

LESD23H12CLT1G

ESD PROTECTION DIODE

1. FEATURES

- Low Leakage
- Response Time is Typically < 1 ns
- 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 phones audio
- Digital cameras
- Portable applications
- Mobile telephone

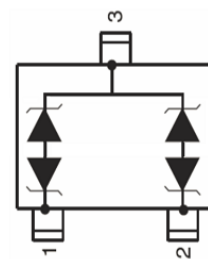
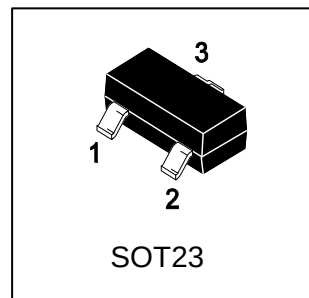
3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LESD23H12CLT1G	12D	3000/Tape&Reel

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

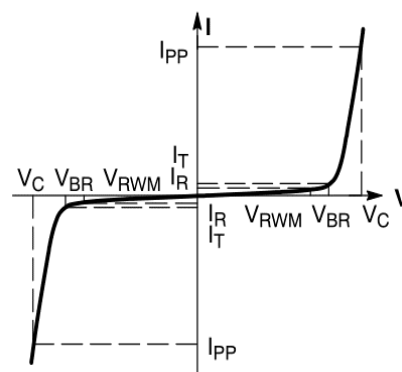
Parameter	Symbol	Limits	Unit
IEC 61000-4-2 (ESD) Contact		± 30	KV
Air		± 30	
Peak pulse power@8/20 μs (Note 1)	PPP	160	W
Peak pulse current @8/20 μs (Note 1)	IPP	9	A
Junction Temperature Range	TJ	-55~+150	$^\circ\text{C}$
Storage Temperature Range	Tstg	-55~+150	$^\circ\text{C}$

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
Ppk	Peak Power Dissipation
C	Capacitance @ VR = 0 and f = 1.0 MHz



6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	VRWM				12	V
Breakdown Voltage	VBR	IT = 1mA	13		16	V
Reverse leakage current	IR	VR = 12V			0.1	μA
Clamping Voltage(Note 1)	VC1	IPP = 1A, tp=8/20μs IPP = 8A, tp=8/20μs		17	16 19	V
Clamping Voltage,TLP	VC2	IPP= 8 A, tp=100ns IPP= 16 A, tp=100ns		15 18		V
Dynamic resistance	RDYN			0.4		Ω
Junction Capacitance	Cj	VR = 0V, f = 1MHz		9	12	pF

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

7. ELECTRICAL CHARACTERISTICS CURVES

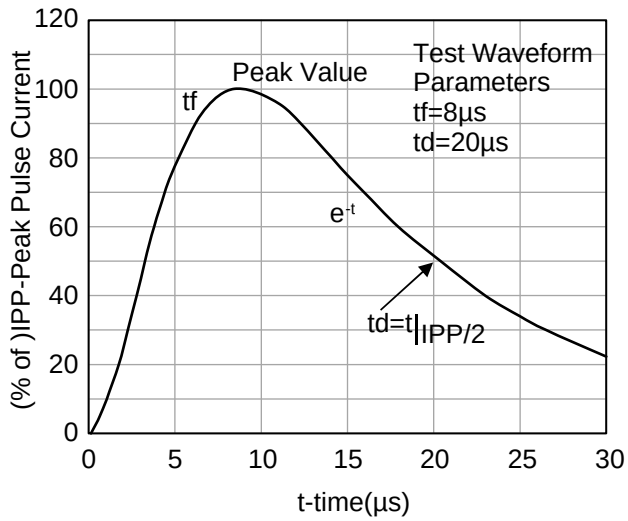


Figure 1. Pulse Waveform according to IEC 61000-4-5

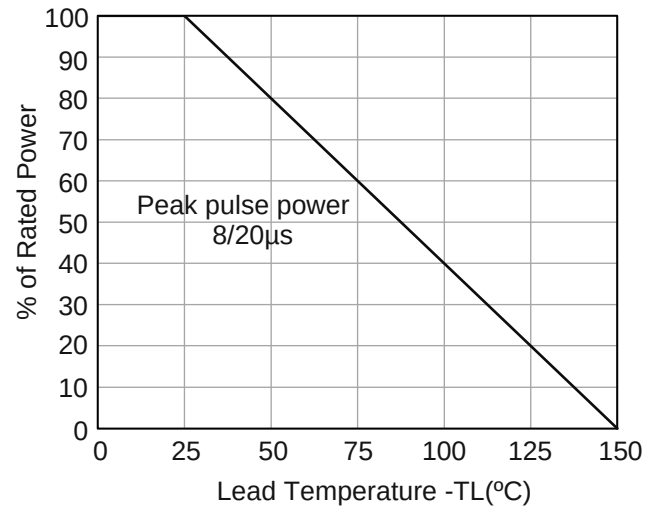


Figure 2. Power Derating Curve

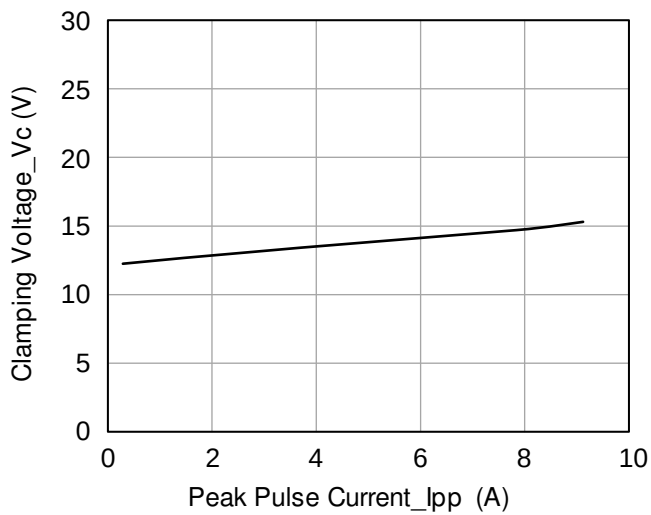


Figure 3. Clamping Voltage vs. Peak Pulse Current according to IEC 61000-4-5.

