



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



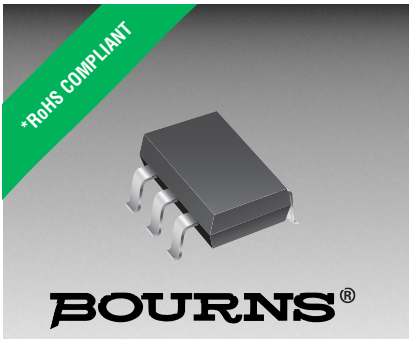
Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





Features

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

Applications

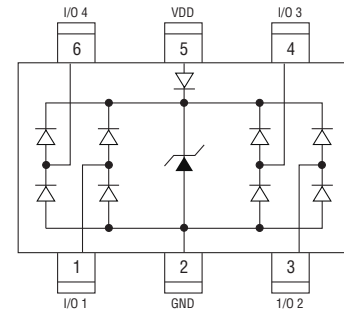
- HDMI 1.4
- Digital Visual Interface (DVI)
- USB 3.0 / USB OTG
- Memory protection
- SIM card ports

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.



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)	V _{ESD_IO}	19	kV
ESD per IEC 61000-4-2 (Contact) (I/O Pins)		12	
ESD per IEC 61000-4-2 (Air) (V _{CC} to GND)	V _{ESD_VCC}	30	kV
ESD per IEC 61000-4-2 (Contact) (V _{CC} to GND)		30	
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

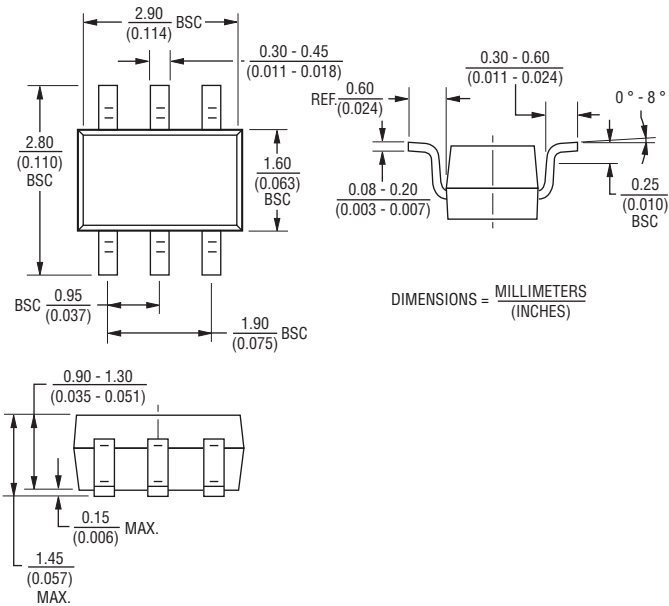
*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011. Specifications are subject to change without notice. Customers should verify actual device performance in their specific applications.

CDSOT236-0504LC - TVS/Steering Diode Array

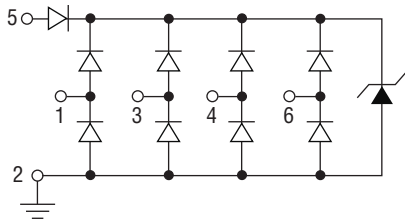
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Product Dimensions

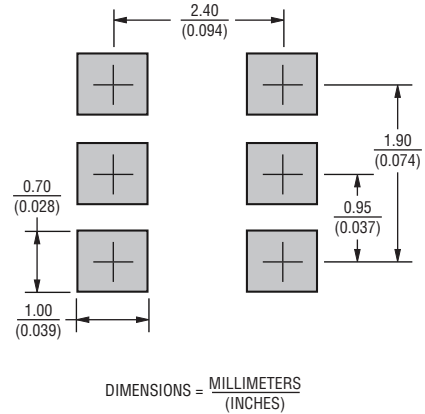
This is a molded SOT23-6L package with lead free 100 % Matte Sn on the lead frame. It weighs approximately 3 mg and has a flammability rating of UL 94V-0.



