

Transient Voltage Suppressors ESD Protection Diodes with Ultra-Low Capacitance

The ESD5L 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.

●FEATURES

- 1)Ultra Low Capacitance 0.5 pF
- 2)Low Clamping Voltage
- 3)Small Body Outline Dimensions
- 4)Stand-off Voltage: 5 V
- 5)Low Leakage
- 6)Response Time is Typically < 1.0 ns
- 7)IEC61000-4-2 Level 4 ESD Protection
- 8)We declare that the material of product compliant with RoHS requirements and Halogen Free.

●MECHANICAL CHARACTERISTICS:

CASE: Void-free, transfer-molded, thermosetting plastic Epoxy Meets UL 94 V-0

LEAD FINISH: 100% Matte Sn (Tin)

●DEVICE MARKING AND RESISTOR VALUES

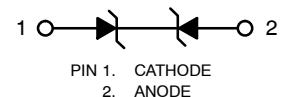
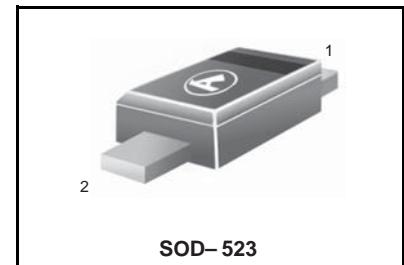
Device	Marking	Shipping
LESD5L5.0CT1G	L5	3000/Tape&Reel
LESD5L5.0CT5G	L5	8000/Tape&Reel

●MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
IEC 61000-4-2 (ESD) Contact Air		±8	kV
Total Device Dissipation, FR-5 Board (Note 1) @ T _A = 25°C	P _D	200	mW
Junction Temperature Range	T _J	-55 ~ +125	°C
Storage temperature Range	T _{Stg}	-55 ~ +150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T _L	260	°C

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

LESD5L5.0CT1G

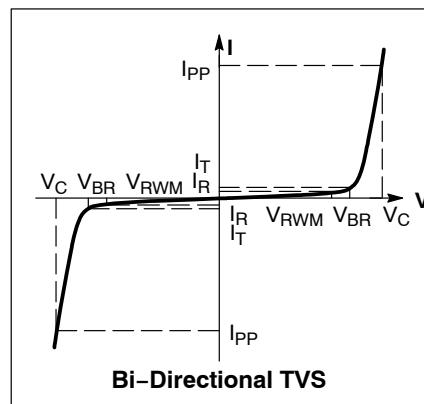


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ELECTRICAL CHARACTERISTICS

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

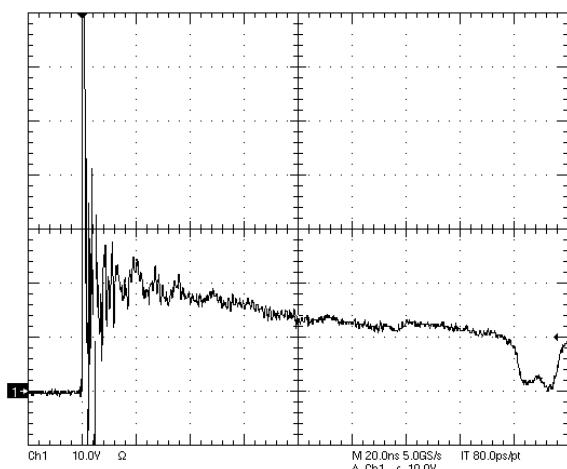
Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F
P_{pk}	Peak Power Dissipation
C	Capacitance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



