

LTVS16H24T5G

1-Line Uni-directional TVS Diode

The TVS16H 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 TVS16H complies with the IEC 61000-4-2 (ESD) standard with $\pm 30\text{kV}$ air and $\pm 30\text{kV}$ 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 TVS16H 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
- Low leakage current
- 2-pin leadless package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
- RoHS Compliant and Halogen Free

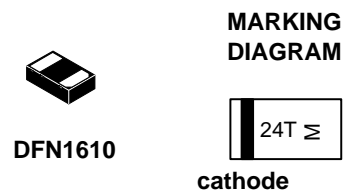
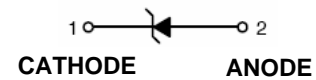
Applications

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

Mechanical Characteristics

- Package: DFN1610
- Case Material: "Green" Molding Compound.
- Moisture Sensitivity: Level 1 per J-STD-020

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24T = Specific Device Code
M = Month Code

Ordering information

Device	Marking	Shipping
LTVS16H24T5G	24T	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	1800	W
Peak Pulse Current (8/20 μs)	Ipp	50	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	± 30 ± 30	kV
Operating Temperature Range	TJ	-40 to +150	$^{\circ}\text{C}$
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			24	V	
Breakdown Voltage	VBR	25.5		28.5	V	$I_T = 1\text{mA}$
Reverse Leakage Current	I _R			0.5	μA	$V_R = 24\text{V}$
Clamping Voltage	VC			35	V	$I_{PP} = 50\text{A}$ (8 x 20 μs pulse)
Junction Capacitance	CJ			230	pF	$V_R = 0\text{V}$, $f = 1\text{MHz}$

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Typical Performance Characteristics (T_A=25°C unless otherwise Specified)

