



1- Line Uni- directional TVS Diode

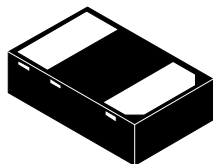
Features:

- Ultra small package: 1.6x1.0x0.5mm
- Protects one data or power line
- 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) 65A (5/50ns)
 - IEC61000-4-5 (Lightning) 65A (8/20 μs)
- RoHS Compliant

Applications:

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

DFN1610-2:



Circuit Diagram:



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	65	A
ESD per IEC 61000-4-2 (Air)	VESD	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
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°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM	11		12	V	
Breakdown Voltage	VBR	12.5	13.5	15.5	V	IT = 1mA
Reverse Leakage Current	IR			0.5	μA	VR = 12V
Forward Voltage	VF		1.0	1.2	V	IF = 10mA
Clamping Voltage	VC			16	V	IPP = 10A (8 x 20μspulse)
Clamping Voltage	VC			23	V	IPP = 60A (8 x 20 μs pulse)
Junction Capacitance	CJ		482		pF	VR = 0V, f = 1MHz

Ordering information

Device	Marking	Shipping
TVS16H12-S08T	B3	8000/Tape&Reel



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

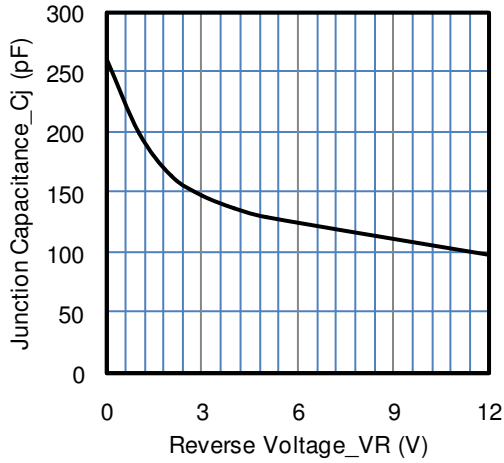


Fig1. Junction Capacitance vs. Reverse Voltage

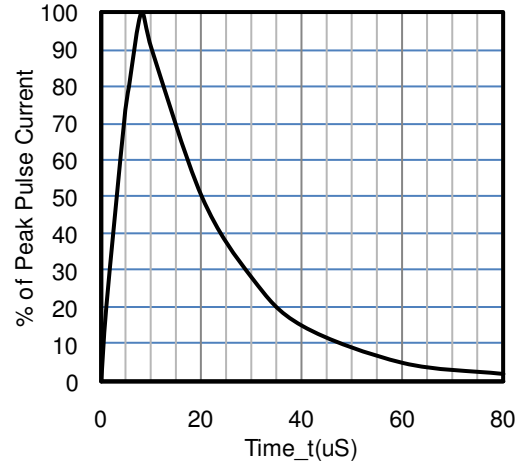


Fig 2. 8 X 20uS Pulse Waveform

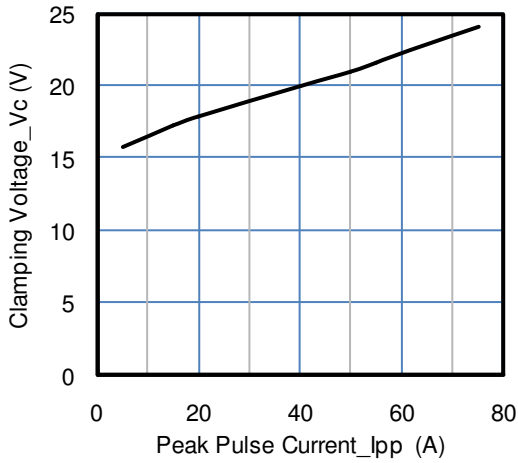


Fig3. Clamping Voltage vs. Peak Pulse Current

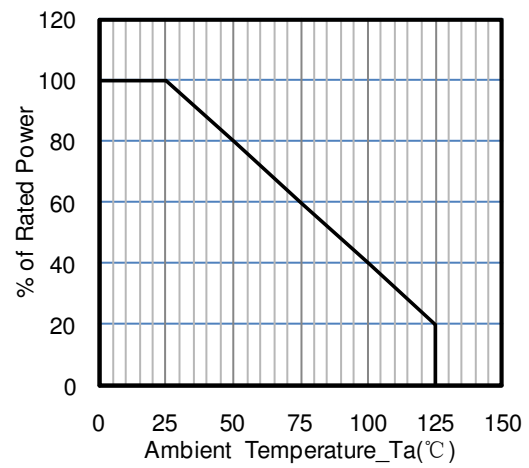


Fig4. Power Derating Curve

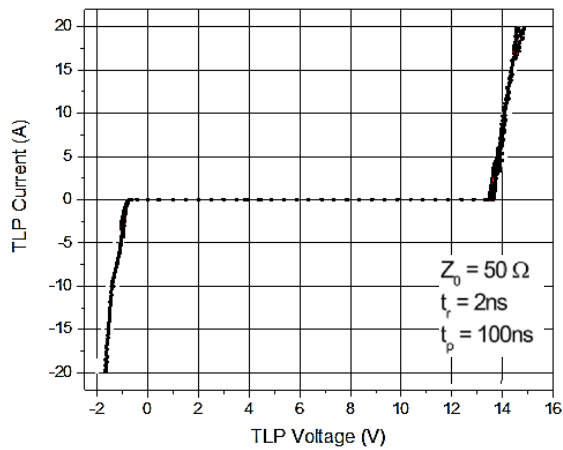
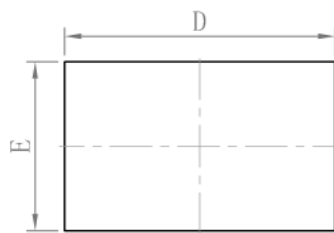


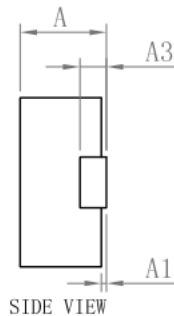
Fig5. TLP Measurement



Solder Reflow Recommendation

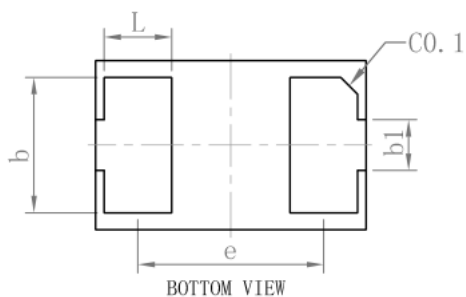


TOP VIEW



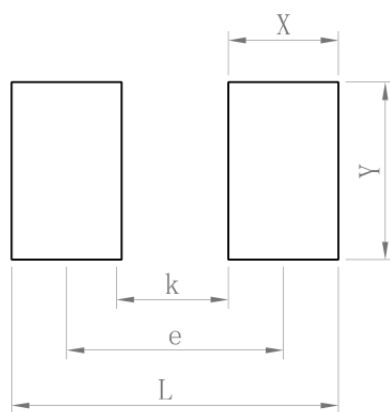
SIDE VIEW

DFN1610-2A			
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



DFN1610-2A	
DIM	(mm)
X	0.62
Y	1.00
L	1.84
e	1.22
K	0.60



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