

LESD8LH5.0CN3T5G 2-Line ESD protection

ESD Protection Diodes with Ultra-Low Capacitance

The ESD8L is designed to protect voltage sensitive components that require ultra-low capacitance from ESD and transient voltage events. Excellent clamping capability, low capacitance, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its low capacitance, it is suited for use in high frequency designs such as USB 2.0 high speed and antenna line applications.

Specification Features:

- Ultra Low Capacitance 3 pF
- Low Clamping Voltage
- Small Body Outline Dimensions:
0.039" x 0.024" (1.00 mm x 0.60 mm)
- Low Body Height: 0.020" (0.5 mm)
- Stand-off Voltage: 5 V
- Low Leakage
- Response Time is Typically < 1.0 ns
- IEC61000-4-2 Level 4 ESD Protection
- This is a Pb-Free Device

Mechanical Characteristics:

CASE: Void-free, transfer-molded, thermosetting plastic

Epoxy Meets UL 94 V-0

LEAD FINISH: 100% Matte Sn (Tin)

QUALIFIED MAX REFLOW TEMPERATURE: 260°C

Device Meets MSL 1 Requirements

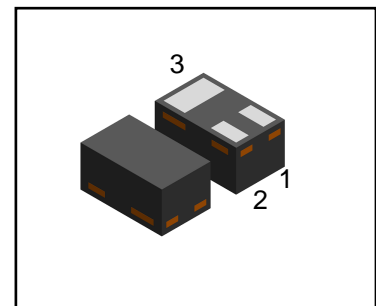
MAXIMUM RATINGS

Rating	Symbol	Value	Unit
IEC 61000-4-2 (ESD) Contact Air		±8 ±8	kV
Total Power Dissipation on FR-5 Board (Note 1) @ T _A = 25°C	P _D	250	mW
Storage Temperature Range	T _{stg}	-55 to +150	°C
Junction Temperature Range	T _J	-55 to +125	°C
Lead Solder Temperature - Maximum (10 Second Duration)	T _L	260	°C

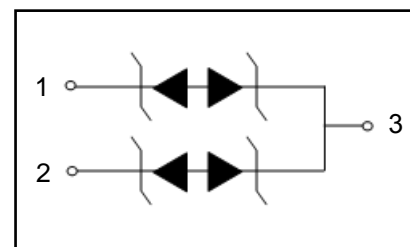
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. FR-5 = 1.0 x 0.75 x 0.62 in.

LESD8LH5.0CN3T5G



SOT883



Ordering information

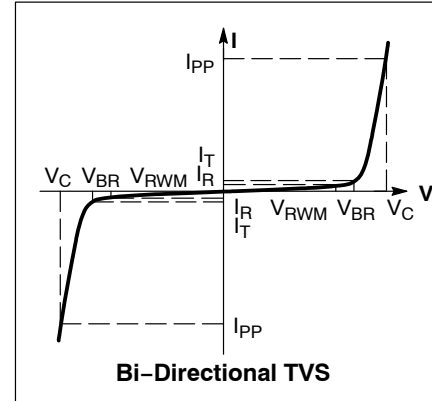
Device	Marking	Shipping
LESD8LH5.0CN3T5G	AB	10000/Tape&Reel

LESD8LH5.0CN3T5G

ELECTRICAL CHARACTERISTICS

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

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
P_{pk}	Peak Power Dissipation
C	Capacitance @ $V_R = 0$ and $f = 1.0$ MHz



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Device	Device Marking	V_{RWM} (V)	I_R (μA) @ V_{RWM}	V_{BR} (V) @ I_T (Note 2)	I_T (mA)	C (pF) (Max)	V_C (V) @ $I_{PP} = 1$ A (Note 3)	V_C (Per IEC61000-4-2 (Note 4))
		Max	Max	Min			Max	
LESD8LH5.0CN3T5G	AB	5.0	1.0	5.5	1.0	3.5	9.8	Figures 1 and 2 See Below

- V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C .
- Surge current waveform per Figure 4.
- For test procedure see Figures 3.

