

CTLTVS5V0BULC



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



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

#### DESCRIPTION:

The CENTRAL SEMICONDUCTOR CTLTVS5V0BULC is a low capacitance, ultra low leakage, fast response, bi-directional TVS in the space saving TLM2D3D6 surface mount package. This device is designed to protect sensitive equipment connected to high speed data lines against ESD damage.

#### MARKING CODE: S



Top View Bottom View

**TLM2D3D6 CASE**

#### APPLICATIONS:

- High speed data line protection
- User interface protection
- Charging/power port protection
- Serial/parallel port protection

#### FEATURES:

- Ultra space saving TLM2D3D6 package
- Low capacitance
- Ultra low leakage current

#### 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 and Storage Junction Temperature

#### SYMBOL

$P_{PK}$  30  
 $EFT$  50  
 $V_{ESD}$  25  
 $V_{ESD}$  20  
 $T_J, T_{stg}$  -55 to +150

#### UNITS

W  
A  
kV  
kV  
 $^{\circ}\text{C}$

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

Maximum Reverse Stand-off Voltage $V_{RWM}$	Minimum Breakdown Voltage $V_{BR} @ I_T$	Test Current $I_T$	Maximum Reverse Leakage Current $I_R @ V_{RWM}$	Clamping Voltage (8x20 $\mu\text{s}$ ) $V_C @ I_{PP}$			TLP Clamping Voltage (Note 1) $V_{CL} @ I_{PP}$			Typical Dynamic Resistance (Note 1) $R_{DYN}$	Junction Capacitance @ 0V Bias $C_J$	
V	V	mA	$\mu\text{A}$	TYP V	MAX V	A	TYP V	MAX V	A	$\Omega$	TYP pF	MAX pF
5.0	5.5	1.0	0.1	10	13	1.0	10	15	4.0	0.6	0.3	0.5
				12	15	2.5	22	27	24			

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

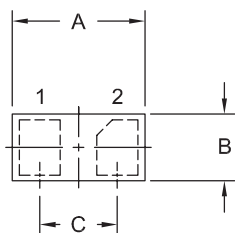
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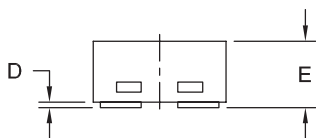
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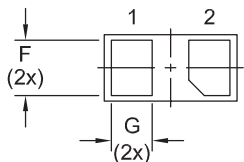
## TLM2D3D6 CASE - MECHANICAL OUTLINE



TOP VIEW



SIDE VIEW



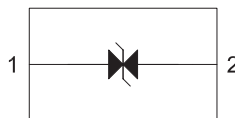
BOTTOM VIEW

R2

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.022	0.026	0.55	0.65
B	0.010	0.014	0.25	0.35
C	0.014		0.35	
D	0.000	0.002	0.00	0.05
E	0.011	0.013	0.28	0.32
F	0.008	0.012	0.20	0.30
G	0.005	0.009	0.13	0.24

TLM2D3D6 (REV: R2)

## PIN CONFIGURATION



## LEAD CODE:

- 1) Anode 1
- 2) Anode 2

## MARKING CODE: S

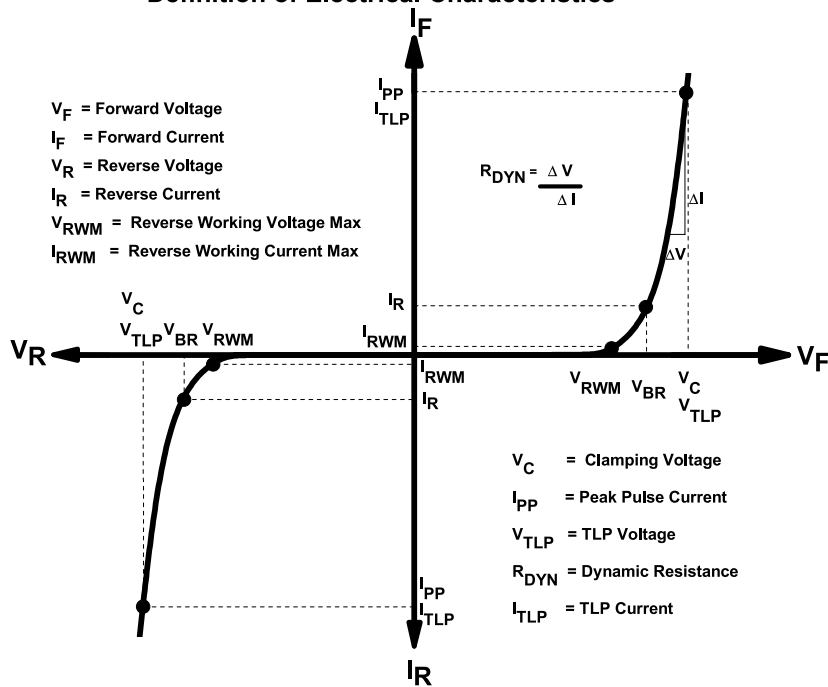
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### Definition of Electrical Characteristics



