



## Description

LESD8L3.3CT5G is a low-capacitance Transient Voltage Suppressor (TVS) designed to provide electrostatic discharge (ESD) protection for high-speed data interfaces. With typical capacitance of 0.25pF, LESD8L3.3CT5G is designed to protect parasitic-sensitive systems against over-voltage and over-current transient events. It complies with IEC 61000-4-2 (ESD), Level 4 ( $\pm 15\text{kV}$  air,  $\pm 8\text{kV}$  contact discharge), IEC 61000-4-4 (electrical fast transient - EFT) (40A, 5/50 ns), very fast charged device model (CDM) ESD and cable discharge event (CDE), etc. LESD8L3.3CT5G uses ultra-small DFN1006-2L package. Each LESD8L3.3CT5G device can protect one high-speed data line. It offers system designers flexibility to protect single data line where space is a premium concern. The combined features of low capacitance, ultra-small size and high ESD robustness make LESD8L3.3CT5G ideal for high-speed data port and high-frequency line applications, such as cellular phones and HD visual devices.

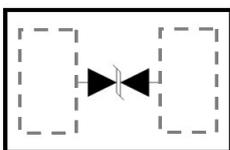
## Features

- Transient protection for high-speed data lines  
IEC 61000-4-2 (ESD)  $\pm 20\text{kV}$  (Air)  
 $\pm 20\text{kV}$  (Contact)  
IEC 61000-4-4 (EFT) 40A (5/50 ns)  
Cable Discharge Event (CDE)
- Package optimized for high-speed lines
- Ultra-small package (1.0mm $\times$ 0.6mm $\times$ 0.5mm)
- Protects one data, control line
- Low capacitance: 0.25pF (Typical)
- Low leakage current
- Low clamping voltage

## Ordering Information

- Device: LESD8L3.3CT5G
- Package: DFN1006-2L
- Material: Halogen free
- Packing: Tape & Reel
- Quantity per reel: 10,000 pcs

## Pin Configuration



## Mechanical Data

- DFN1006-2L package
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering guaranteed:  
260 $^{\circ}\text{C}$ /10s
- Reel size: 7 inch

## Applications

- SerialATA
- Desktops, Servers and Notebooks
- Cellular Phones
- MDDI Ports
- USB Data Line Protection
- Display Ports
- Digital Visual Interfaces (DVI)

## Package Outline





### Absolute Maximum Rating

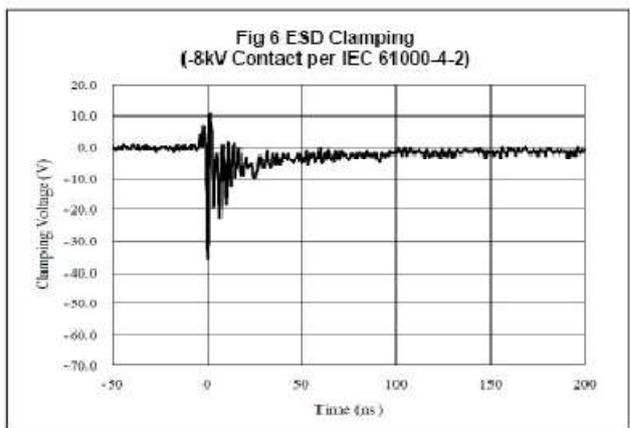
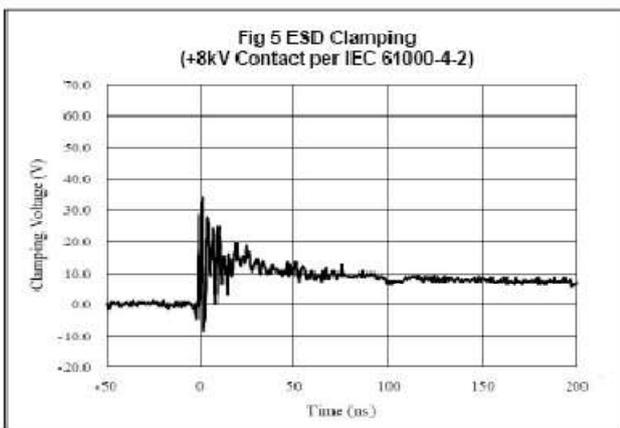
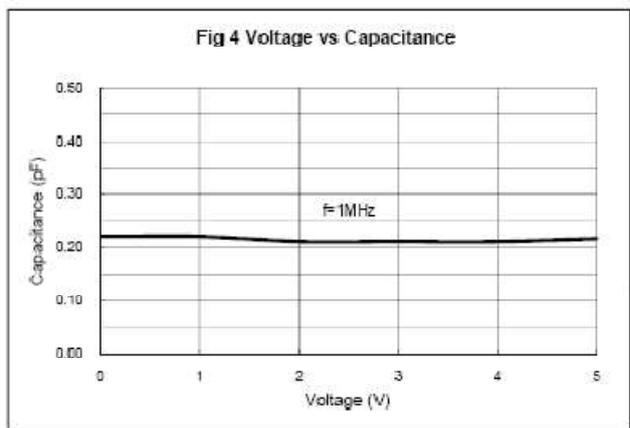
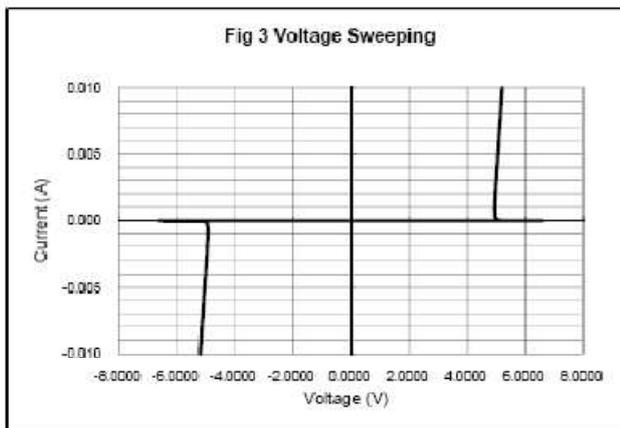
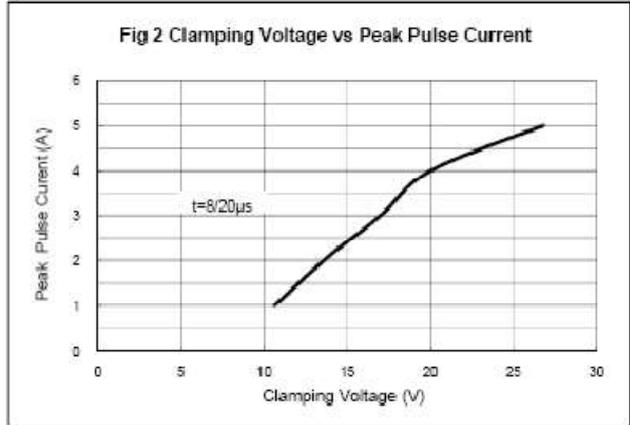
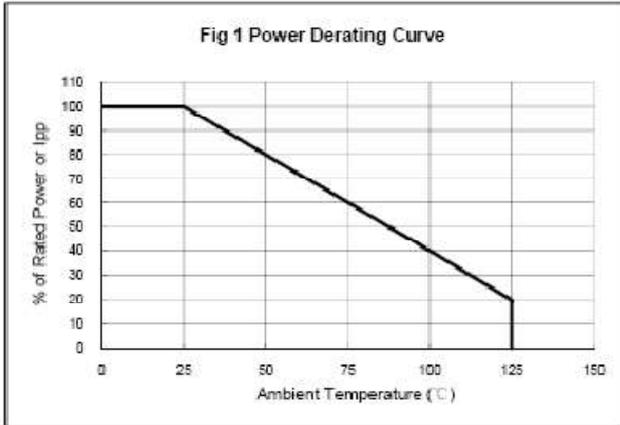
Symbol	Parameter	Value	Units
$V_{ESD}$	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$\pm 20$ $\pm 20$	kV
$P_{PP}$	Peak Pulse Power (8/20 $\mu$ s)	100	W
$T_{OPT}$	Operating Temperature	-55~125	$^{\circ}$ C
$T_{STG}$	Storage Temperature	-55~150	$^{\circ}$ C

