

**CFTVS5V0BULC**

**SURFACE MOUNT SILICON  
BI-DIRECTIONAL  
ULTRA LOW CAPACITANCE  
TRANSIENT VOLTAGE SUPPRESSOR**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CFTVS5V0BULC is an ultra low capacitance, low leakage, fast response, bi-directional TVS in the space saving SOD-882L surface mount package. This device is designed to protect sensitive equipment connected to high speed data lines against ESD damage.

**MARKING CODE: U**



**FEATURES:**

- Space saving SOD-882L package
- Ultra low capacitance
- Low leakage current

**APPLICATIONS:**

- High speed data line protection ideal for USB 3.1, Thunderbolt and HDMI 2.0 standards
- User interface protection
- Charging/power port protection

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

Peak Power Dissipation (8x20 $\mu\text{s}$ )  
 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**

SYMBOL	UNITS
P <sub>PK</sub>	14 W
EFT	40 A
V <sub>ESD</sub>	20 kV
V <sub>ESD</sub>	20 kV
T <sub>J</sub>	-55 to +125 °C
T <sub>stg</sub>	-55 to +150 °C

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$ )

Maximum Reverse Stand-off Voltage V <sub>RWM</sub>	Breakdown Voltage		Test Current I <sub>T</sub>	Maximum Reverse Leakage Current I <sub>R</sub> @ V <sub>RWM</sub>	Maximum Clamping Voltage (8x20 $\mu\text{s}$ ) V <sub>C</sub> @ I <sub>PP</sub>		Typical TLP Clamping Voltage (Note 1) V <sub>CL</sub> @ I <sub>PP</sub>		Typical Dynamic Resistance (Note 1) R <sub>DYN</sub>	Typical Junction Capacitance @ 0V Bias C <sub>J</sub>	Maximum Junction Capacitance @ 0V Bias C <sub>J</sub>
	MIN V	MAX V			V	A	V	A			
5.0	6.0	10	1.0	100	14	1.0	15	1.6	2.94	0.2	0.35
							20	3.3			

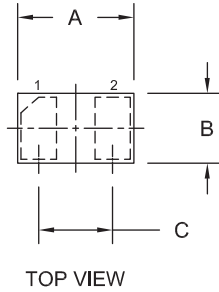
Note 1: Transmission Line Pulse (TLP) conditions: Z<sub>0</sub>=50 $\Omega$ , t<sub>p</sub>=100ns

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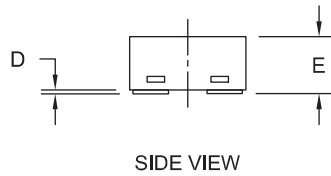


**SOD-882L CASE - MECHANICAL OUTLINE**

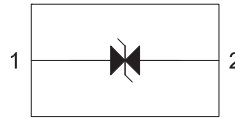


SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.037	0.041	0.95	1.05
B	0.022	0.026	0.55	0.65
C	0.026		0.65	
D	0.000	0.002	0.00	0.05
E	0.012	0.016	0.30	0.40
F	0.018	0.022	0.45	0.55
G	0.008	0.012	0.20	0.30

SOD-882L (REV:R2)



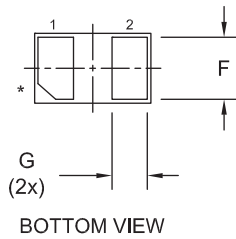
**PIN CONFIGURATION**



**LEAD CODE:**

- 1) Anode 1
- 2) Anode 2

**MARKING CODE: U**



\* Pin 1 chamfer may appear on any corner.

R2

R5 (23-July 2015)

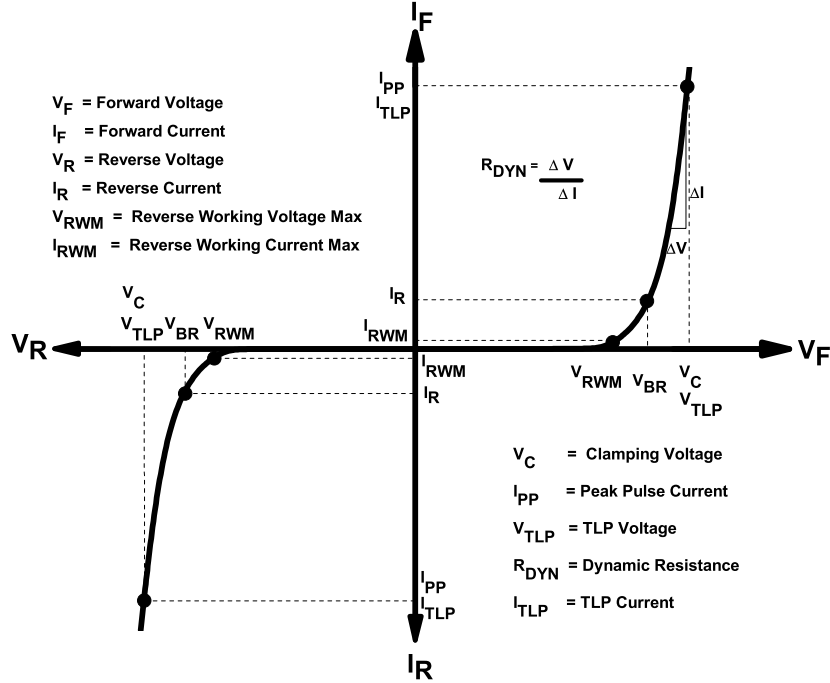
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### Definition of Electrical Characteristics

