

SuperESD – LESD5ZXXT1G

1. Description

The LESD5ZXXT1G is a Transient Voltage Suppressor that designed to protect components which are connected to data and transmission lines against electrostatic discharge (ESD), electrical fast Transients (EFT), and lightning. All pins are rated to withstand 30kV ESD pulses using the IEC61000-4-2 air discharge methods.

2. Features

- IEC 61000-4-2 Level 4 ESD Protection
 - $\pm 30\text{kV}$ Contact Discharge
 - $\pm 30\text{kV}$ Air Discharge
- 250W Peak pulse Power (8/20us)
- RoHS compliance
- Unidirectional configuration
- Low clamping voltage
- Low leakage current
- Protects one power or I/O

3. Applications

- Portable electronics
- Control & monitoring systems
- Servers, notebooks, and desktop PCs
- Set-top box
- Communication systems
- Digital cameras

4. Ordering Information

Part Number	Package	Material	Packing	Quantity per reel	Flammability Rating	Reel Size
LESD5ZXXT1G	SOD523	Halogen	Tape & Reel	3000 PCS	UL 94V-0	7 inches

Table-1 Ordering information

LESD5ZXXT1G

Rev-1.1

5. Pin Configuration and Functions

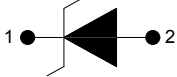
Pin	Name	Description	Outline	Circuit Diagram
1	IO	Connect to IO		
2	GND	Connect to GND		

Table-2 Pin configuration

6. Specification

6.1. Absolute Maximum rating

Over operating free-air temperature range (unless otherwise noted)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20us)@25℃	P _{pk}	-	250	W
Peak pulse current (tp=8/20us)@25℃	I _{PP}	-	Refer to Table-5	A
ESD (IEC61000-4-2 air discharge) @25℃	V _{ESD}	-	±30	kV
ESD (IEC61000-4-2 contact discharge) @25℃	V _{ESD}	-	±30	kV
Junction temperature	T _J	-	150	℃
Operating temperature	T _{OP}	-40	125	℃
Storage temperature	T _{STG}	-55	150	℃
Lead temperature	T _L	-	260	℃

Table-3 Absolute Maximum rating

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6.2. Electrical Characteristics

Symbol	Description
V_{RWM}	Rated reverse stand-off voltage
V_{BR}	Minimum breakdown voltage @ $I_T = 1\text{mA}$
V_{CL}	Typical Clamping voltage
I_{PP}	Maximum peak pulse current
I_R	Reverse leakage current @ V_{RWM}
C_O	Typical line capacitance ($V_{IO}=0\text{V}$, $V_{P-P} = 30\text{mV}$, $f = 1\text{MHz}$)

