



**THE DATASHEET OF  
CSL05D BK**



CSL05  
CSL05D

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



**SOT-23 CASE**



[www.centrasemi.com](http://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<sub>A</sub>=25°C)**

Peak Power Dissipation (8x20µs)  
Peak Pulse Current (8x20µs)  
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<sub>PK</sub> 400  
I<sub>PP</sub> 17  
EFT 40  
V<sub>ESD</sub> 25  
V<sub>ESD</sub> 25  
T<sub>J</sub> -50 to +125  
T<sub>stg</sub> -50 to +150

**UNITS**

W  
A  
A  
kV  
kV  
°C  
°C

**ELECTRICAL CHARACTERISTICS PER TVS: (T<sub>A</sub>=25°C unless otherwise noted)**

Maximum Reverse Stand-off Voltage V <sub>RWM</sub>	Minimum Breakdown Voltage V <sub>BR</sub> @ I <sub>T</sub>	Test Current I <sub>T</sub>	Maximum Reverse Leakage Current I <sub>R</sub> @ V <sub>RWM</sub>	Maximum Clamping Voltage (8x20µs)		Typical TLP Clamping Voltage (Note 1)		Typical Dynamic Resistance (Note 1) R <sub>DYN</sub>	Maximum Junction Capacitance @ 0V Bias C <sub>J</sub>
				V <sub>C</sub> @ I <sub>PP</sub>	V <sub>A</sub> @ I <sub>PP</sub>	V <sub>CL</sub> @ I <sub>PP</sub>	V <sub>A</sub> @ I <sub>PP</sub>		
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		

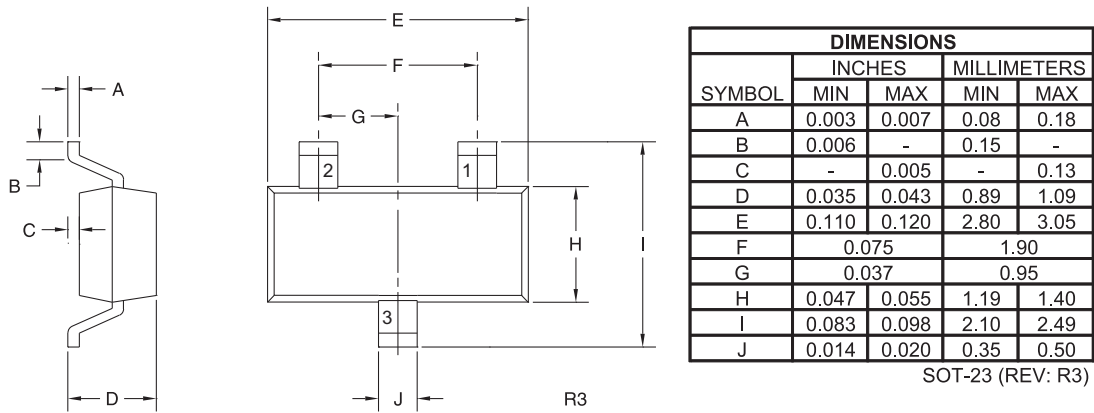
Note 1: Transmission Line Pulse (TLP) conditions: Z<sub>0</sub>=50Ω, tp=100ns

