LESD5L5.0T1G
ESD PROTECTION DIODE

Discription

The LESD5L5.0T1G protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD. It gives designer the flexibility to protect one unidirectional line in applications where arrays are not practical.



SOD-523

Features

- ★ Transient protection for high-speed data lines
  IEC 61000-4-2(ESD) ±8kV (Contact)
  ±15kV (Air)
  IEC 61000-4-4(EFT) 40A (5/50 ns)
- ★ Peak power dissipation: 60W (8/20us)
- ★ Working voltages : 5V
- ★ Protects one Vcc or data line
- ★ Low clamping voltage
- ★ Low leakage current



Circuit Diagram

Ordering Information

Product ID	Pack	Qty(PCS)
LESD5L5.0T1G	SOD-523	3000

Absolute Ratings(Tamb = 25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20 μ s)	60	W
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{stg}	Storage Temperature Range	-55 to +155	°C
T_{op}	Operating Temperature Range	-40 to +125	°C
T_j	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD) air discharge contact discharge	±15 ±8	KV
	IEC61000-4-4 (EFT)	40	A

Electrical Characteristics

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	6.0			V
I_R	Reverse Leakage Current	V_{RWM} = 5.0V			100	nA
V_C	Clamping Voltage	I_{PP} = 1A, t_p = 8/20μs			10	V
		I_{PP} = 4A, t_p = 8/20μs			15	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz		0.4	0.7	pF

Typical Characteristics

Fig 1 Power Derating Curve

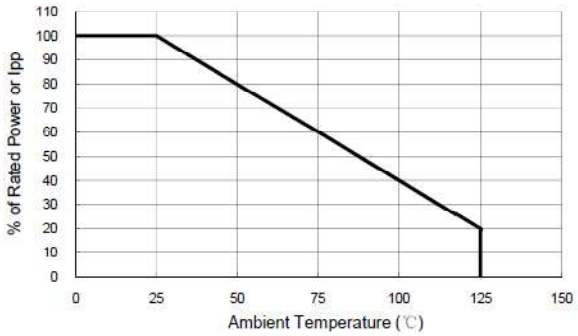


Fig 2 Clamping Voltage vs Peak Pulse Current

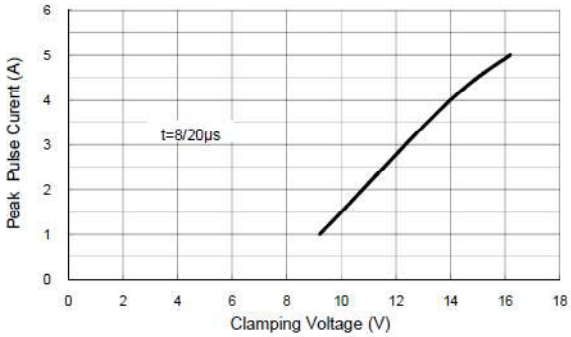


Fig 3 Voltage Sweeping

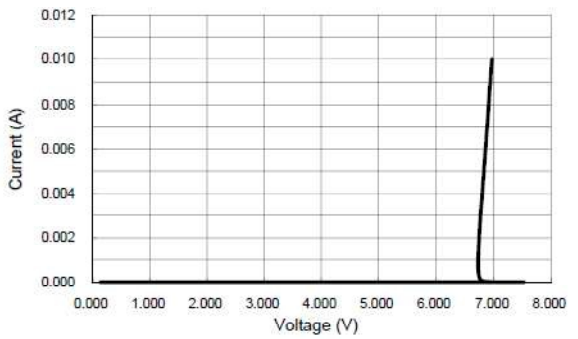


Fig 4 Voltage vs Capacitance

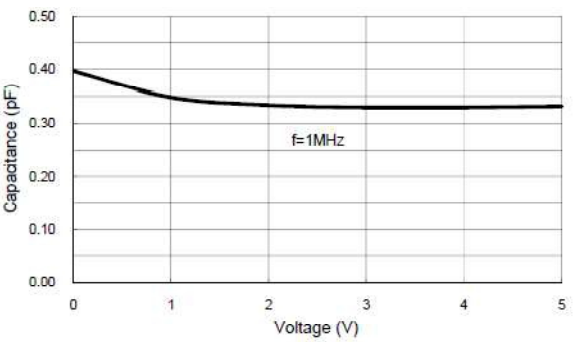


Fig 5 ESD Clamping
(+8kV Contact per IEC 61000-4-2)

