

LTVS16D15H11T5G-HW

1- Line Uni- directional TVS Diode

The TVS16D15 is an uni-directional TVS diode, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive data and power line. The ESD16D15 complies with the IEC 61000-4-2 (ESD) standard with $\pm 15\text{kV}$ air and $\pm 8\text{kV}$ contact discharge. It is assembled into an ultra-small 1.6x1.0x0.5mm lead-free DFN package. The small size and high ESD surge protection make ESD16D15 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

Features

- Ultra small package: 1.6x1.0x0.5mm
- Protects one data or power line
- Ultra low leakage: nA level
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT) 80A (5/50ns)
 - IEC61000-4-5 (Lightning) 60A (8/20 μs)
- RoHS Compliant

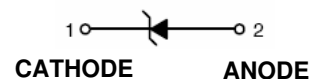
Applications

- Mobile Phones
- Battery Protection
- Power Line Protection
- Vbat pin for Mobile Devices
- Hand Held Portable Applications

Mechanical Characteristics

- Package: DFN1610-2
- Lead Finish: NiPdAu
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020

LTVS16D15H11T5G-HW



72 = Specific Device Code
M = Month Code

Ordering information

Device	Marking	Shipping
LTVS16D15H11T5G-HW	72	8000/Tape&Reel

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Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	1500	W
Peak Pulse Current (8/20 μs)	Ipp	60	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	± 30 ± 30	kV
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM	11		12	V	
Breakdown Voltage	VBR	12.5	14.5	15.5	V	IT = 1mA
Reverse Leakage Current	IR			50	nA	VRWM = 12V
Forward Voltage	VF		1.0	1.2	V	IF = 10mA
Clamping Voltage	VC			18.5	V	Ipp = 10A (8 x 20 μs pulse)
Clamping Voltage	VC			25	V	Ipp = 60A (8 x 20 μs pulse)
Junction Capacitance	CJ		250		pF	VR = 0V, f = 1MHz

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Typical Performance Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise Specified)

