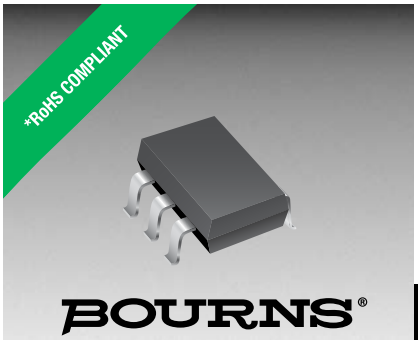


Features

- RoHS compliant*
- Low capacitance - 0.55 pF
- ESD protection >15 kV
- Protects 4 I/O and 1 V_{DD} line

Applications

- HDMI 1.4
- Digital Visual Interface (DVI)
- USB 3.0 / USB OTG
- Memory protection
- SIM card ports

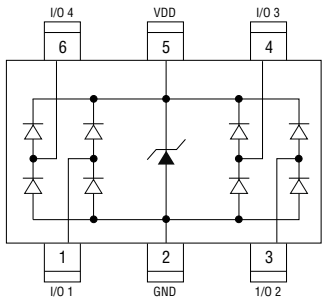
BOURNS®

CDSOT236-0504LC - TVS/Steering Diode Array

General Information

The CDSOT236-0504LC 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 5 V and Minimum Breakdown Voltage of 6 V.

The SOT23-6L packaged device will mount directly onto the industry standard SOT23-6L footprint. Bourns® Chip Diodes are easy to handle with standard pick and place equipment and their flat configuration minimizes roll away.



Additional Information

Click these links for more information:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

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

Parameter	Symbol	CDSOT236-0504LC	Unit
Peak Pulse Current (t_p = 8/20 μs)	I_{PP}	4.7	A
Storage Temperature	T_{STG}	-55 to +150	°C
Operating Temperature	T_{OPR}	-55 to +85	°C
Operating Supply Voltage	V_{DC}	6	V
ESD per IEC 61000-4-2 (Air) (I/O Pins) ESD per IEC 61000-4-2 (Contact) (I/O Pins)	V_{ESD_IO}	19 12	kV
ESD per IEC 61000-4-2 (Air) (V_{CC} to GND) ESD per IEC 61000-4-2 (Contact) (VCC to GND)	V_{ESD_VCC}	30 30	kV
DC Voltage at any I/O Pin	V_{IO}	(GND-0.5) to (V_{CC}+0.5)	V

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

Parameter	Symbol	CDSOT236-0504LC	Unit
Maximum Reverse Standoff Voltage[1]	V_{RWM}	5.0	V
Maximum Leakage Current[1] @ V_{RWM}	I_L	5.0	μA
Maximum Channel Leakage Current @ V_{RWM}	I_{CD}	1.0	μA
Minimum Reverse Breakdown Voltage[1] @ I_{BV} = 1 mA	V_{BR}	6.0	V
Maximum Forward Voltage[4] @ I_F = 15 mA	V_F	1.0	V
Typical Clamping Voltage[2]	V_C	8.1	V
Typical ESD Clamping Voltage - I/O[2]	V_{clamp_io}	12	V
Typical ESD Clamping Voltage - V_{CC}[1]	V_{clamp_VCC}	9.0	V
Maximum Channel Input Capacitance[2] @ V_{PIN5} = 5 V, V_{PIN2} = 0 V, V_{IN} = 2.5 V, f = 1 MHz	C_{IN}	0.65	pF
Maximum Channel to Channel Input Capacitance[3] @ V_{PIN5} = 5 V, V_{PIN2} = 0 V, V_{IN} = 2.5 V, f = 1 MHz	C_{CROSS}	0.06	pF
Maximum Variation of Channel Input Capacitance @ V_{PIN5} = 5 V, V_{PIN2} = 0 V, V_{IN} = 2.5 V, f = 1 MHz (I/O Pin to GND)	ΔC_{IN}	0.06	pF