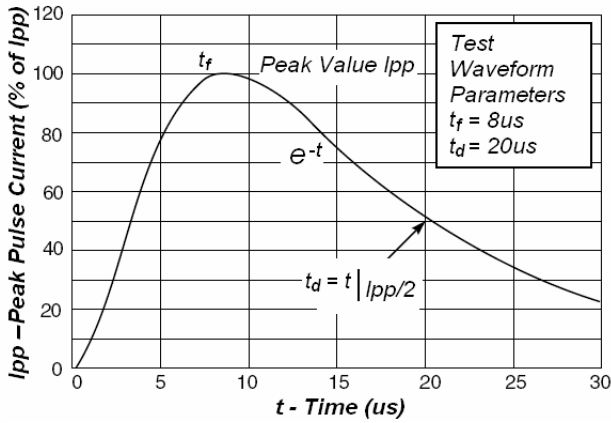


Fig 1. Pulse Waveform

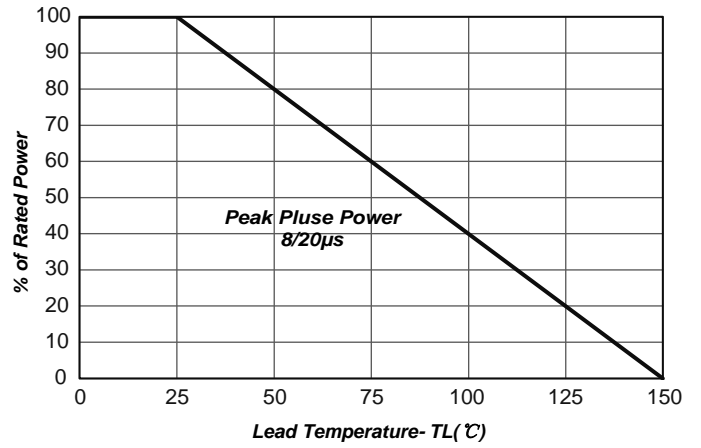


Fig 2. Power Derating Curve

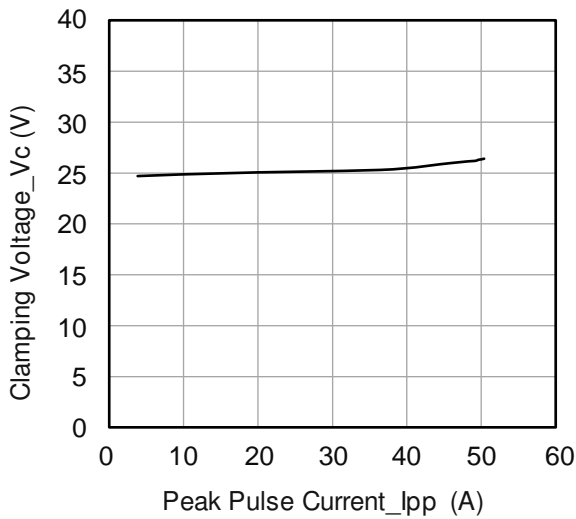


Fig 3. Clamping Voltage vs. Peak Pulse Current

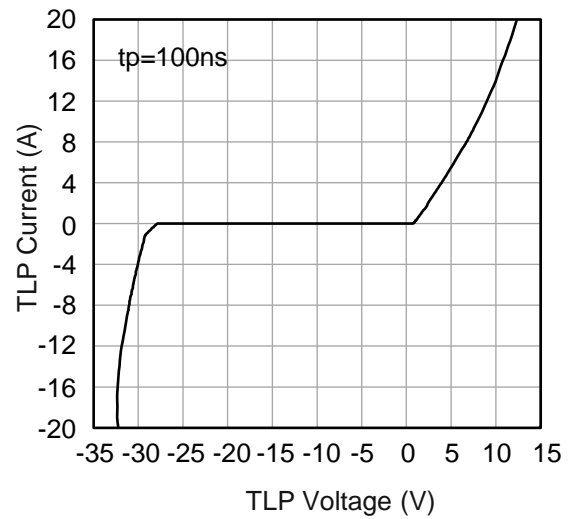


Fig 4. TLP Measurement

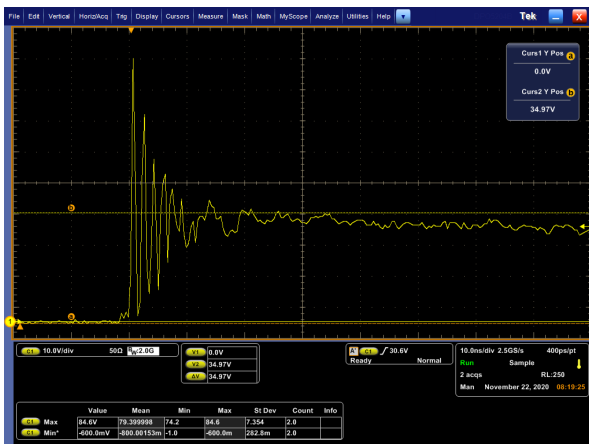


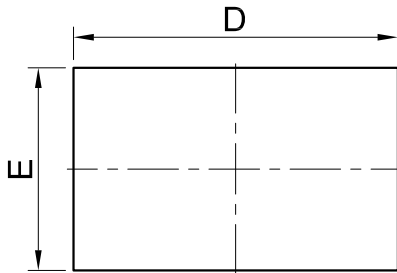
Fig 5. Positive 8kV contact per IEC61000-4-2



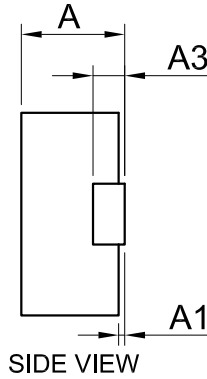
Fig 6. Negative 8kV contact per IEC61000-4-2

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OUTLINE AND DIMENSIONS

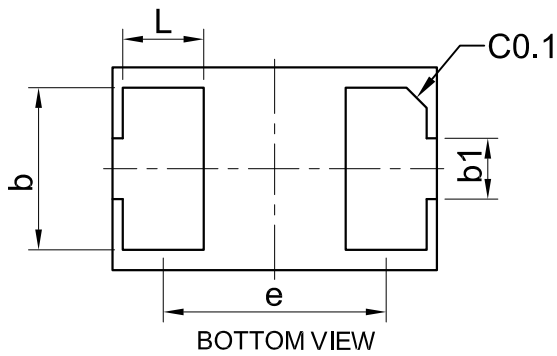


TOP VIEW



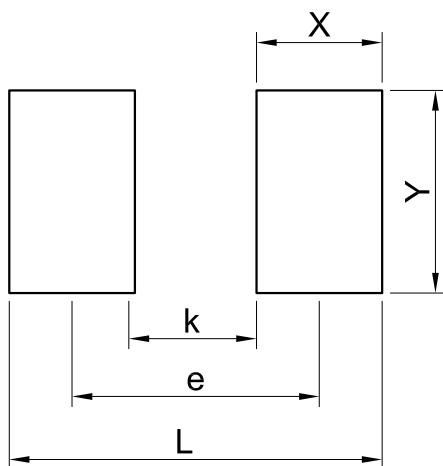
SIDE VIEW

DFN1610			
DIM	MIN	NOR	MAX
A	0.46	0.51	0.56
A1	0.01	0.03	0.05
b	0.75	0.80	0.85
b1	0.25	0.30	0.35
D	1.55	1.60	1.65
E	0.95	1.00	1.05
e	1.10BSC		
L	0.35	0.40	0.45
A3	0.127REF.		
All Dimensions in mm			



BOTTOM VIEW

SOLDERING FOOTPRINT



DFN1610	
DIM	(mm)
X	0.62
Y	1.00
L	1.84
e	1.22
K	0.60

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