

CSL05
CSL05D

**SURFACE MOUNT SILICON
ULTRA LOW CAPACITANCE
TRANSIENT VOLTAGE SUPPRESSORS**



SOT-23 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSL05 (Single) and CSL05D (Dual) types are ultra low capacitance transient voltage suppressors packaged in the SOT-23 surface mount package. These devices provide excellent protection from spurious voltage transients. The very low capacitance reduces insertion loss to minimize the affect on the data line through-put. Typical applications include: mobile phones, digital cameras, USB ports, MP3 players, and Ethernet port protection.

**MARKING CODES: CSL05 (Single):CL05
CSL05D (Dual): CL5D**

MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

Peak Power Dissipation (8x20 μs)

Peak Pulse Current (8x20 μs)

Electrical Fast Transient (IEC 61000-4-4) (5x50ns)

ESD Voltage (IEC 61000-4-2, Air)

ESD Voltage (IEC 61000-4-2, Contact)

Operating Junction Temperature

Storage Temperature

SYMBOL

P_{PK}

I_{PP}

EFT

V_{ESD}

V_{ESD}

T_J

T_{stg}

400

17

40

25

25

-50 to +125

-50 to +150

UNITS

W

A

A

kV

kV

$^{\circ}\text{C}$

$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS PER TVS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Maximum Reverse Stand-off Voltage V_{RWM}	Minimum Breakdown Voltage $V_{BR} @ I_T$	Test Current I_T	Maximum Reverse Leakage Current $I_R @ V_{RWM}$	Maximum Clamping Voltage (8x20 μs) $V_C @ I_{PP}$		Typical TLP Clamping Voltage (Note 1) $V_{CL} @ I_{PP}$		Typical Dynamic Resistance (Note 1) R_{DYN}	Maximum Junction Capacitance @ 0V Bias C_J
V	V	mA	μA	V	A	V	A	Ω	pF
5.0	6.0	1.0	5.0	9.5	1.0	10	4.5	0.57	1.2
				12	5.0	15	13.3		

Note 1: Transmission Line Pulse (TLP) conditions: $Z_0=50\Omega$, $t_p=100\text{ns}$

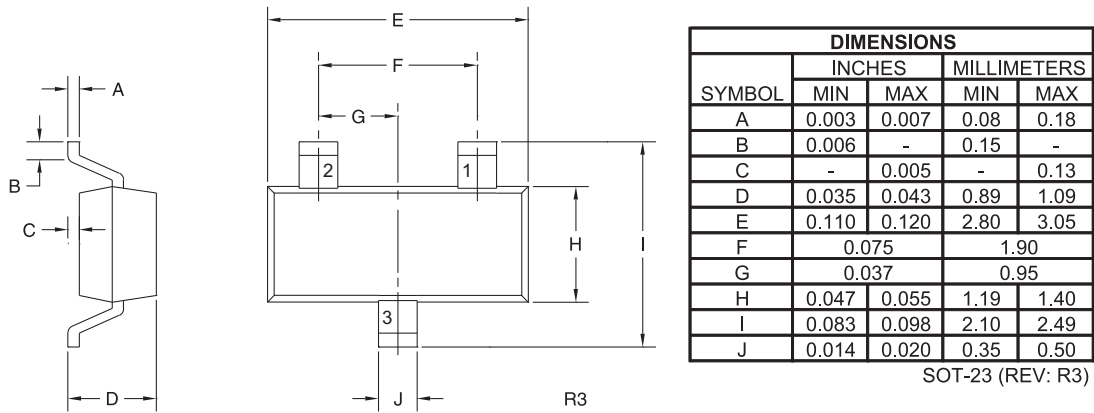
R3 (15-October 2015)

CSL05
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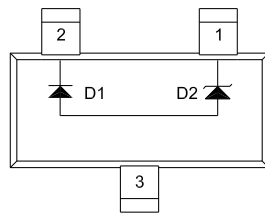
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SOT-23 CASE - MECHANICAL OUTLINE



PIN CONFIGURATIONS

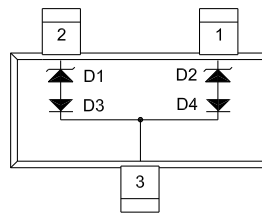


CSL05

LEAD CODE:

- 1) Cathode D2
- 2) Cathode D1
- 3) No Connection

MARKING CODE: CL05



CSL05D

LEAD CODE:

