

# LESD23H5.0LT1G

## ESD Protection Diode

### 1. FEATURES

- 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.

### 2. APPLICATIONS

- Cellular Handsets and Accessories
- Portable Electronics
- Industrial Controls
- Set-Top Box
- Servers, Notebook, and Desktop PC

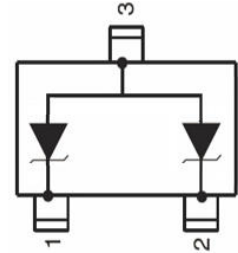
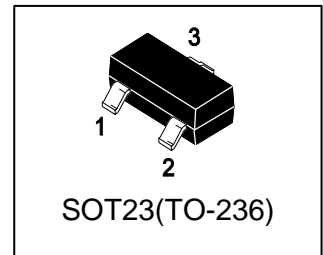
### 3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LESD23H5.0LT1G	5HA	3000/Tape&Reel

### 4. MAXIMUM RATINGS( $T_a = 25^\circ\text{C}$ )

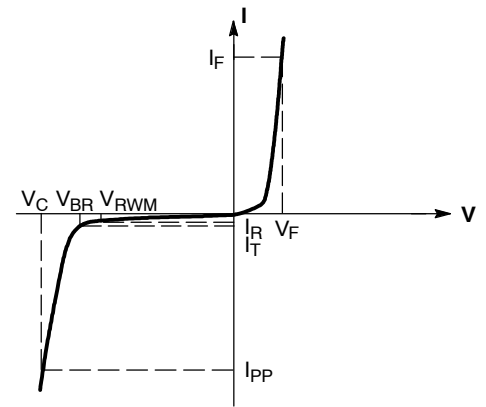
Parameter	Symbol	Limits	Unit
IEC 61000-4-2 (ESD) Contact		$\pm 30$	kV
Air		$\pm 30$	
peak pulse power @ 8/20 $\mu\text{s}$ (Note 1)	PPP	65	W
peak pulse current @ 8/20 $\mu\text{s}$ (Note 1)	IPP	7	A
Storage Temperature Range	Tstg	$-55 \sim +150$	$^\circ\text{C}$
Operating Temperature Range	TJ	$-55 \sim +150$	$^\circ\text{C}$

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				5.0	V
Breakdown Voltage	VBR	IT = 1mA	6.0		7.5	V
Reverse leakage current	IR	VR = 5.0V			0.5	μA
Forward Voltage	VF	IF = 10mA			1.2	V
Clamping Voltage(Note 1)	VC1	IPP = 7A, tp=8/20μs			12	V
Clamping Voltage,TLP	VC2	IPP= 4 A, tp=100ns		8		V
		IPP= 8 A, tp=100ns		9		
		IPP= 16 A, tp=100ns		11		
Dynamic resistance	RDYN			0.25		Ω
Junction Capacitance	Cj	VR = 0V, f = 1MHz			50	pF

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

## 7. ELECTRICAL CHARACTERISTICS CURVES

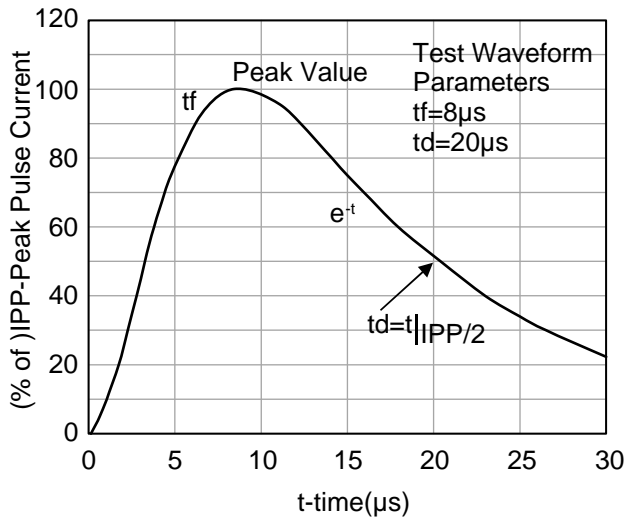


Figure 1. Pulse Waveform according to IEC 61000-4-5

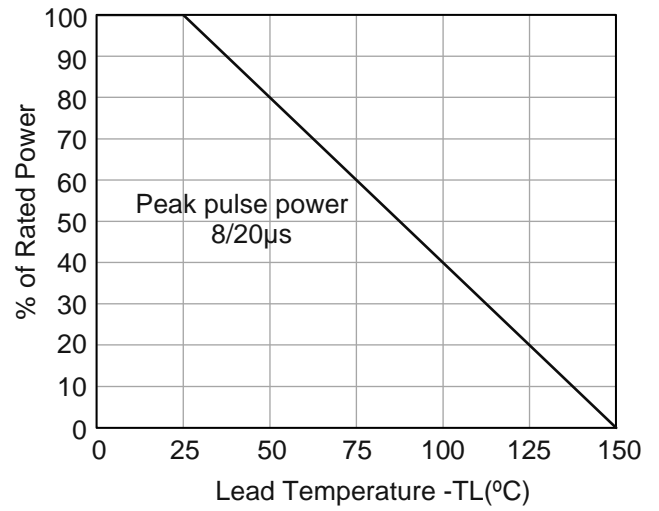


Figure 2. Power Derating Curve

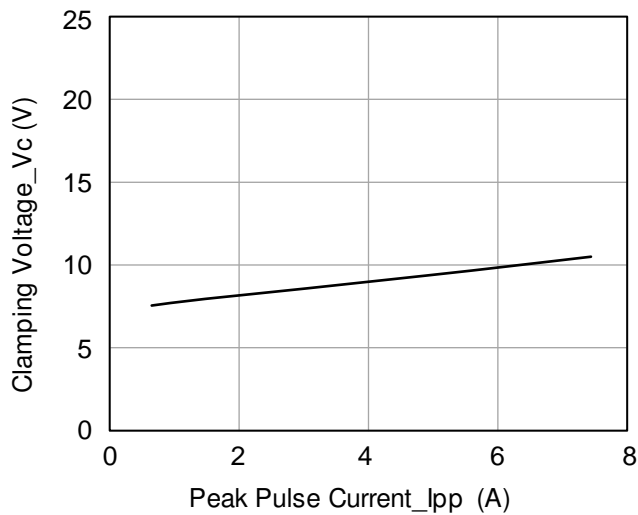


Figure 3. Clamping Voltage vs. Peak Pulse Current according to IEC 61000-4-5.