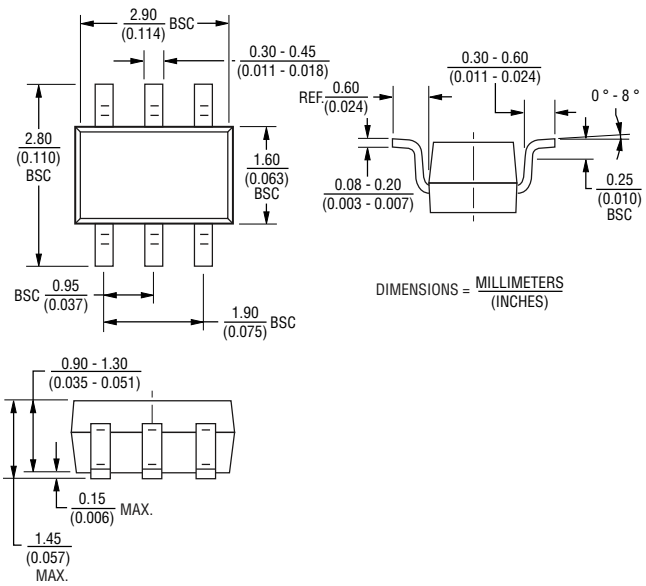
NOTES:
1. Pin 5 to Pin 2 (GND)
2. Pin 1,3,4 or 6 to Pin 2 (GND)
3. Between any two of Pins 1,3,4,6
4. Pin 2 (GND) to Pin 5

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

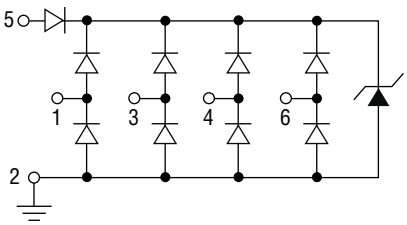
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

Product Dimensions

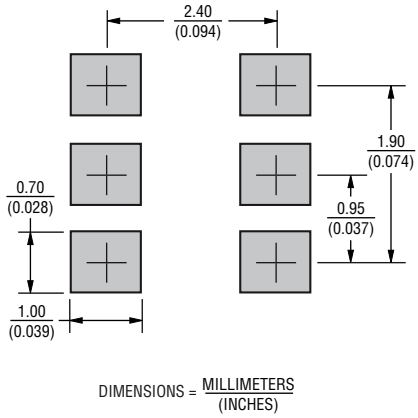
This is a molded SOT23-6L package with lead free 100 % Matte Sn on the lead frame. It weighs approximately 3 mg and has a flammability rating of UL 94V-0.



Circuit Diagram



Recommended Footprint



Typical Part Marking

CDSOT236-0504LC 54L

How to Order

CD SOT236 - 05 04 LC

Common Code
Chip Diode

Package
SOT236 = SOT23-6L Package

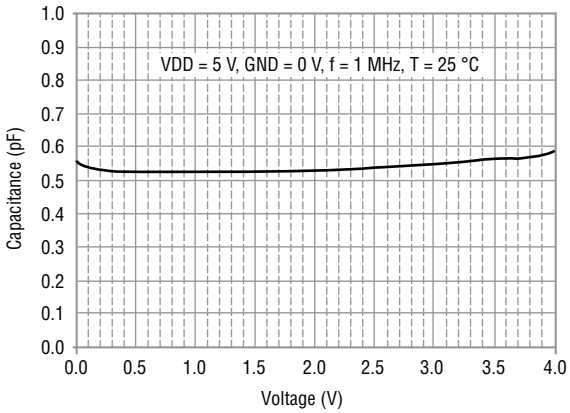
Working Peak Reverse Voltage
05 = 5 V_{RWM} (Volts)

