

LESD11D12CAT5G ESD PROTECTION DIODE

Discription

The LESD11D12CAT5G 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, digital cameras and many other portable applications where board space is at a premium.

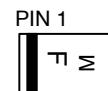
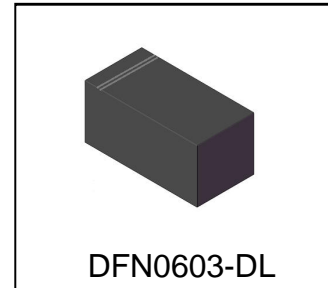
Applications

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

Features

- | Small Body Outline Dimensions:
0.61 mm x 0.31 mm
- | Low Body Height: " 0.28 mm
- | Low Leakage
- | Response Time is Typically < 1 ns
- | IEC61000-4-2 Level 4 ESD Protection
- | We declare that the material of product compliance with RoHS requirements and Halogen Free.

LESD11D12CAT5G



F = Specific Device Code
M = Month Code

Ordering information

Device	Marking	Shipping
LESD11D12CAT5G	F (Rotate 90°cw)	15000/Tape&Reel

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
IEC 61000-4-2 (ESD) Air Contact Contact discharge		±30 ±30	kV 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.

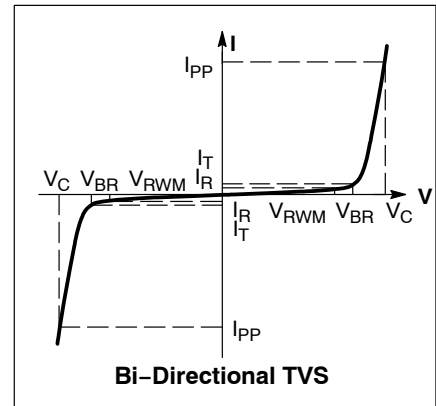
1. FR-5 = 1.0*0.75*0.62 in.

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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
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 specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			12	V	
Breakdown Voltage	V_{BR}	13	14.5	16	V	$I_T = 1\text{mA}$
Reverse Leakage Current	I_R		50	100	nA	$V_R = 12\text{V}$
Peak Pulse Current (8/20 μs)	I_{PP}			9	A	
Clamping Voltage	V_C			16	V	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)
Clamping Voltage	V_C		17	19	V	$I_{PP} = 8\text{A}$ (8 x 20 μs pulse)
Junction Capacitance	C_J		9	12	pF	$V_R = 0\text{V}$, $f = 1\text{MHz}$, Level=50mV
Dynamic Resistance	$R_{(dynamic)}$		0.2	0.3	Ω	$t_p = 8/20 \mu\text{s}$

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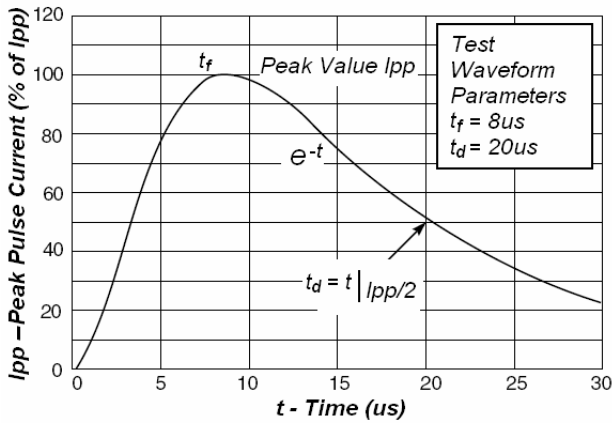


