UMW LESD5L5.0CT1G

1.Description

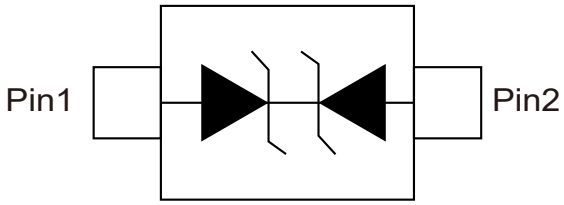
The ESD5L5.0CT1G is designed to protect voltage sensitive components that require ultra−low capacitance from ESD and transient voltage events. Excellent clamping capability, low capacitance, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is 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.

2.Features

- Ultra Low Capacitance 0.5 pF
- Low Clamping Voltage

  Small Body Outline Dimensions:
- 0.047″ x 0.032″ (1.20 mm x 0.80 mm)
- Low Body Height: 0.016″ (0.4 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

3.Pinning information



SOD-523

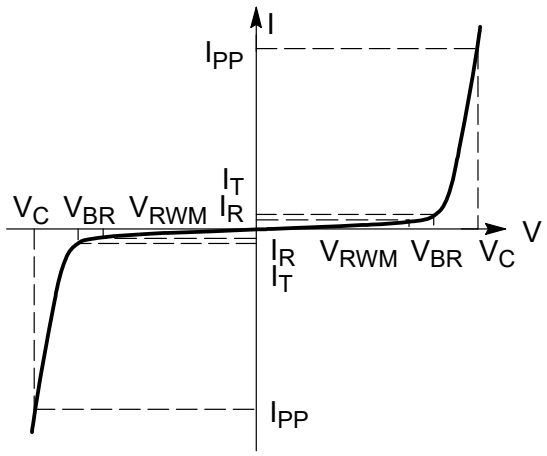
4.Maximum Ratings

Parameter	Symbol	Value	Units
IEC 61000 −4−2 (ESD) Contact Air		±10	kV
		±15	kV
Total Power Dissipation on FR-5 Board(Note 1)@T_A=25°C	P_D	200	mW
Peak Pulse Power (t_p=8/20μs)	P_{PP}	100	W
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

Notes:

1. FR−5 = 1.0 x 0.75 x 0.62 in.

5.Electrical Characteristics(T_A=25°C unless otherwise noted)



Bi−Directional TVS

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	Max. Capacitance @V_R=0 and f =1MHz

6.Electrical Characteristic (T_A=25°C unless otherwise noted)

Device	Device Marking	V_{RWM} (V)	I_R (μA) @ V_{RWM}	V_{BR}(V) @ I_T (Note 2)	I_T	C (pF)		V_C (V) @ I_{PP}=1A (Note 3)	V_C
		Max	Max	Min	mA	Typ	Max	Max	Per IEC61000−4−2(Note 4)
LESD5L5.0CT1G	L5	5	1	5.4	1	0.5	0.9	12.9	Figures 1 and 2 See Below

Notes:

2. V_{BR} is measured with a pulse test current IT at an ambient temperature of 25°C.

3. Surge current waveform per Figure 5.

4. For test procedure see Figures 3 and 4.

7.1Typical characteristic

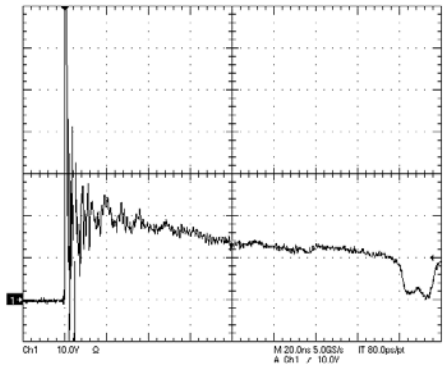


Figure 1: ESD Clamping Voltage Screenshot
Positive 8 kV contact per IEC 61000−4−2

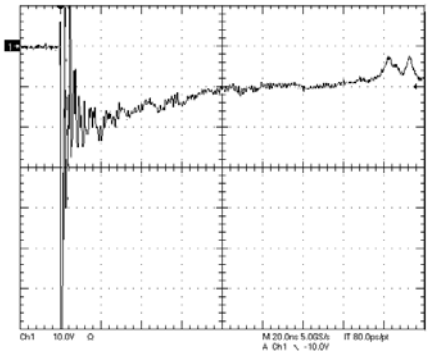


Figure 2: ESD Clamping Voltage Screenshot
Negative 8 kV contact per IEC 61000−4−2