Number of Lines
04 = 4 Data Lines

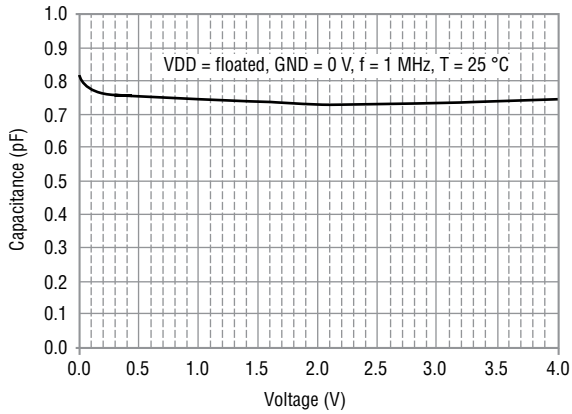
Suffix
LC = Low Capacitance

Typical Characteristics

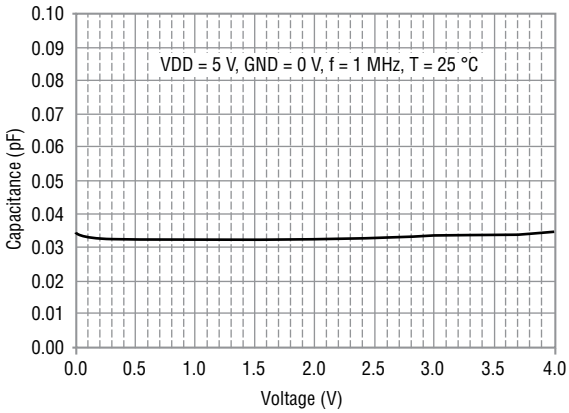
Typical Variation of C_{IN} vs. V_{IN}



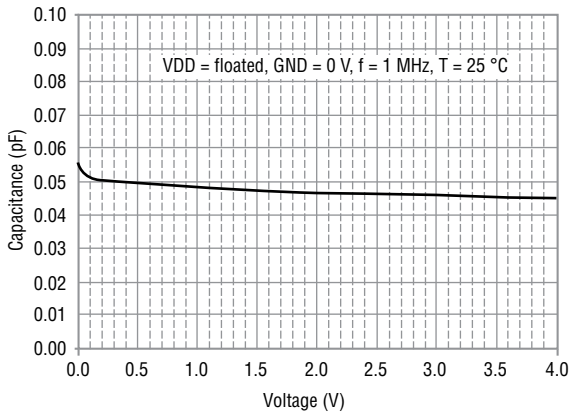
Typical Variation of C_{IN} vs. V_{IN}



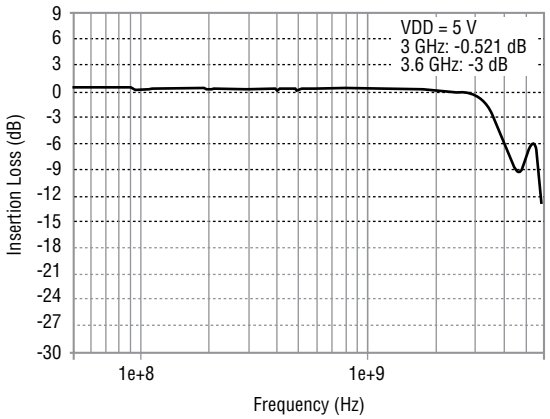
Typical Variation of $C_{IO\ to\ IO}$ vs. V_{IN}



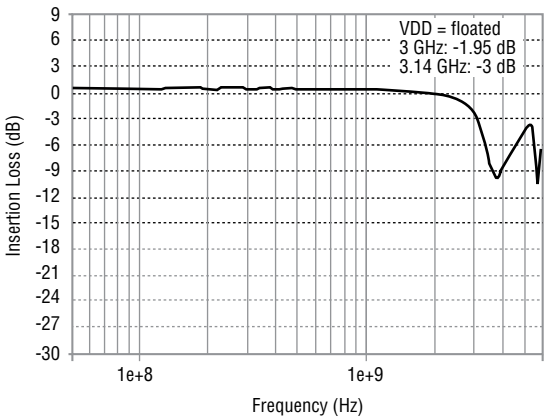
Typical Variation of $C_{IO\ to\ IO}$ vs. V_{IN}