Fig1. Pulse Waveform

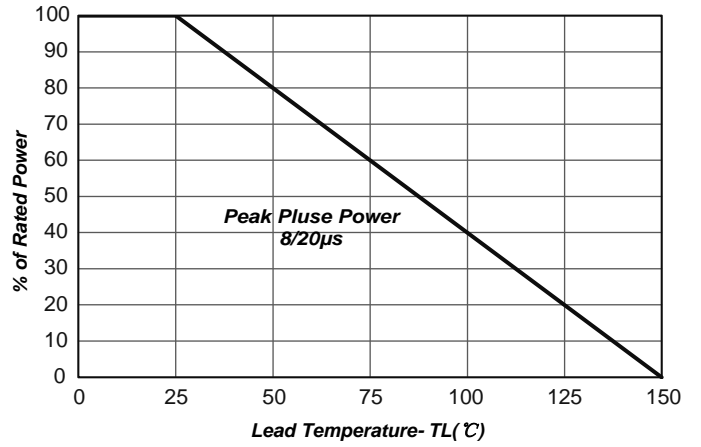


Fig2 Power Derating

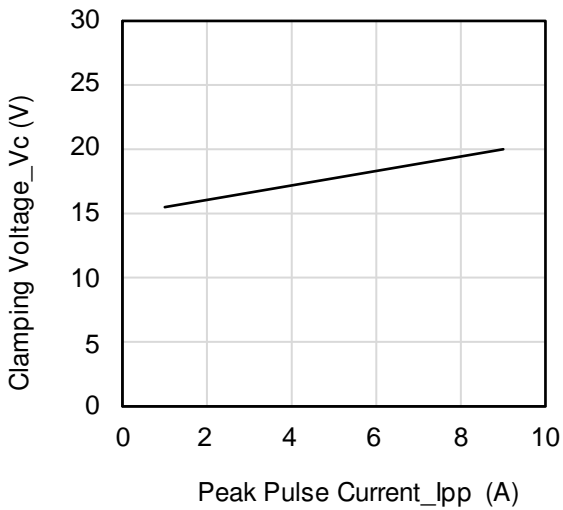


Fig3. Clamping Voltage vs. Peak Pulse Current

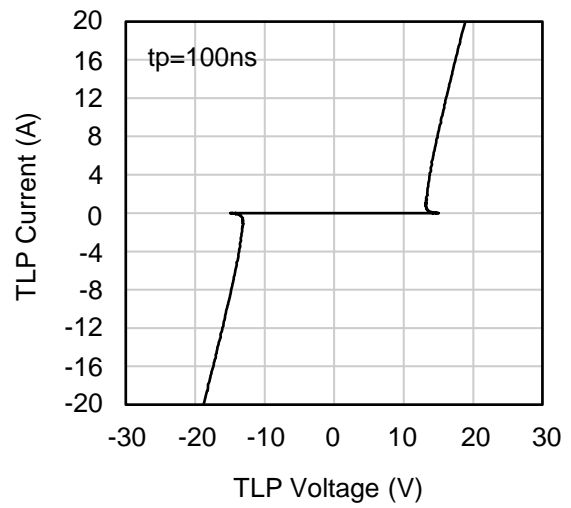
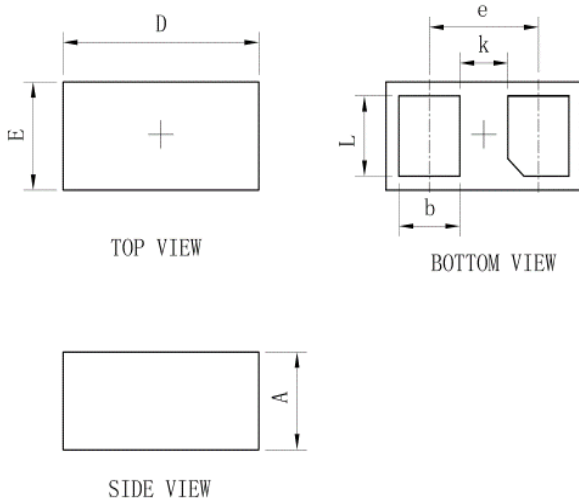


Fig4. TLP Measurement

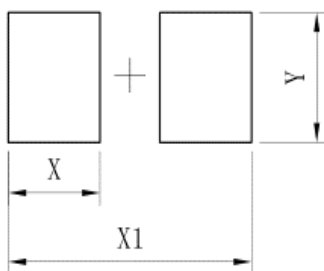
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OUTLINE AND DIMENSIONS



DFN0603-DL			
Dim	Min	Typ.	Max
D	0.58	0.61	0.64
E	0.28	0.31	0.34
e	-	0.34	-
L	0.20	0.23	0.26
b	0.16	0.19	0.22
A	0.25	0.28	0.31
k	0.12	0.15	0.18
All Dimensions in mm			

SOLDERING FOOTPRINT



DFN0603-DL	
DIM	(mm)
X	0.23
X1	0.61
Y	0.30

DISCLAIMER

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