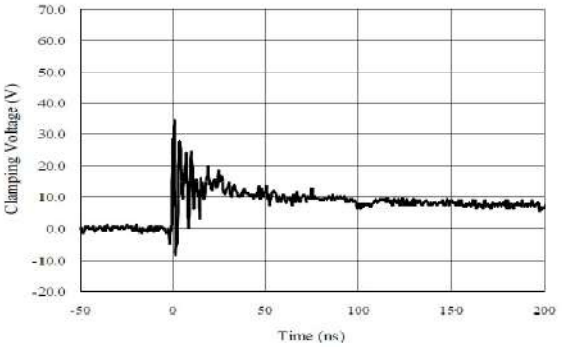
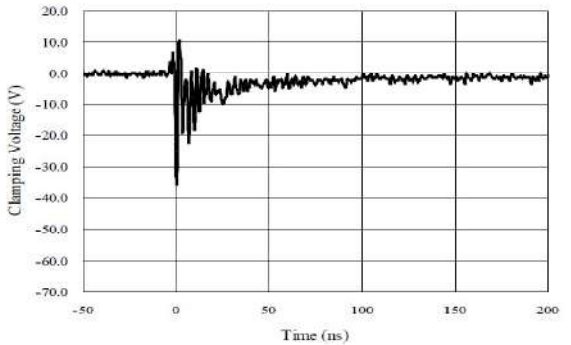
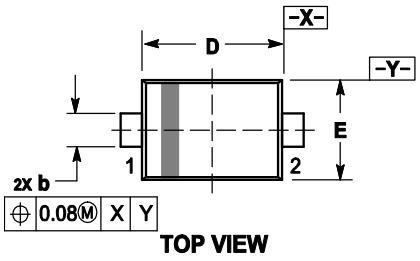


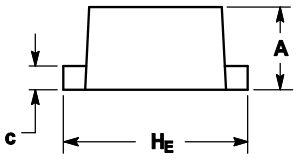
Fig 6 ESD Clamping
(-8kV Contact per IEC 61000-4-2)



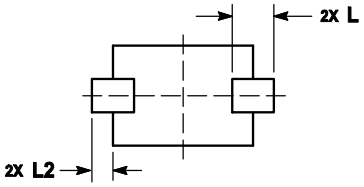
Outline And Dimensions



TOP VIEW



SIDE VIEW



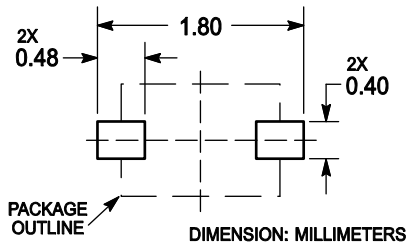
BOTTOM VIEW

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.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.50	0.60	0.70	0.020	0.024	0.028
b	0.25	0.30	0.35	0.010	0.012	0.014
c	0.07	0.14	0.20	0.003	0.006	0.008
D	1.10	1.20	1.30	0.043	0.047	0.051
E	0.70	0.80	0.90	0.028	0.031	0.035
H_E	1.50	1.60	1.70	0.059	0.063	0.067
L	0.30 REF			0.012 REF		
L_2	0.15	0.20	0.25	0.006	0.008	0.010

Soledering Footprint



DIMENSION: MILLIMETERS

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HXY MOSFET:

CH440G 1SMB5930BT3G C3M0040120D E4D10120A MSC040SMA120B4 SGM3798YG/TR
IRLML2244TRPBF-HXY MUR1040FCT SS5150 Si2323DS-T1-E3-HXY TLV74318PDBVR-HXY 1SMB5934B
S3D08065E S4D15120H AOD403-HXY C6D06065Q-TR HBAS40-05LT1G MJD127G IDL10G65C5XUMA2
BD237STU ISL28133FHZ-T7 PTVSHC3D5VU C4D08120E-TR TPD1E0B04DPYR 2N7002-HXY
DMPH6250SQ-13 DSC06065 ISL28233FUZ-T7 SG3525-HXY TPS7A0533PDBZR-HXY