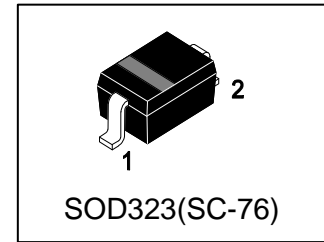


# S-LTVS3LH3.3T1G

## ESD Protection Diode

### 1. FEATURES

- Low capacitance
- Low clamping voltage
- Complies with IEC 61000-4-2 standards: Air discharge:  $\pm 30\text{kV}$   
Contact discharge:  $\pm 30\text{kV}$
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S-prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.



### 2. APPLICATIONS

- Power Ports
- Computers and Peripherals
- Instrumentation
- Medical Equipment
- 10/100/1000 Ethernet
- T1/E1/T3/E3
- USB 3.0/3.1
- USB 1.1/2.0

### 3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-LTVS3LH3.3T1G	L3	3000/Tape&Reel

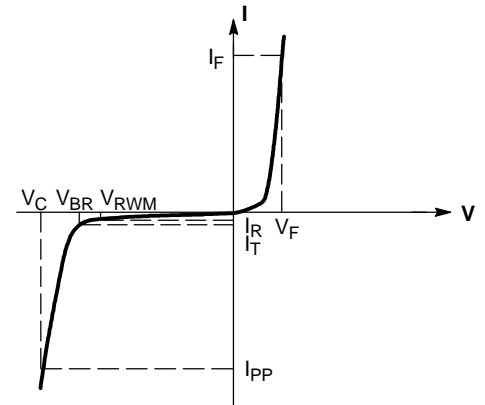
### 4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
IEC 61000-4-2 (ESD) Contact		$\pm 30$	KV
Air		$\pm 30$	
Peak pulse power@8/20 $\mu\text{s}$ (Note 1)	PPP	500	W
Peak pulse current @8/20 $\mu\text{s}$ (Note 1)	IPP	28	A
Operating Temperature Range	TJ	-55~+150	°C
Storage Temperature Range	Tstg	-55~+150	°C

Note 1.Surge current waveform per Figure 1 according to IEC 61000-4-5.

### 5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Symbol	Parameter
IPP	Maximum Reverse Peak Pulse Current
VC	Clamping Voltage @ IPP
VRWM	Working Peak Reverse Voltage
IR	Maximum Reverse Leakage Current @ VRWM
VBR	Breakdown Voltage @ IT
IT	Test Current
IF	Forward Current
VF	Forward Voltage @ IF
Ppk	Peak Power Dissipation
C	Capacitance @ VR = 0 and f = 1.0 MHz



Uni-Directional TVS

### 6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	VRWM				3.3	V
Breakdown Voltage	VBR	IT = 1mA	4.2		5.8	V
Reverse leakage current	IR	VR = 3.3V			100	nA
Forward Voltage	VF	IF = 10mA			1.2	V
Clamping Voltage(Note 1)	VC1	IPP = 28A, tp=8/20μs			20	V
Clamping Voltage,TLP	VC2	IPP= 4 A, tp=100ns		7.8		V
		IPP= 8 A, tp=100ns		9.0		
		IPP= 16 A, tp=100ns		11.4		
Dynamic resistance	RDYN			0.3		Ω
Junction Capacitance	Cj	VR = 0V, f = 1MHz		0.6	2	pF

Note 1. Surge current waveform per Figure 1 according to IEC 61000-4-5.