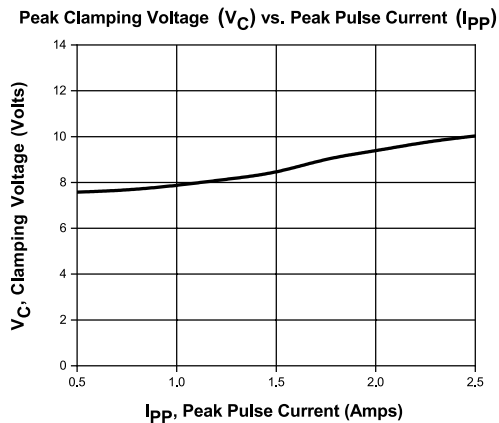
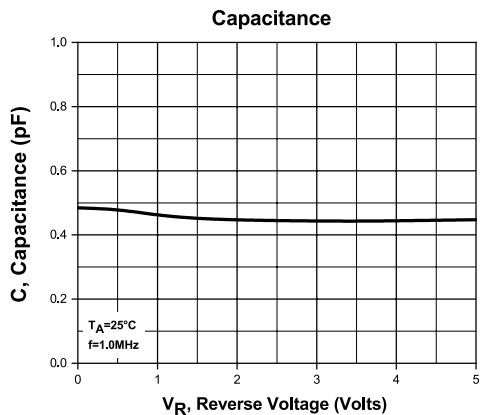
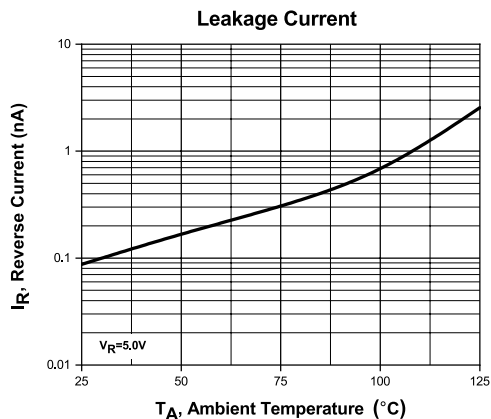
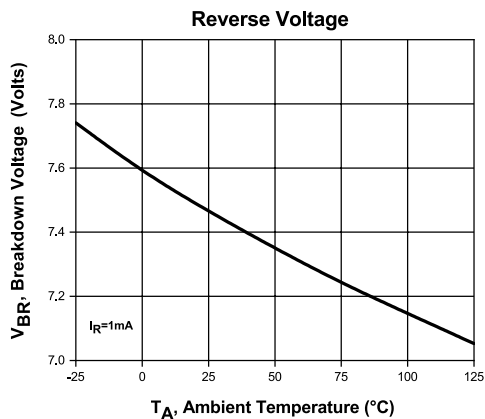
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## TYPICAL ELECTRICAL CHARACTERISTICS



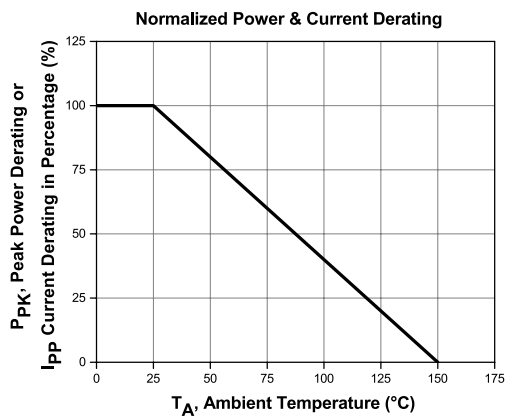
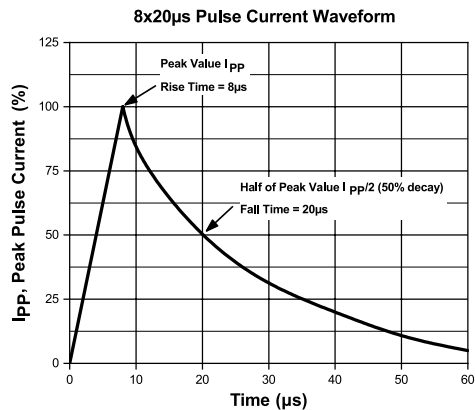
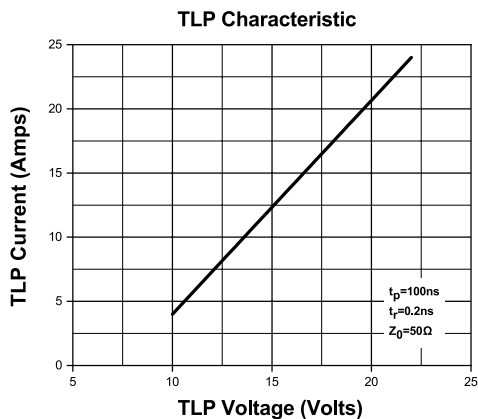
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## TYPICAL ELECTRICAL CHARACTERISTICS



## 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

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