Table-4 Parameters Description

At $T_A = 25^\circ\text{C}$ unless otherwise noted

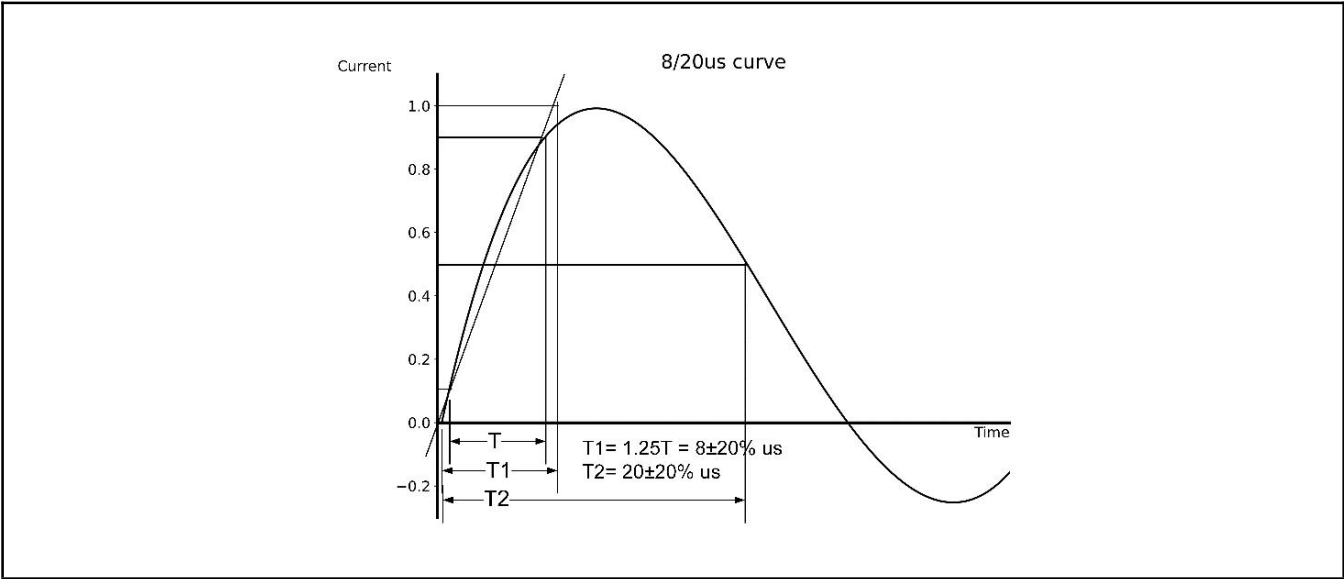
Part Number	V_{RWM}	V_{BR}	$V_{CL}@I=1\text{A}$	I_{PP}	$V_{CL}@I=I_{PP}$	I_R	C_O
	(V)	(V)	(V)	(A)	(V)	(μA)	(pF)
LESD5Z3.3T1G	3.3	4.5	8.5	16.0	18.0	1.0	200
LESD5Z5.0T1G	5.0	6.5	9.5	15.0	20.0	1.0	180
LESD5Z12T1G	12.0	13.3	20.0	8.0	35.0	1.0	100
LESD5Z15T1G	15.0	16.5	25.0	6.0	45.0	1.0	60
LESD5Z24T1G	24.0	26.0	40.0	4.0	55.0	1.0	40