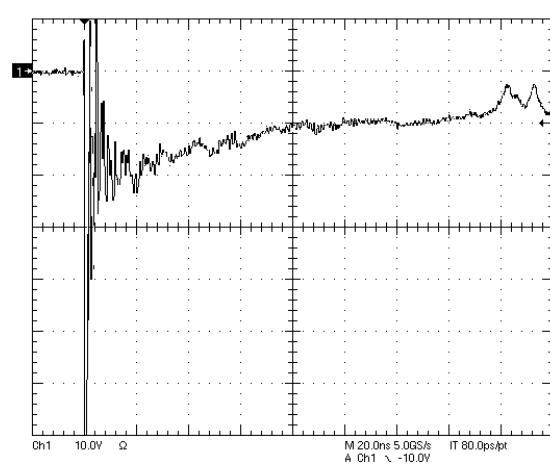
●ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Device	Device Marking	V_{RWM} (V)	I_R (u A) @ V_{RWM}	V_{BR} (V) @ I_T (Note 2)	IT	C (pF)	V_C (V) @ $I_{PP} = 1 \text{ A}$	VC
		Max	Max	Min			Max	
LESD5L5.0CT1G	L5	5	1	5.4	1	0.5	0.9	12.9 Figures 1 and 2 See Below

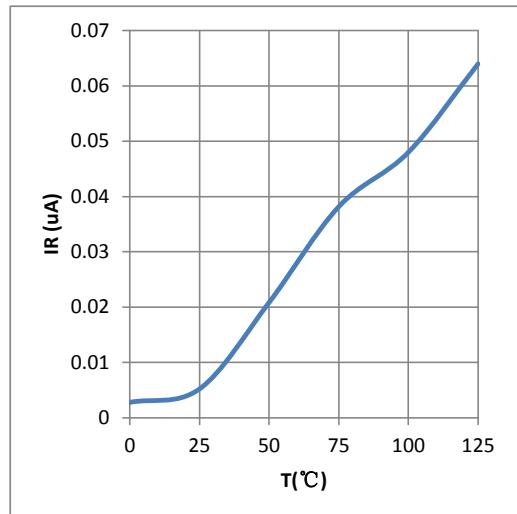
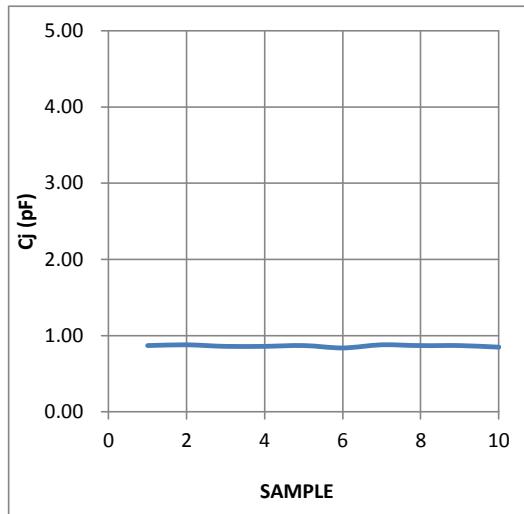
2. VBR is measured with a pulse test current IT at an ambient temperature of 25°C.

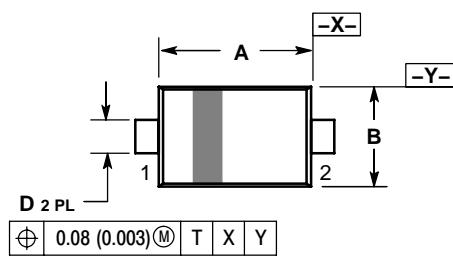


**Figure 1. ESD Clamping Voltage Screenshot
Positive 8 kV Contact per IEC61000-4-2**



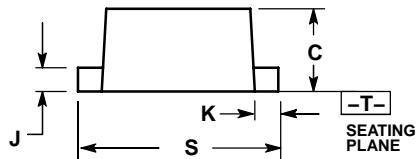
**Figure 2. ESD Clamping Voltage Screenshot
Negative 8 kV Contact per IEC61000-4-2**

LESD5L5.0CT1G**ELRCTRICAL CHARACTERISTICS CURVES****Fig 3. Reverese character****Fig 4. Capacitance character**

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NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.10	1.20	1.30	0.043	0.047	0.051
B	0.70	0.80	0.90	0.028	0.032	0.035
C	0.50	0.60	0.70	0.020	0.024	0.028
D	0.25	0.30	0.35	0.010	0.012	0.014
J	0.07	0.14	0.20	0.0028	0.0055	0.0079
K	0.15	0.20	0.25	0.006	0.008	0.010
S	1.50	1.60	1.70	0.059	0.063	0.067


SOLDERING FOOTPRINT*