CSL05  
CSL05D

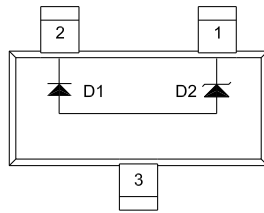


**SURFACE MOUNT SILICON  
ULTRA LOW CAPACITANCE  
TRANSIENT VOLTAGE SUPPRESSORS**

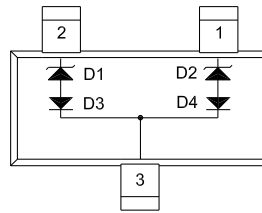
**SOT-23 CASE - MECHANICAL OUTLINE**



**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**

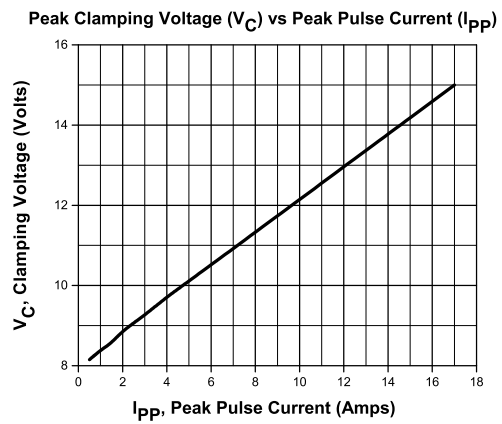
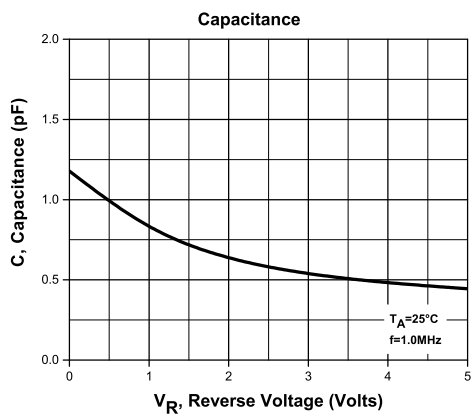
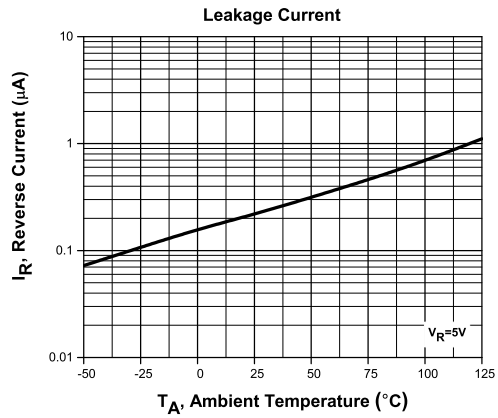
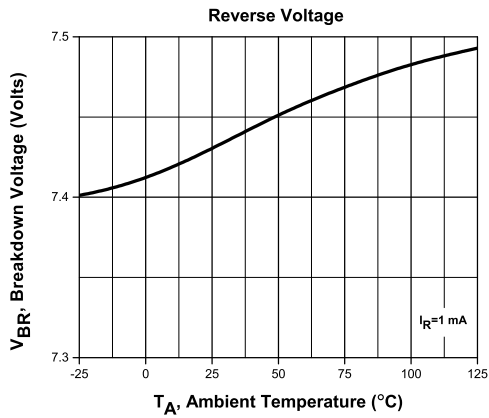
R3 (15-October 2015)

CSL05  
CSL05D

SURFACE MOUNT SILICON  
ULTRA LOW CAPACITANCE  
TRANSIENT VOLTAGE SUPPRESSORS



### TYPICAL ELECTRICAL CHARACTERISTICS



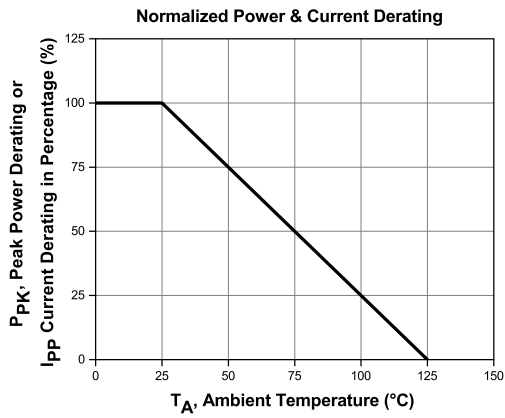
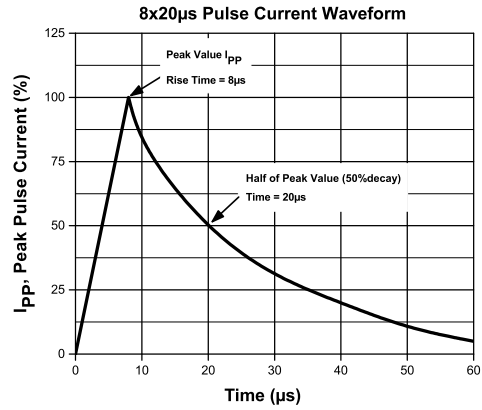
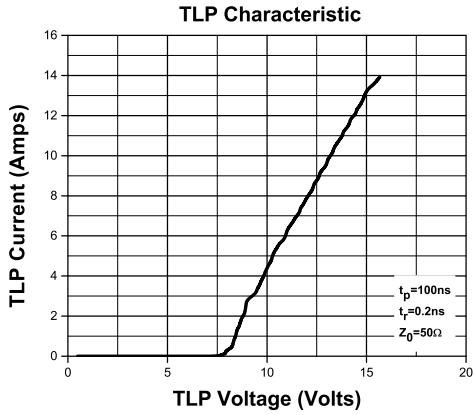
R3 (15-October 2015)

CSL05  
CSL05D



SURFACE MOUNT SILICON  
ULTRA LOW CAPACITANCE  
TRANSIENT VOLTAGE SUPPRESSORS

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 (2<sup>nd</sup> 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

---

### CONTACT US

#### Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centalsemi.com](http://www.centalsemi.com)

**Worldwide Field Representatives:**  
[www.centalsemi.com/wwreps](http://www.centalsemi.com/wwreps)

**Worldwide Distributors:**  
[www.centalsemi.com/wwdistributors](http://www.centalsemi.com/wwdistributors)

---

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.centalsemi.com/terms](http://www.centalsemi.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

<b>PDN ID:</b>	PDN01065
<b>Notification Date:</b>	6/02/17
<b>Last Buy Date:</b>	N/A
<b>Last Shipment Date</b>	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](mailto:engineering@centrasemi.com).

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.

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- [View CSL05D BK on WIN SOURCE](#)
- [Central Semiconductor Corp Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management