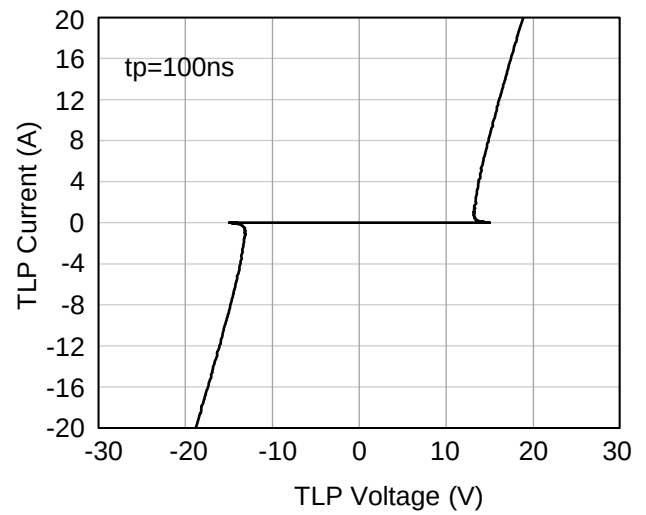
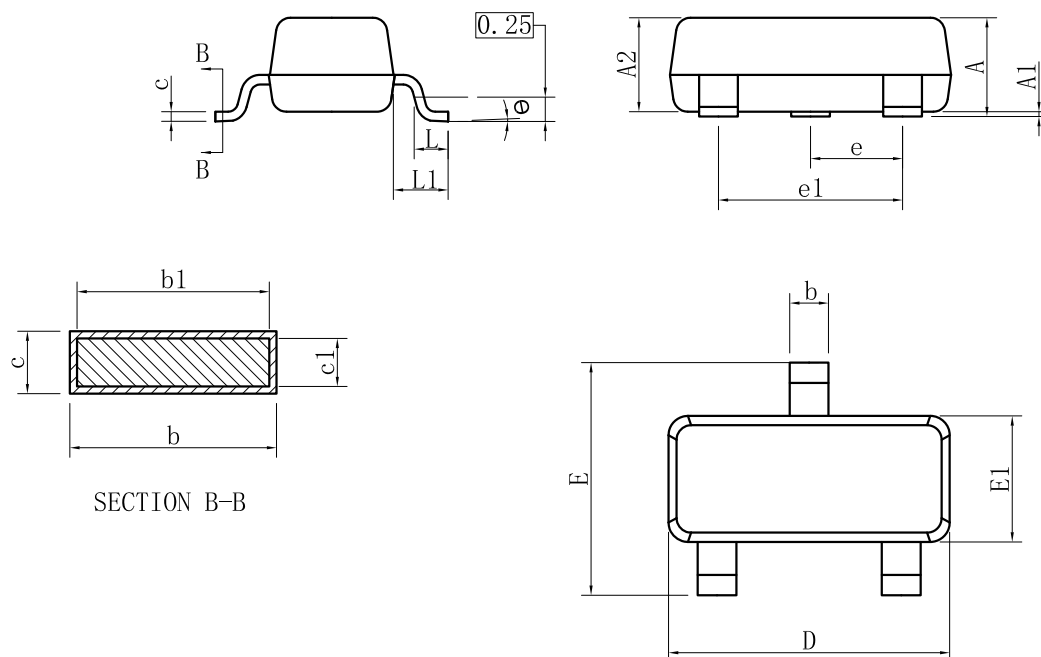


Figure 4. TLP Measurement

8.OUTLINE AND DIMENSIONS

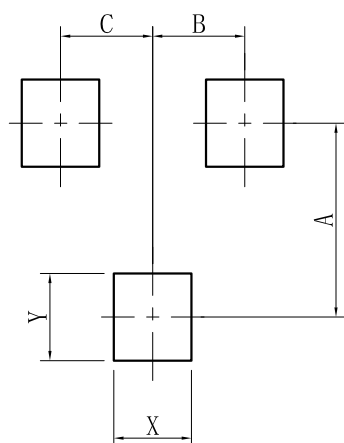


SOT23			
DIM	MIN	NOR	MAX
A	0.89	—	1.12
A1	0.01	—	0.10
A2	0.88	0.95	1.02
b	0.30	—	0.50
b1	0.30	0.40	0.45
c	0.08	—	0.20
c1	0.08	0.10	0.16
D	2.80	2.90	3.04
E	2.10	—	2.64
E1	1.20	1.30	1.40
e	0.95BSC		
e1	1.90BSC		
L	0.40	0.46	0.60
L1	0.54REF		
θ	0°	—	8°
All Dimensions in mm			

GENERAL NOTES

1. Top package surface finish $Ra0.4 \pm 0.2\mu m$
2. Bottom package surface finish $Ra0.7 \pm 0.2\mu m$
3. Side package surface finish $Ra0.4 \pm 0.2\mu m$

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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