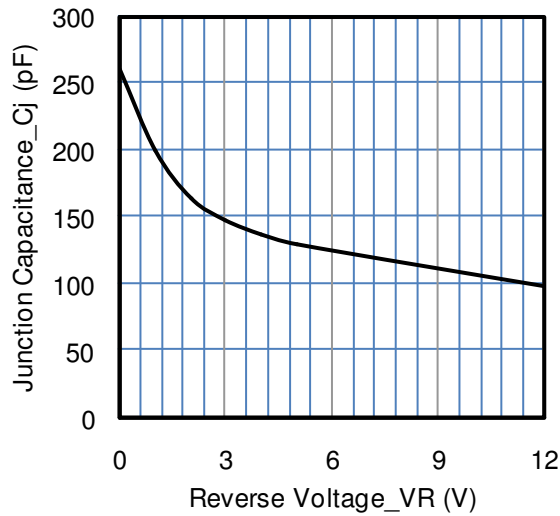


Fig1. Junction Capacitance vs. Reverse Voltage

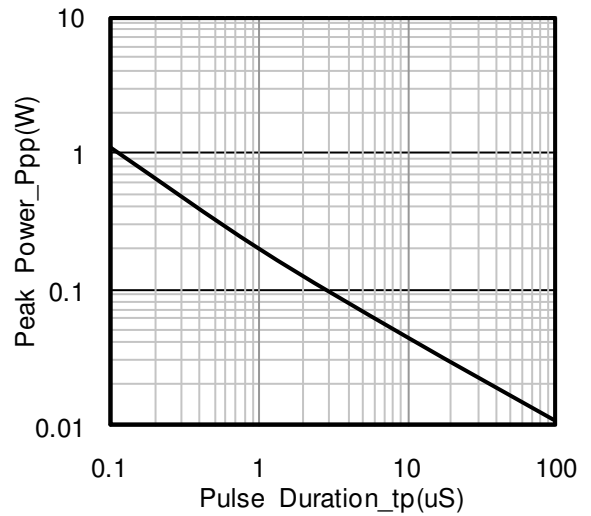


Fig2. Peak Pulse Power vs. Pulse Time

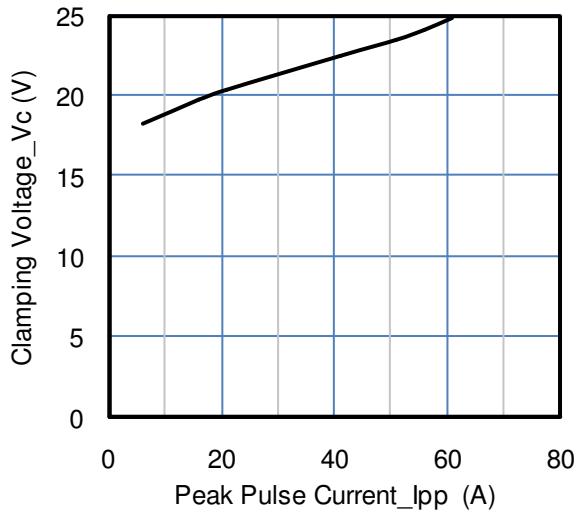


Fig3. Clamping Voltage vs. Peak Pulse Current

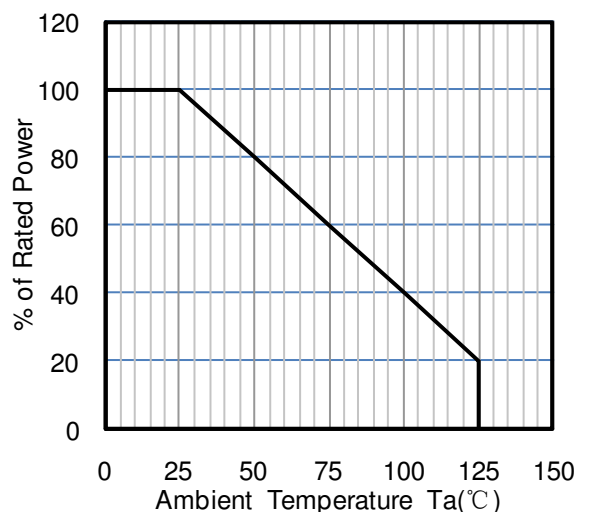


Fig4. Power Derating Curve

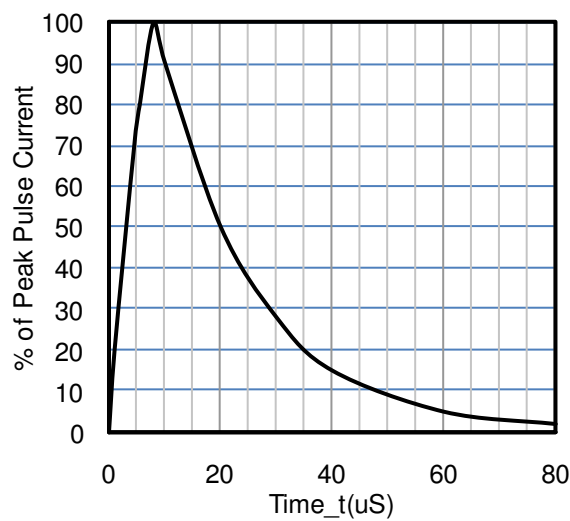


Fig 5. 8 X 20uS Pulse Waveform

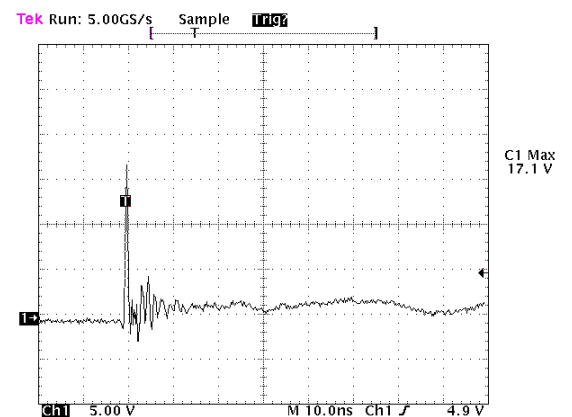
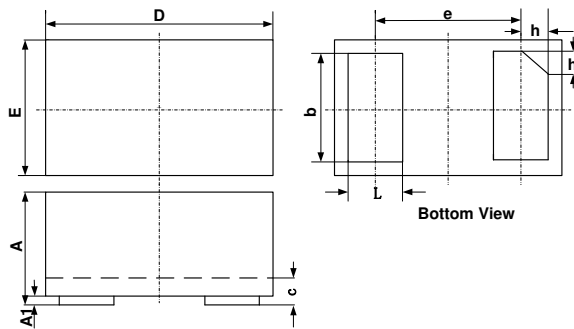


Fig 6. ESD Clamping Voltage
8 kV Contact per IEC61000-4-2

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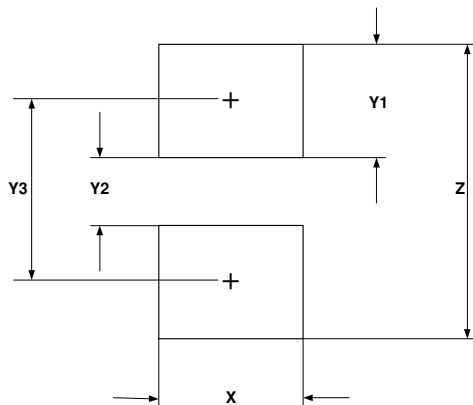
DFN1610-2

DFN1610-2 Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.75	0.80	0.85	0.030	0.032	0.034
c	0.10	0.15	0.20	0.004	0.006	0.008
D	1.55	1.60	1.65	0.062	0.064	0.066
e	1.10 BSC			0.044 BSC		
E	0.95	1.00	1.05	0.038	0.040	0.042
L	0.35	0.40	0.45	0.014	0.016	0.018
h	0.15	0.20	0.25	0.006	0.008	0.010

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	1.00	0.040
Y1	0.62	0.025
Y2	0.60	0.024
Y3	1.22	0.049
Z	1.85	0.074