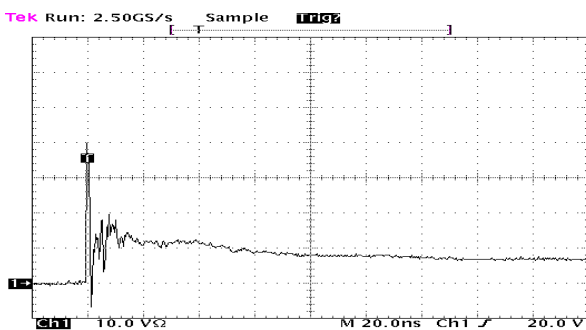


Figure 1. ESD Clamping Voltage Screenshot Positive 8 kV Contact per IEC61000-4-2

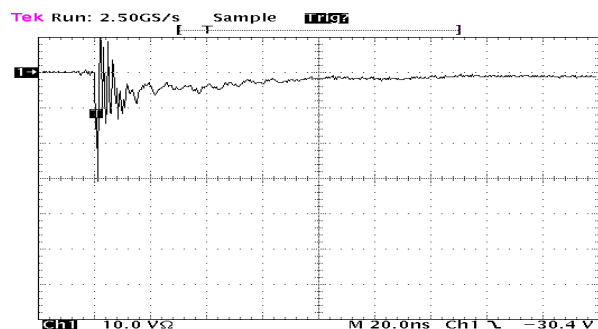
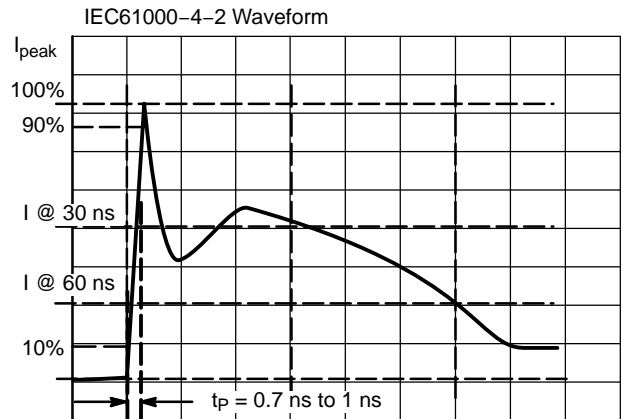
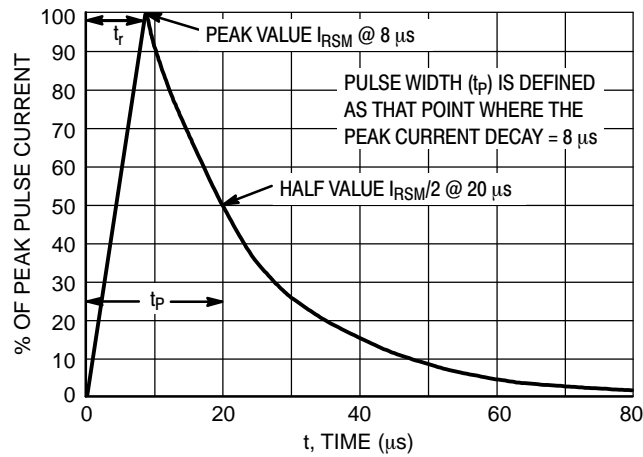


Figure 2. ESD Clamping Voltage Screenshot Negative 8 kV Contact per IEC61000-4-2

LESD8LH5.0CN3T5G

IEC 61000-4-2 Spec.

Level	Test Voltage (kV)	First Peak Current (A)	Current at 30 ns (A)	Current at 60 ns (A)
1	2	7.5	4	2
2	4	15	8	4
3	6	22.5	12	6
4	8	30	16	8


Figure 3. IEC61000-4-2 Spec

Figure 4. 8 X 20 μs Pulse Waveform

