

LESD8D5.0ET5G ESD PROTECTION DIODE

Discription

The LESD8D5.0ET5G is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space is at a premium.

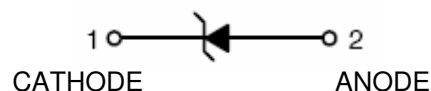
Applications

- | Cellular phones audio
- | MP3 players
- | Digital cameras
- | Portable applications
- | Mobile telephone

Features

- | Low Leakage
- | Response Time is Typically < 1 ns
- | IEC61000-4-2 Level 4 ESD Protection
- | These are Pb-Free Devices
- | We declare that the material of product compliance with RoHS requirements.

LESD8D5.0ET5G



Ordering information

Device	Marking	Shipping
LESD8D5.0ET5G	DE	10000/Tape&Reel

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
IEC 61000-4-2 (ESD) Air discharge		±30	kV
Contact discharge		±30	kV
Total Power Dissipation on FR-5 Board (Note 1) @ T _A =25°C	PD	200	mW
Junction and Storage Temperature Range	T _J ,T _{STG}	-55 to 150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	TL	260	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Rating 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.

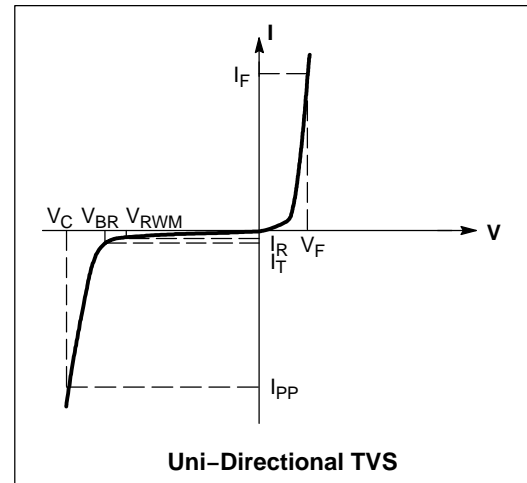
1. FR-5 = 1.0*0.75*0.62 in.

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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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5	V	
Breakdown Voltage	V_{BR}	5.6		8	V	$I_R = 1\text{mA}$
Reverse Leakage Current	I_R			1	μA	$V_R = 5\text{V}$
Peak Pulse Current	I_{pp}			8	A	
Clamping Voltage	V_C			9	V	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)
				10.8	V	$I_{PP} = 5\text{A}$ (8 x 20 μs pulse)
				13	V	$I_{PP} = 8\text{A}$ (8 x 20 μs pulse)
Capacitance	C			50	pF	$V_R = 0\text{V}$, $f = 1\text{MHz}$

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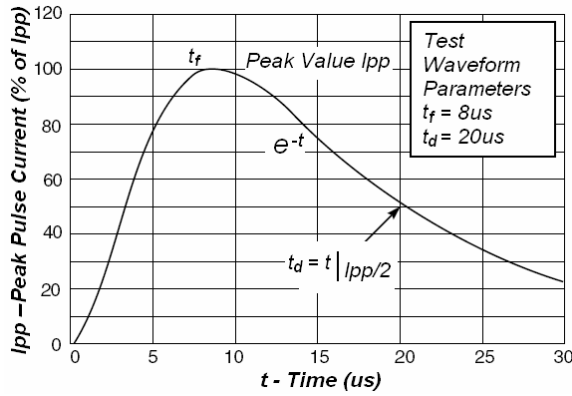