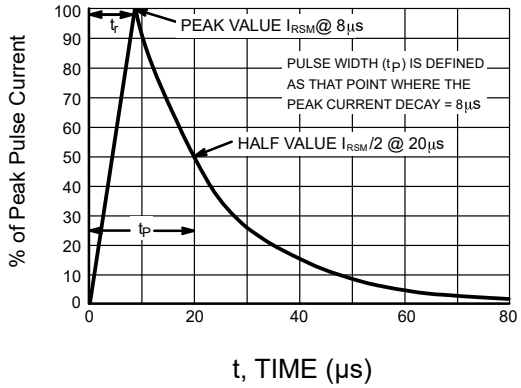
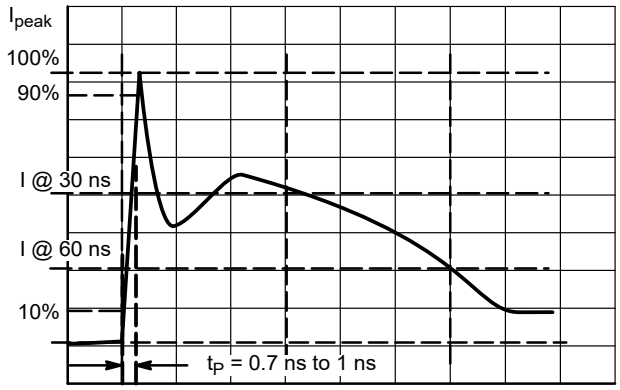


Figure 3: 8 X 20 μs Pulse Waveform

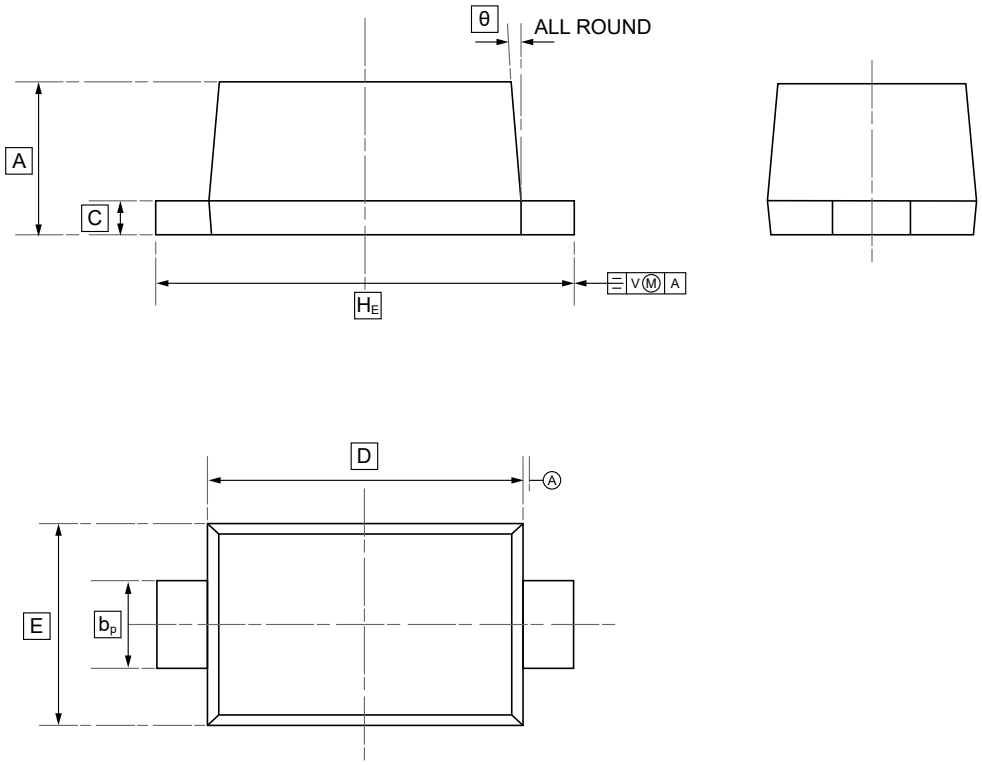
7.2Typical characteristic



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 4: IEC61000−4−2 Spec

8.SOD-523 Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

Symbol	A	b_p	C	D	E	H_E	θ
Min	0.58	0.3	0.100	1.15	0.75	1.5	5°
Max	0.68	0.4	0.135	1.25	0.85	1.7	

9.Ordering information

yww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW LESD5L5.0CT1G	SOD-523	3000	Tape and reel

10.Disclaimer

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