Circuit Diagram



Recommended Footprint



Typical Part Marking

CDSOT236-0504LC54L

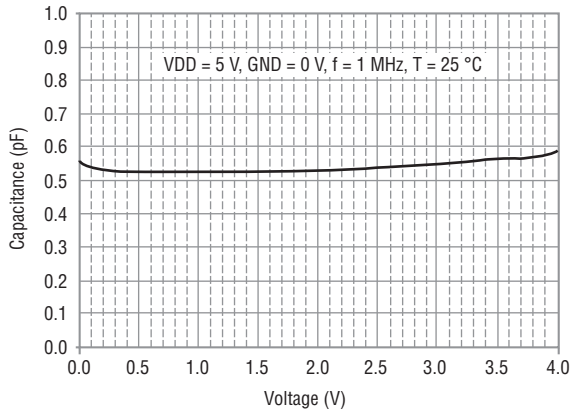
How to Order

CD SOT236 - 05 04 LC

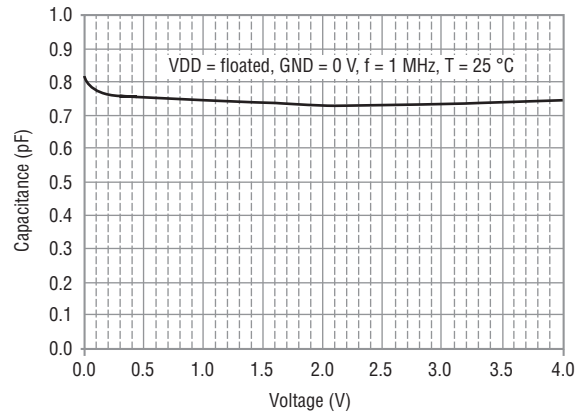
Common Code _____
 Chip Diode _____
 Package _____
 SOT236 = SOT23-6L Package _____
 Working Peak Reverse Voltage _____
 05 = 5 V_{RWM} (Volts) _____
 Number of Lines _____
 04 = 4 Data Lines _____
 Suffix _____
 LC = Low Capacitance _____

Typical Characteristics

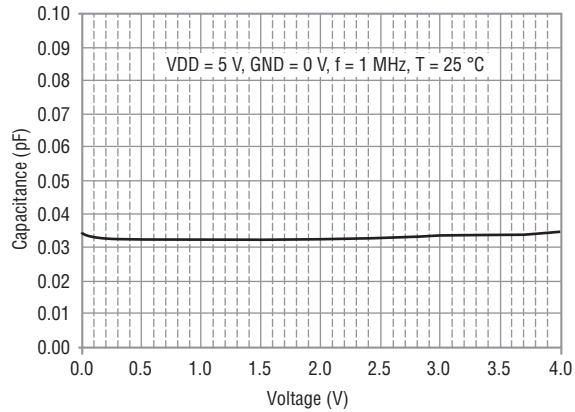
Typical Variation of C_{IN} vs. V_{IN}



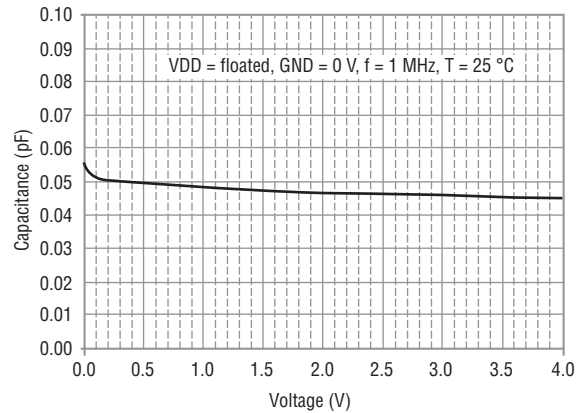
Typical Variation of C_{IN} vs. V_{IN}



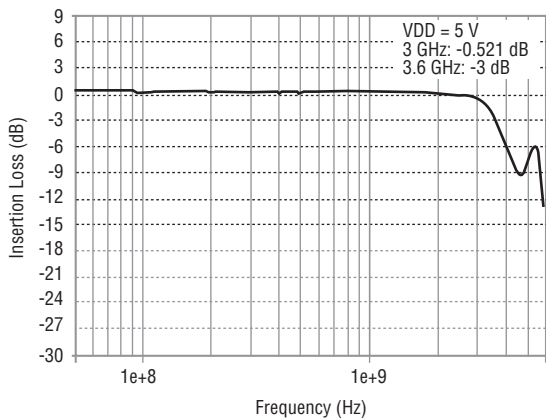
Typical Variation of C_{IO} to IO vs. V_{IN}