## 7. ELECTRICAL CHARACTERISTICS CURVES

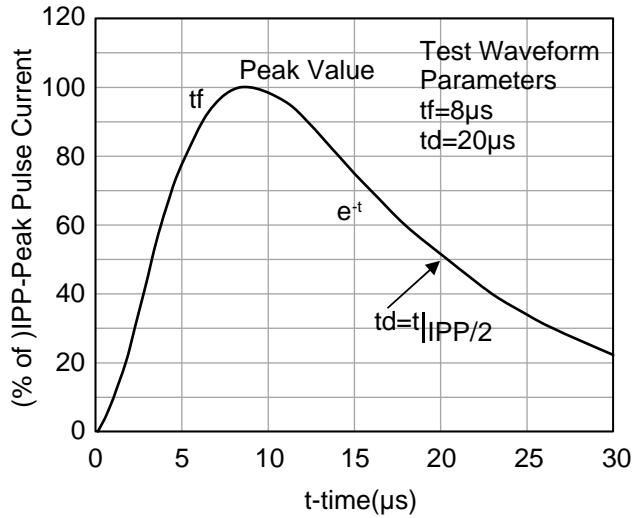


Figure 1. Pulse Waveform according to IEC 61000-4-5

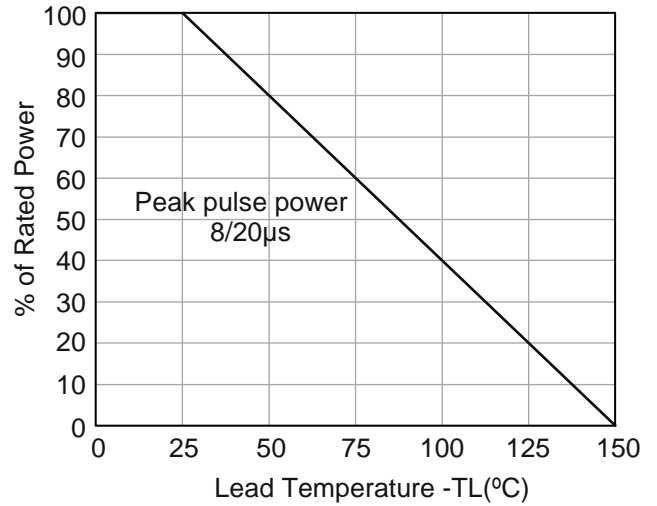


Figure 2. Power Derating Curve

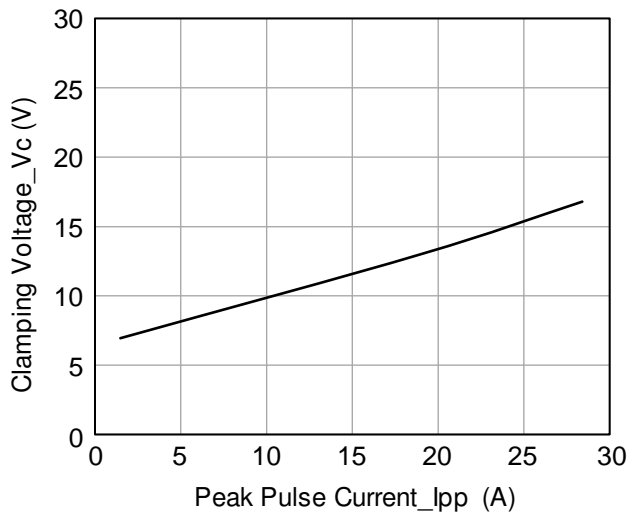


Figure 3. Clamping Voltage vs. Peak Pulse Current according to IEC 61000-4-5.

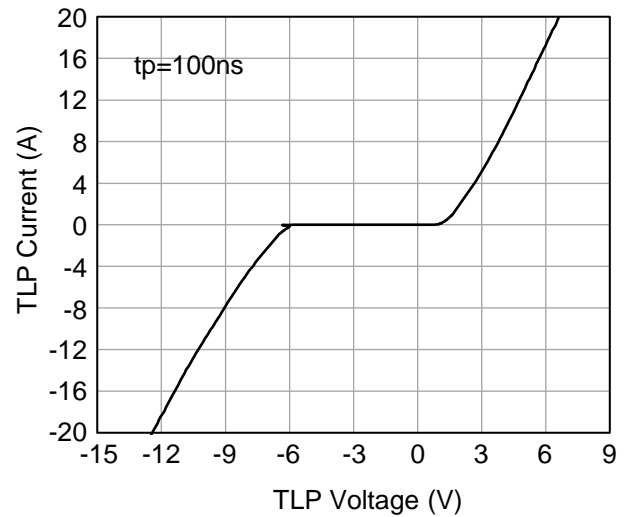
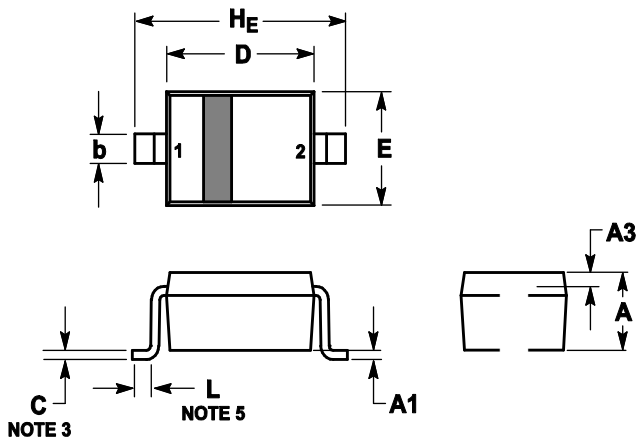


Figure 4. TLP Measurement

## 8. OUTLINE AND DIMENSIONS

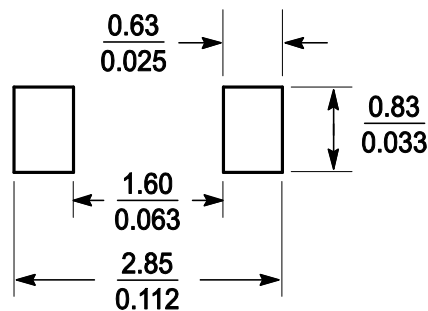
Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.8	0.9	1	0.031	0.035	0.04
A1	0	0.05	0.1	0	0.002	0.004
A3	0.15REF			0.006REF		
b	0.25	0.32	0.4	0.01	0.012	0.016
C	0.089	0.12	0.177	0.003	0.005	0.007
D	1.6	1.7	1.8	0.062	0.066	0.07
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
$H_E$	2.3	2.5	2.7	0.09	0.098	0.105

## 9. SOLDERING FOOTPRINT



## **DISCLAIMER**

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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