Table-5 Electrical Characteristics for All Series

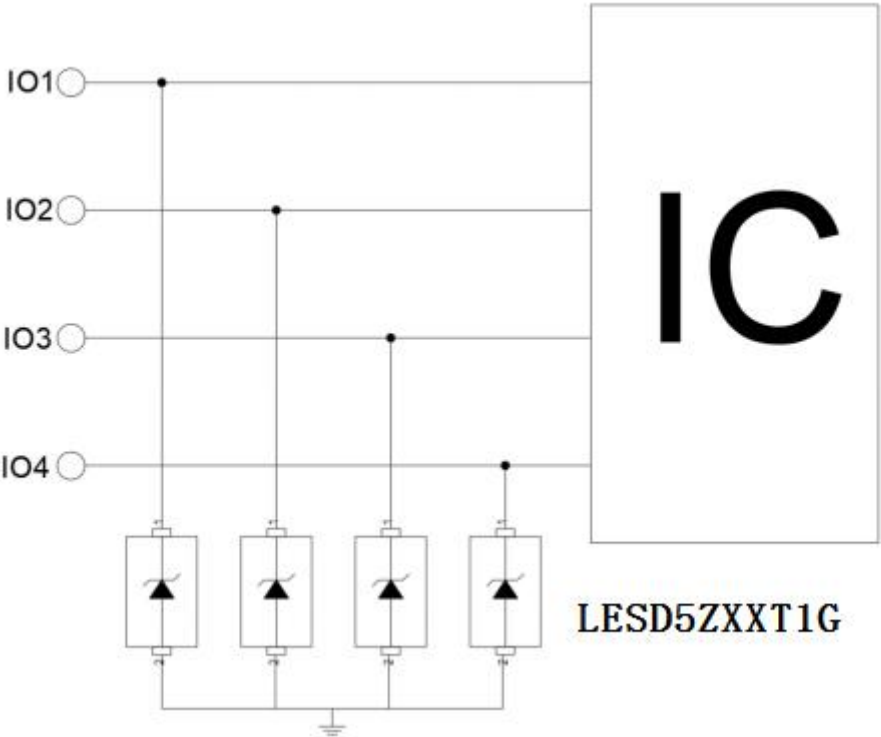
LESD5ZXXT1G

Rev-1.1

7. Typical Characteristic

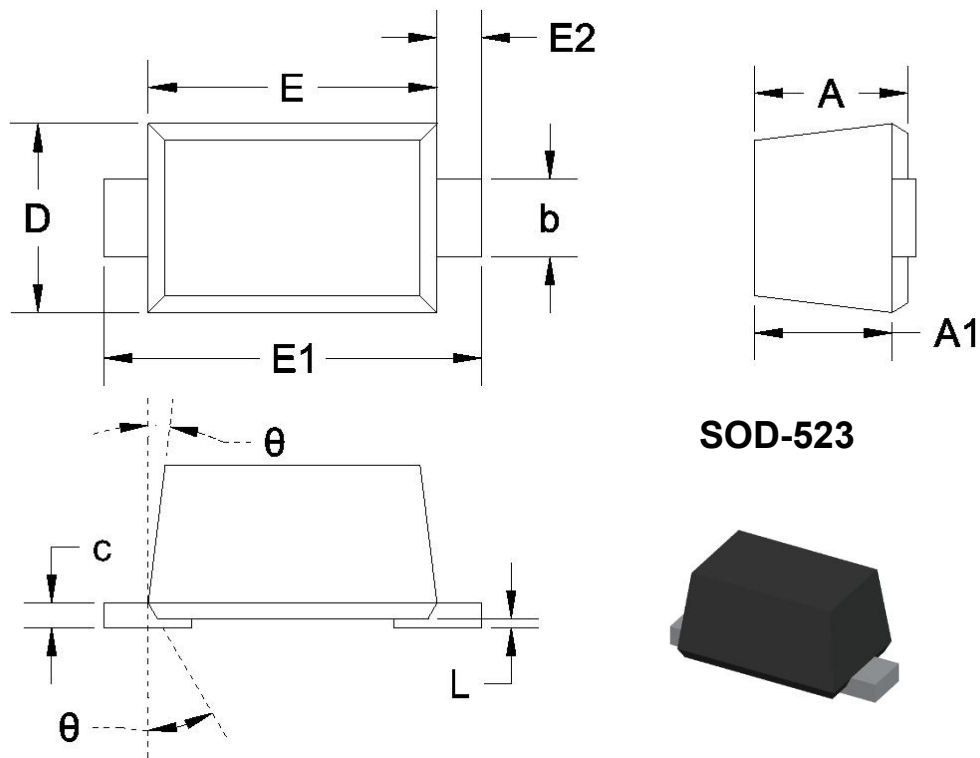


8. Typical Application

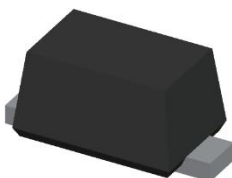


Pic-3 Typical Internet 1G Interface Application

9. Dimension



SOD-523

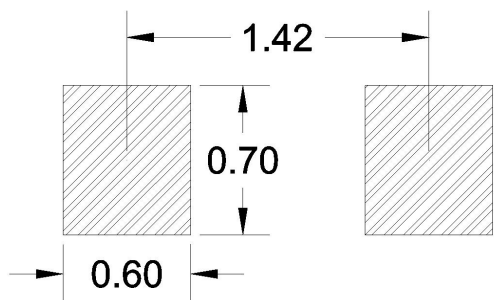


Units: Millimeters

Unit	A	A1	b	c	D	E	E1	E2	L	θ
Max.	0.77	0.70	0.35	0.15	0.125	1.30	1.70	0.20	0.07	7°
Min.	0.51	0.50	0.25	0.08	0.75	1.10	1.50	REF.	0.01	REF.

Table-6 product dimensions

10. Recommended Land Pattern



- Note:
1. Controlling dimension: in millimeters
 2. General tolerance: $\pm 0.05\text{mm}$

3. The pad layout is for reference only

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