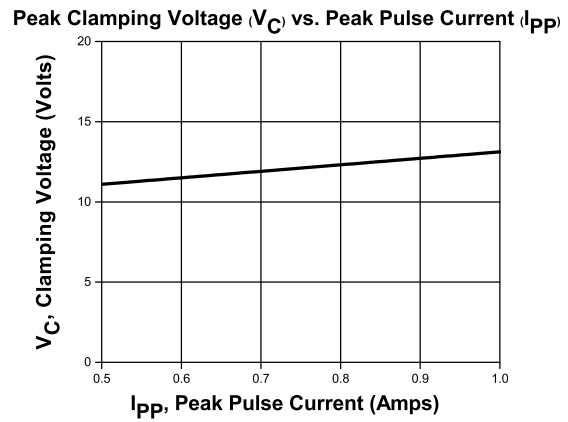
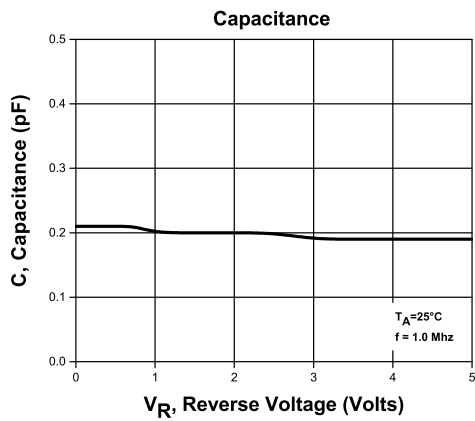
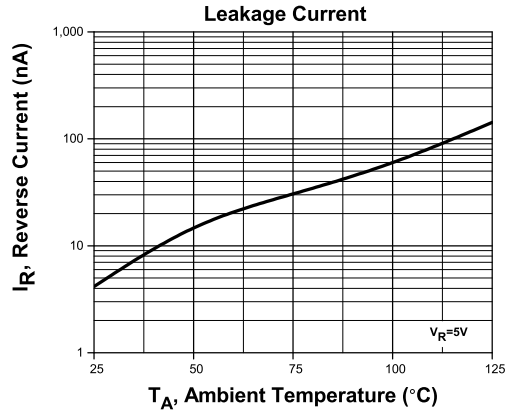
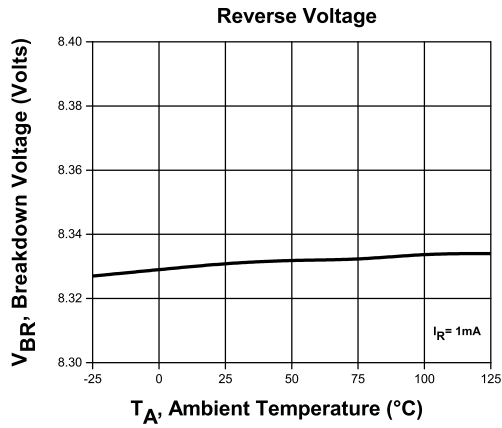


R5 (23-July 2015)

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**TYPICAL ELECTRICAL CHARACTERISTICS**



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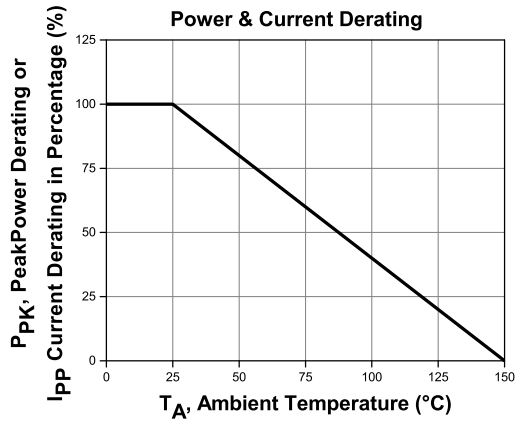
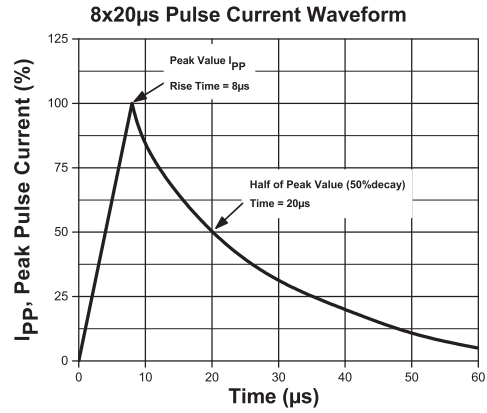
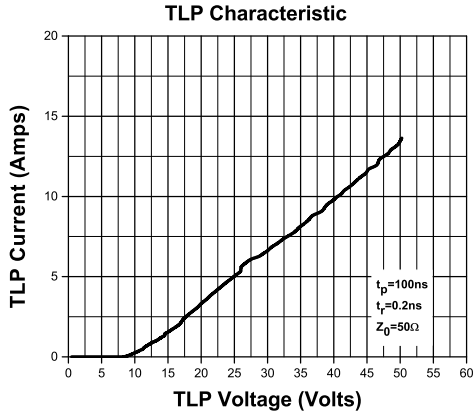
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### TYPICAL ELECTRICAL CHARACTERISTICS



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## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### 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

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### 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).

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### CONTACT US

#### Corporate Headquarters & Customer Support Team

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