LTVS20H12T5G

1-Line Uni-directional TVS Diode

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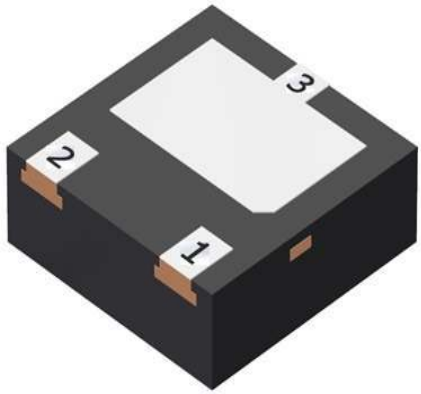
The TVS20H12 is an uni-directional TVS diode, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive data and power line. The TVS20H12 complies with the IEC 61000-4-2 (ESD) standard with ±30kV air and ±30kV contact discharge. The high ESD surge protection make TVS20H12 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.



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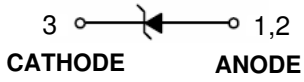

Features

- Protects one data or power line
- Low clamping voltage
- Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±30kV
  Contact discharge: ±30kV
- RoHS requirements and Halogen Free.

Ordering information

Device	Marking	Shipping
LTVS20H12T5G	C3	3000/Tape&Reel

Applications

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

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	5000	W
Peak Pulse Current (8/20μs)	Ipp	200	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±30 ±30	kV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			12	V	
Breakdown Voltage	V_{BR}	13	13.5	16	V	I_R = 1mA
Reverse Leakage Current	I_R			0.5	μA	V_R = 12V
Forward Voltage	V_F		0.75	1.2	V	I_F = 10mA
Clamping Voltage	V_C			24	V	I_{PP} = 150A (8 x 20μs pulse)
Junction Capacitance	C_J		1300	1800	pF	V_R = 0V, f = 1MHz