Insertion Loss S21 (I/O to GND)

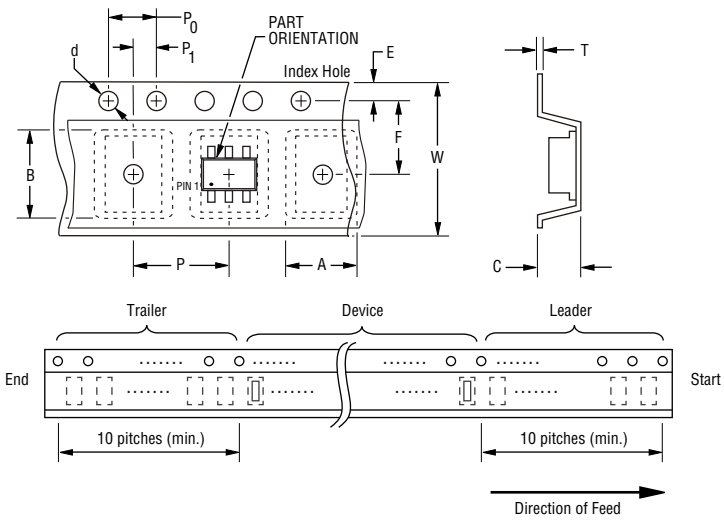


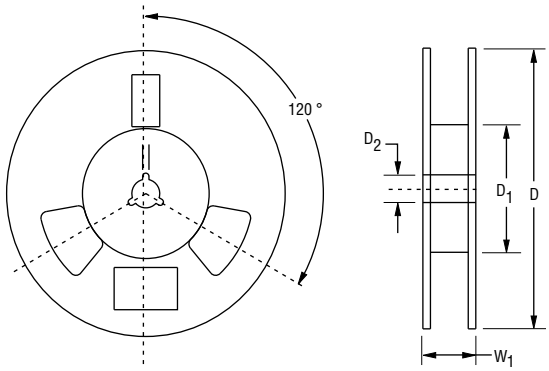
Insertion Loss S21 (I/O to GND)



Packaging Information

The product is packaged in tape and reel format per EIA-481 standard.





DIMENSIONS: MM (INCHES)

Item	Symbol	SOT23-6
Carrier Width	A	3.90 ± 0.10 (0.154 ± 0.004)
Carrier Length	B	3.90 ± 0.10 (0.154 ± 0.004)
Carrier Depth	C	0.90 ± 0.10 (0.035 ± 0.004)
Sprocket Hole	d	1.55 ± 0.05 (0.061 ± 0.002)
Reel Outside Diameter	D	178 (7.008)
Reel Inner Diameter	D_1	50.0 (1.969) MIN.
Feed Hole Diameter	D_2	13.0 ± 0.20 (0.512 ± 0.008)
Sprocket Hole Position	E	1.75 ± 0.10 (0.069 ± 0.004)
Punch Hole Position	F	3.50 ± 0.05 (0.138 ± 0.002)
Punch Hole Pitch	P	4.00 ± 0.10 (0.157 ± 0.004)
Sprocket Hole Pitch	P_0	4.00 ± 0.10 (0.157 ± 0.004)
Embossment Center	P_1	2.00 ± 0.05 (0.079 ± 0.002)
Overall Tape Thickness	T	0.20 ± 0.10 (0.008 ± 0.004)
Tape Width	W	8.00 ± 0.20 (0.315 ± 0.008)
Reel Width	W_1	14.4 (0.567) MAX.
Quantity per Reel	--	3000

BOURNS®

Asia-Pacific: Tel: +886-2 2562-4117
Email: asiacus@bourns.com

EMEA: Tel: +36 88 885 877
Email: eurocus@bourns.com

The Americas: Tel: +1-951 781-5500
Email: americus@bourns.com

www.bourns.com

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