Fig1. Pulse Waveform

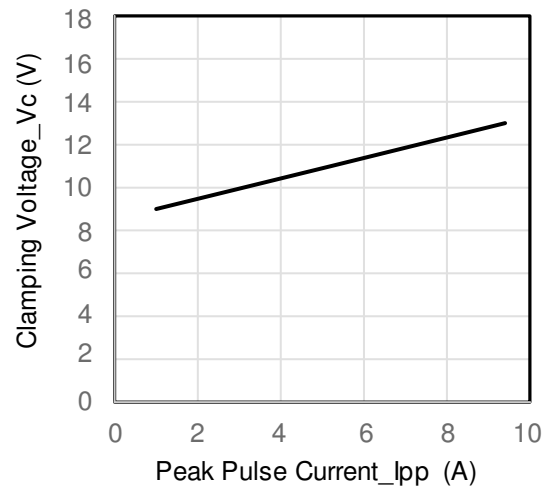


Fig2. Clamping Voltage vs. Peak Pulse Current

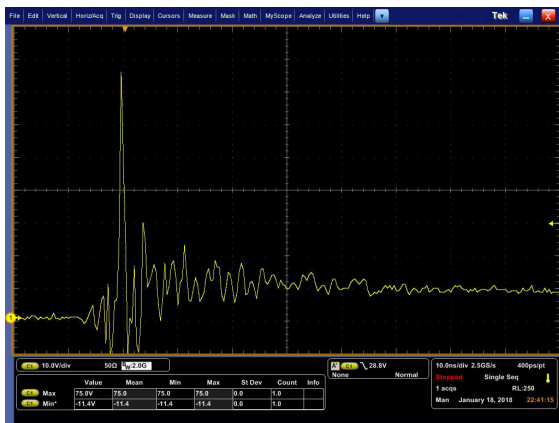


Fig3. Positive 8kV contact per IEC 61000-4-2

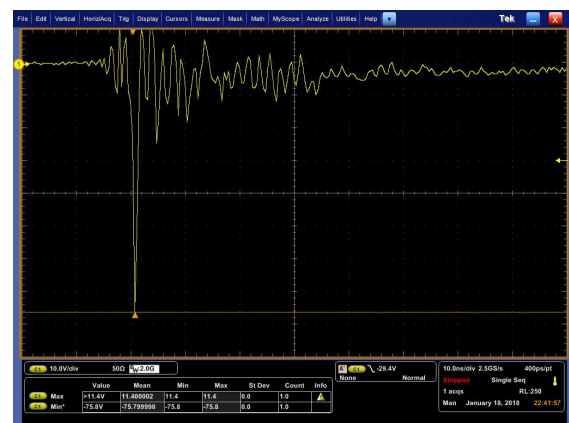
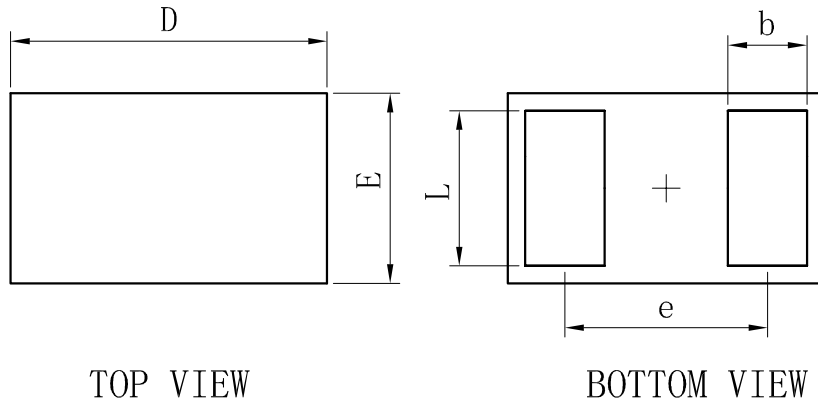


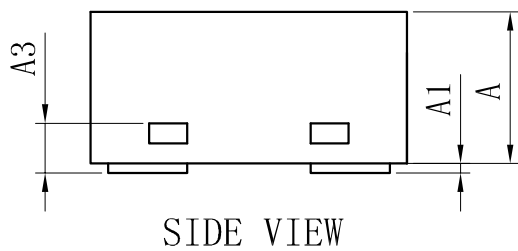
Fig4. Negative 8kV contact per IEC 61000-4-2

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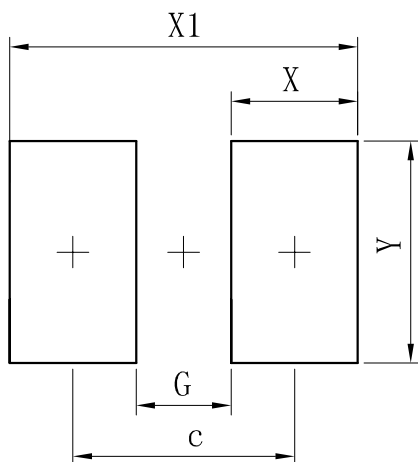
Package Outline Dimension



SOD882			
Dim	Min	Typ	Max
D	0.95	1.00	1.05
E	0.55	0.60	0.65
e	—	0.64	—
L	0.44	0.49	0.54
b	0.20	0.25	0.30
A	0.43	0.48	0.53
A1	0	—	0.05
A3	0.127REF.		
All Dimensions in mm			



Suggested Pad layout



Dimensions	(mm)
c	0.70
G	0.30
X	0.40
X1	1.10
Y	0.70