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

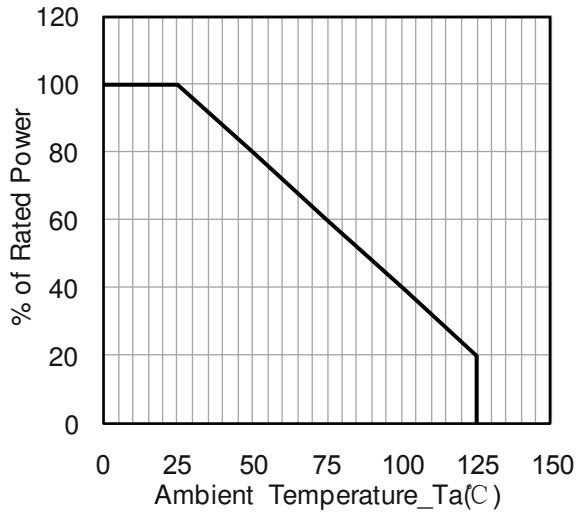

Figure 1. Power Derating Curve

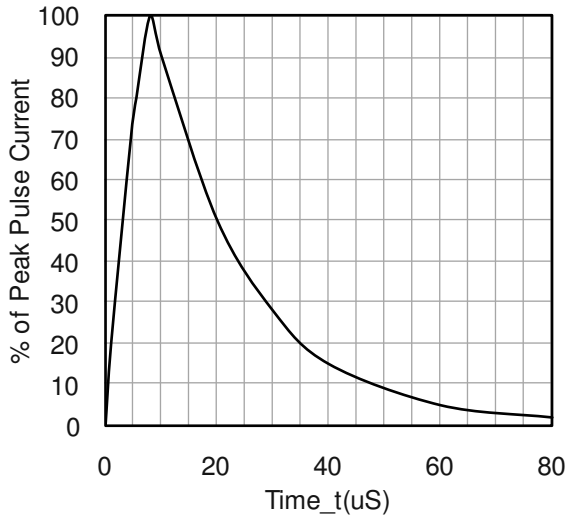

Figure 2. 8 V 20uS Pulse Waveform

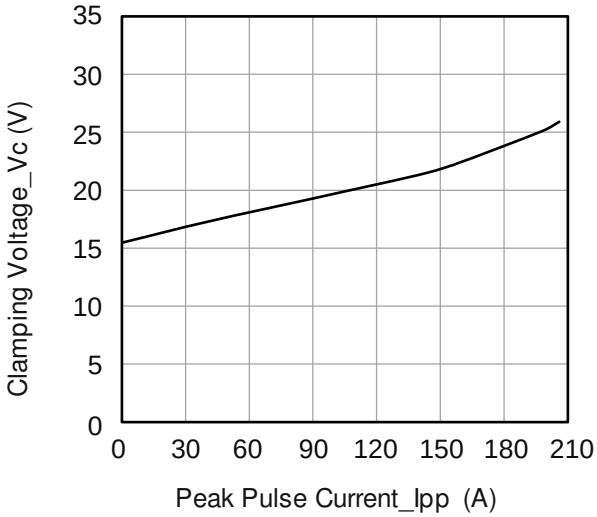

Figure 3.Clamping Voltage vs.Peak Pulse Current

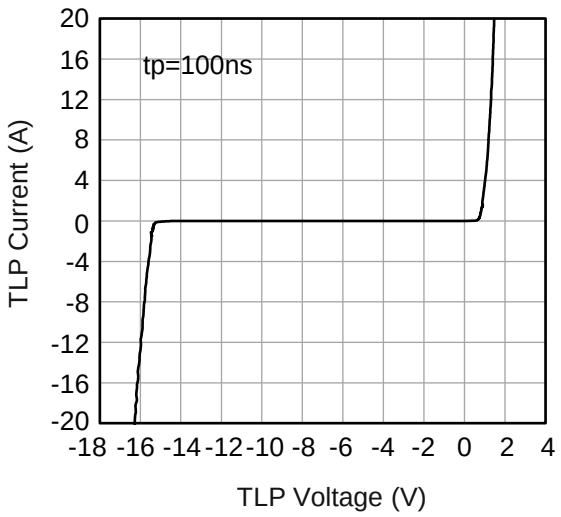

Figure 4. TLP Measurement

OUTLINE AND DIMENSIONS

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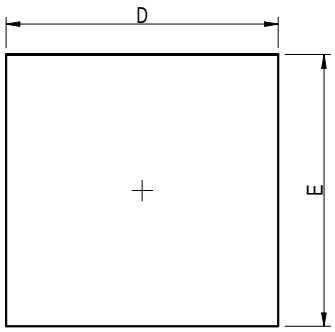
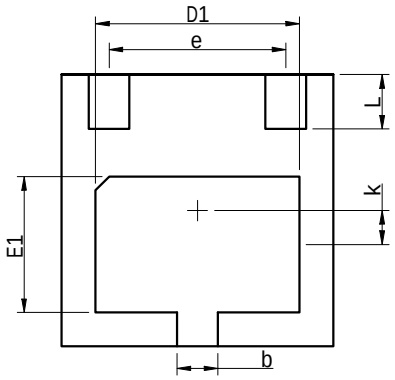


TOP VIEW



BOTTOM VIEW

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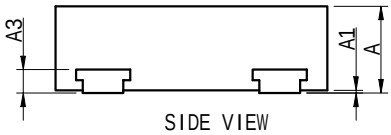
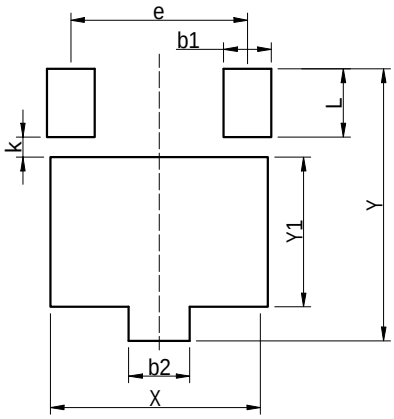
Dim	Min.	Typ.	Max.
A	0.60	0.65	0.70
A1	0.00	0.02	0.05
A3	0.152REF.		
D	1.95	2.00	2.05
E	1.95	2.00	2.05
D1	1.45	1.50	1.55
E1	0.95	1.00	1.05
b	0.25	0.30	0.35
e	1.30TYP.		
k	0.20	0.25	0.30
L	0.35	0.40	0.45
All Dimensions in mm			



SIDE VIEW

SOLDERING FOOTPRINT



DFN2020-3	
Dim	(mm)
X	1.60
Y	2.00
b1	0.35
b2	0.45
L	0.50
Y1	1.10
k	0.15
e	1.30

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.

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