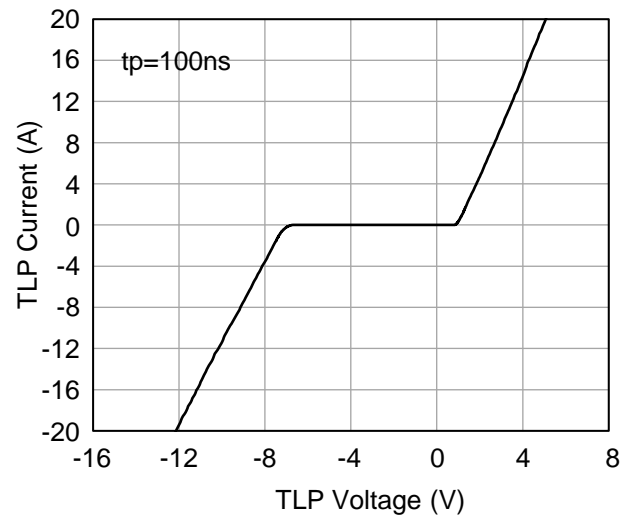
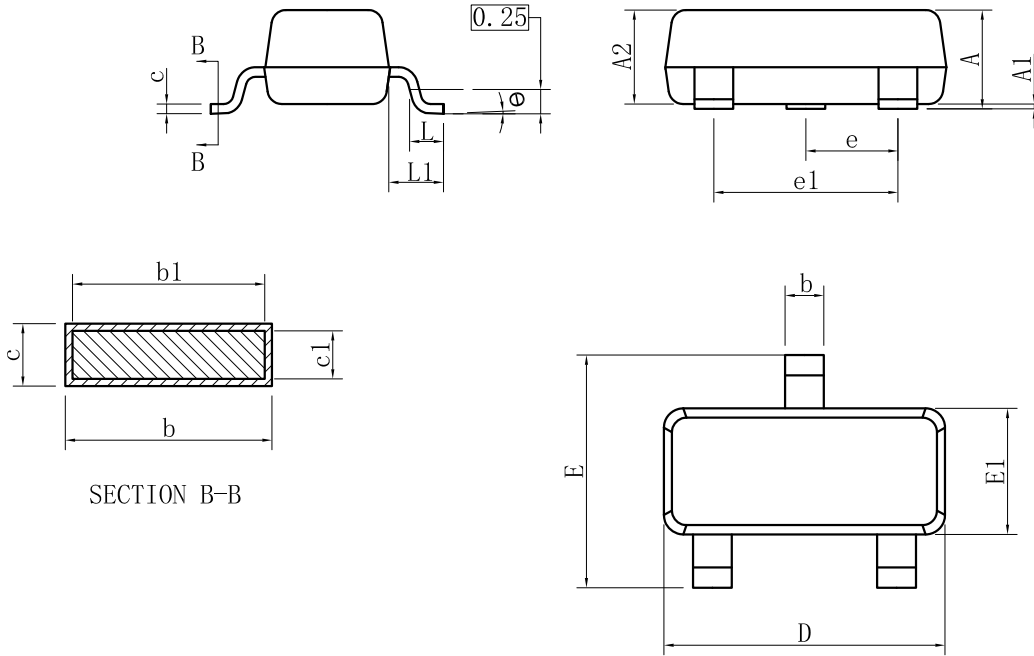


Figure 4. TLP Measurement

### 8. OUTLINE AND DIMENSIONS

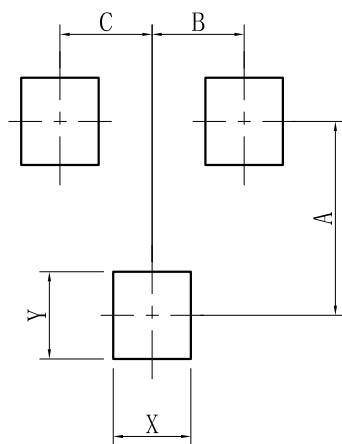


SOT23			
DIM	MIN	NOR	MAX
A	0.89	-	1.12
A1	0.01	-	0.10
A2	0.88	0.95	1.02
b	0.30	-	0.50
b1	0.30	0.40	0.45
c	0.08	-	0.20
c1	0.08	0.10	0.16
D	2.80	2.90	3.04
E	2.10	-	2.64
E1	1.20	1.30	1.40
e	0.95BSC		
e1	1.90BSC		
L	0.40	0.46	0.60
L1	0.54REF		
θ	0°	-	8°
All Dimensions in mm			

#### GENERAL NOTES

1. Top package surface finish Ra0.4±0.2um
2. Bottom package surface finish Ra0.7±0.2um
3. Side package surface finish Ra0.4±0.2um

### 9. SOLDERING FOOTPRINT



SOT-23	
DIM	(mm)
X	0.80
Y	0.90
A	2.00
B	0.95
C	0.95

## **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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