- 1) Cathode D2
- 2) Cathode D1
- 3) Cathode D3, D4

MARKING CODE: CL5D

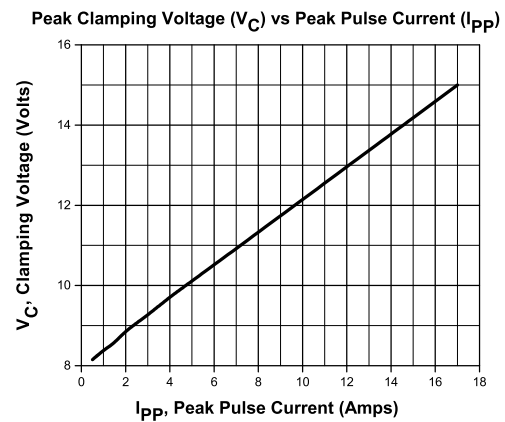
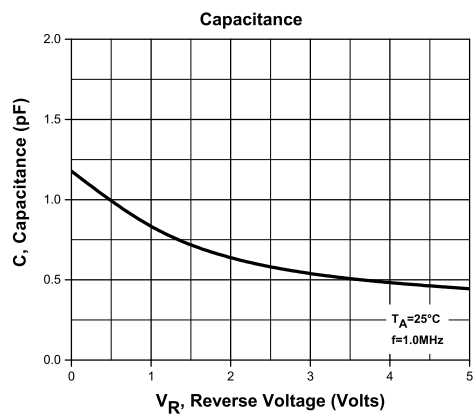
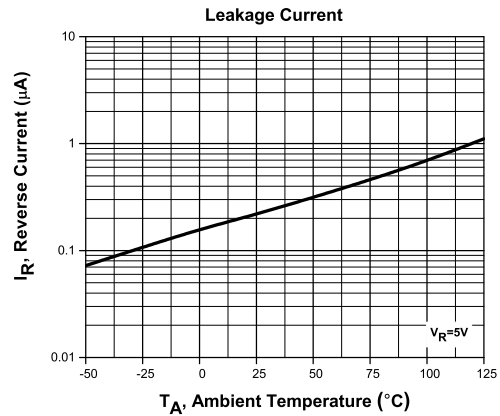
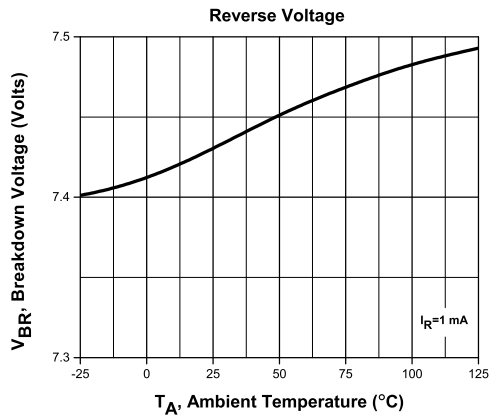
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TYPICAL ELECTRICAL CHARACTERISTICS



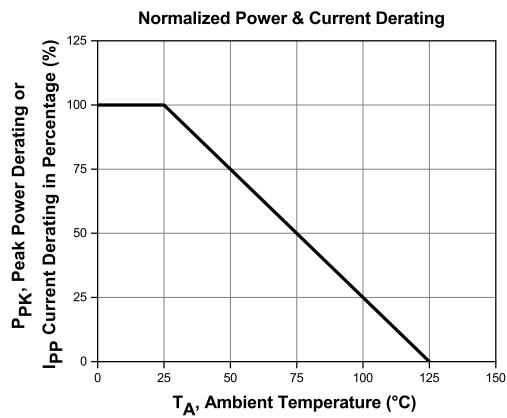
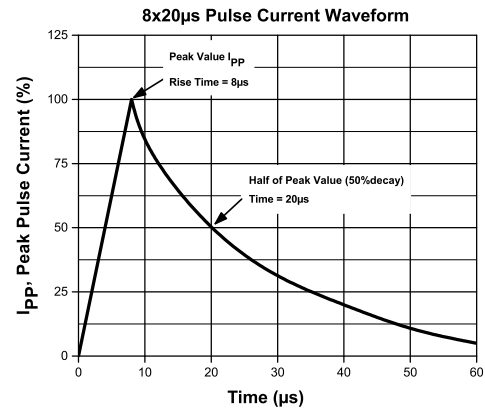
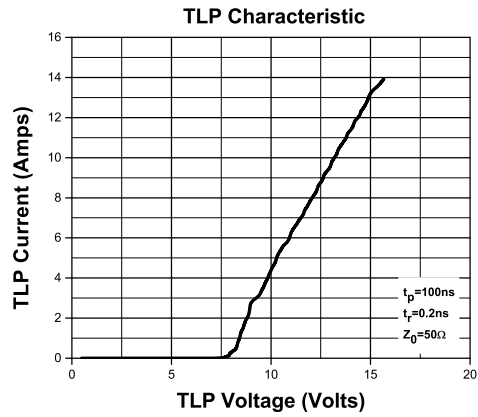
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TYPICAL ELECTRICAL CHARACTERISTICS



R3 (15-October 2015)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
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Worldwide Distributors:
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For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: www.centrasemi.com/terms



<http://www.centrasemi.com>

Product End of Life Notification

PDN ID:	PDN01065
Notification Date:	6/02/17
Last Buy Date:	N/A
Last Shipment Date	N/A

Please be advised that Central Semiconductor must immediately discontinue the product(s) listed in the attached PDN notice. We are unable to accept any further orders for these products unless we have available inventory on hand.

You may have purchased one or more of the products listed. Please do not hesitate to contact your local Central Semiconductor sales representative with any questions or needs you may have. Central regrets any inconvenience this may cause.

Sincerely,

Central Semiconductor Corp.

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.



<http://www.centrasemi.com>

Product End of Life Notification

PDN ID:	PDN01065
Notification Date:	6/02/17
Last Buy Date:	N/A
Last Shipment Date	N/A

Summary: The CSL05 and CSL05D low capacitance Transient Voltage Suppressors have been discontinued and are now classified as End of Life (EOL).

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by various manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's Product Management Process. Any replacement product will be noted below. The effective date for placing the last purchase order will be six(6) months from the date of this notice and twelve(12) months from the notice date for final shipments; this may be extended if inventory is available.

<u>Central Part Number</u>	<u>Replacement</u>
CSL05 BK	N/A
CSL05 TR	N/A
CSL05D BK	N/A
CSL05D TR	N/A

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. Please email your requests to engineering@centrasemi.com.

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Mouser Electronics

Authorized Distributor

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Central Semiconductor:

[CSL05](#) [CSL05D](#)