### Electrical Characteristics ( $T_{amb}=25^{\circ}$ C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
$V_{RWM}$	Reverse Working Voltage				3.3	V
$V_{BR}$	Reverse Breakdown Voltage	$I_T = 1mA$	4.2			V
$I_R$	Reverse Leakage Current	$V_{RWM} = 3.3V$			100	nA
$V_C$	Clamping Voltage	$I_{PP} = 1A, t_p = 8/20\mu s$			12	V
		$I_{PP} = 4A, t_p = 8/20\mu s$			25	V
$C_J$	Junction Capacitance	$V_R = 0V, f = 1MHz$		0.25	0.40	pF

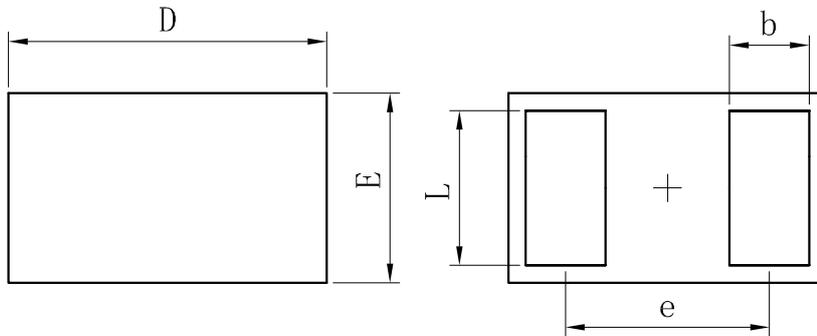


### Electrical Characteristics Curve





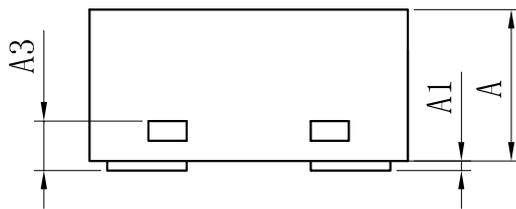
### Outline And Dimensions



TOP VIEW

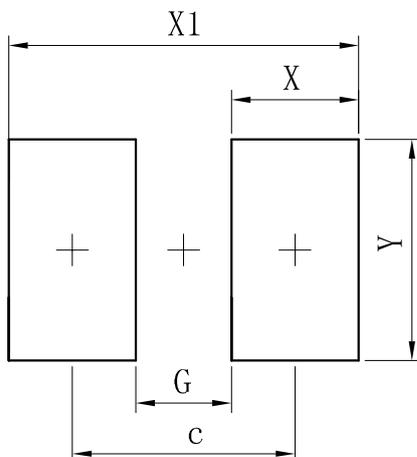
BOTTOM VIEW

DFN1006-2L			
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			



SIDE VIEW

### Soldering Footprint



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



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