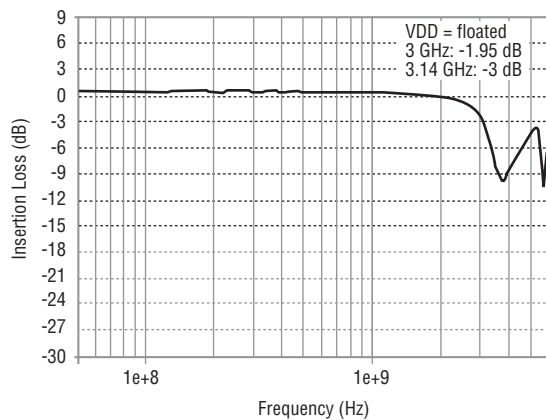
Typical Variation of C_{IO} to IO vs. V_{IN}



Insertion Loss S21 (I/O to GND)



Insertion Loss S21 (I/O to GND)

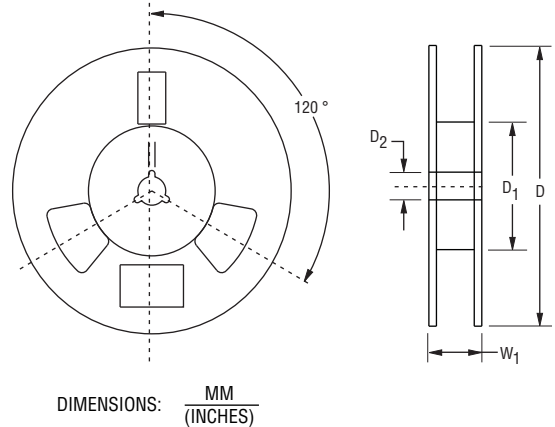
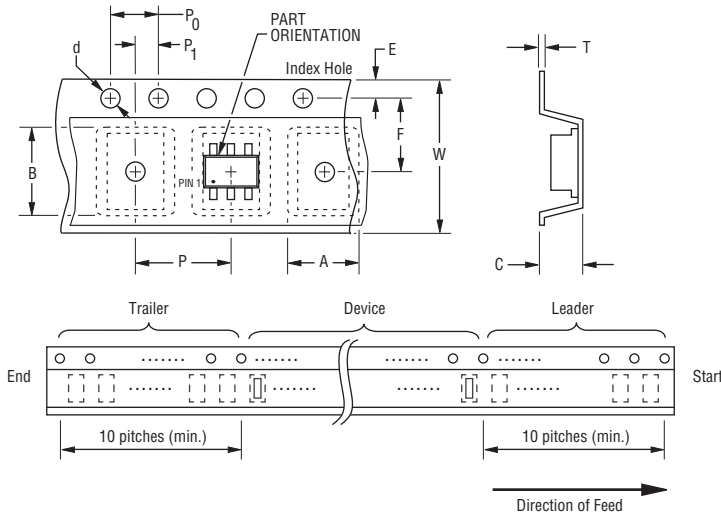


CDSOT236-0504LC - TVS/Steering Diode Array

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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	$\frac{50.0}{(1.969)}$ 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	--	3000

BOURNS®

Asia-Pacific:

Tel: +886-2 2562-4117

Fax: +886-2 2562-4116

Europe:

Tel: +41-41 768 5555

Fax: +41-41 768 5510

The Americas:

Tel: +1-951 781-5500

Fax: +1-951 781-5700

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REV. 12/12

Specifications are subject to change without notice.
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