TECH PUBLIC
台舟电子

TPTVSHC2EN12VU

1-Line Uni-directional TVS Diode

www.sot23.com.tw

Features

* 1800W peak pulse power (8/20μs)
* Low leakage: nA level
* Low operating voltage: 12V
* Ultra low clamping voltage
* One power line protects
* Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±30kV
    Contact discharge: ±30kV
  – IEC61000-4-5 (Lightning) 76A (8/20μs)
* RoHS Compliant

Reference:PTVSHC2EN12VU

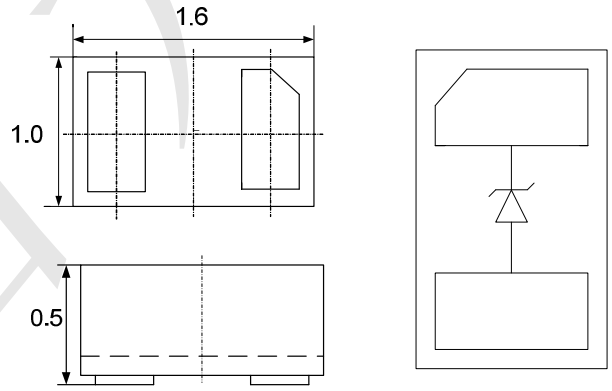
Mechanical Characteristics

* Package：DFN1610-2
* Ultra low leakage: nA level
* Case Material: “Green” Molding Compound.
* UL Flammability Classification Rating 94V-0
* Moisture Sensitivity: Level 3 per J-STD-020
* Shipping Qty :3000/7Inch Tape & Reel

Applications

* Power Management
* Industrial Application
* Power Supply Protection
* Many other portable devices

Dimensions and Pin Configuration



Marking: (72 Or 12P)

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	1800	W
Peak Pulse Current (8/20μs)	Ipp	76	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 (TA=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	15		V	I_T = 1mA
Reverse Leakage Current	I_R			0.5	uA	V_{RWM} = 12V
Clamping Voltage	Vc		21		V	Ipp=50A(8x 20us pulse)
Clamping Voltage	Vc		25		V	Ipp=76A(8x 20us pulse)
Junction Capacitance	C_J			550	pF	VR = 0V, f = 1MHz

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

Fig1. 8/20μs Pulse Waveform

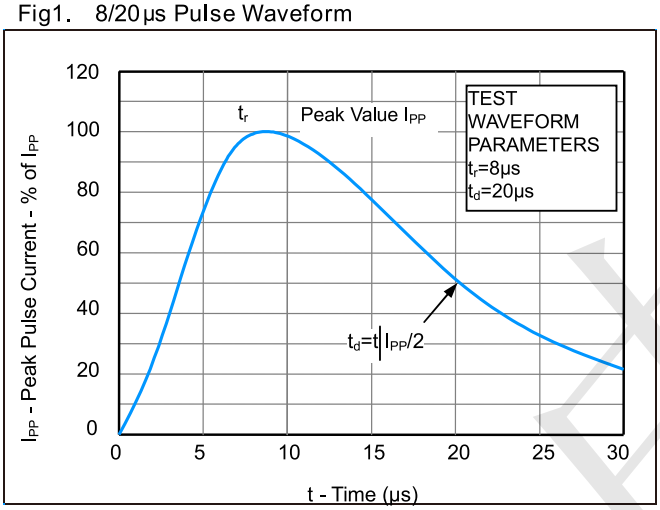


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

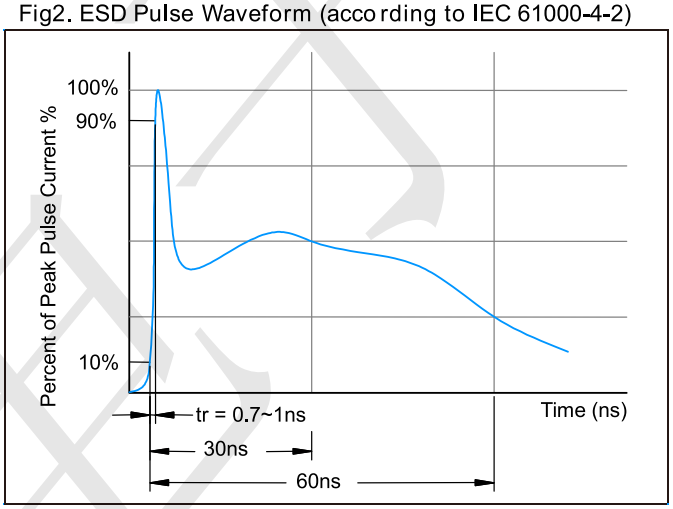
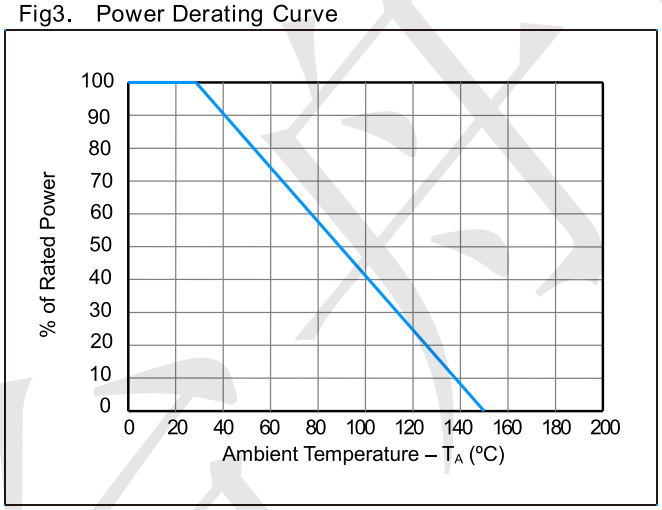
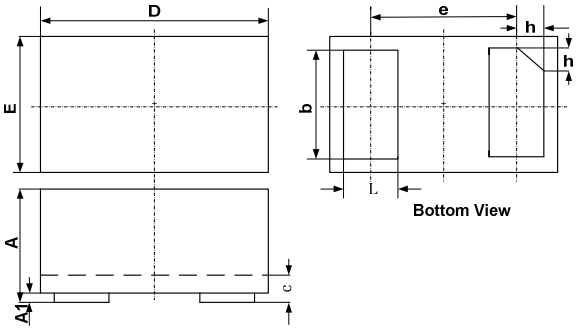


Fig3. Power Derating Curve

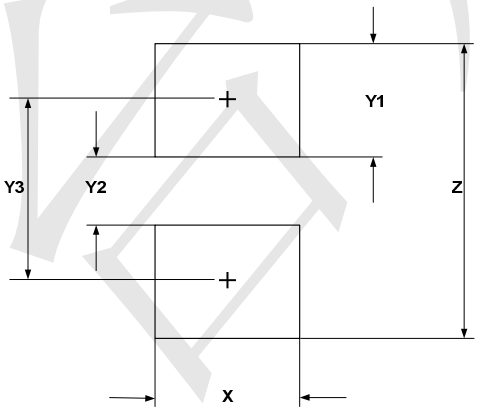


DFN1610-2 Package Outline Drawing



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