



Transient Voltage Suppressors for ESD Protection

Features

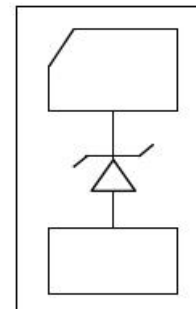
- ◆ Protects one data or power line.
- ◆ Working Voltage: 15V.
- ◆ High peak pulse current capability.
- ◆ Ultra low clamping voltage.
- ◆ 2-pin leadless package.
- ◆ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC 61000-4-4 (EFT) 80A (5/50ns)
 - IEC 61000-4-5 (Lightning) 50A (8/20 μs)
- ◆ RoHS Compliant.

DFN1610-2

Applications

- ◆ Mobile Phones and Accessories.
- ◆ Battery Protection.
- ◆ USB VBus.
- ◆ Power Line Protection.
- ◆ Hand Held Portable Applications.

Circuit and Pin Schematic



Mechanical Characteristics

- ◆ Package: DFN1610-2.
- ◆ Case Material: "Green" Molding Compound.
- ◆ Moisture Sensitivity: Level 3 per J-STD-020.
- ◆ Packaging: 3000 PCS / Tape & Reel.
- ◆ Reel Size: 7 inch.

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

Parameter	Symbol	Value	Units
Peak Pulse Current (8/20 μs)	I_{PP}	50	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	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V _{RWM}	--	--	--	15	V
Breakdown Voltage	V _{BR}	I _T =1mA	16.5	--	--	V
Reverse Leakage Current	I _R	V _{RWM} =15V	--	--	0.1	μA
Forward Voltage	V _F	V _F =10mA	--	--	1.2	V
Peak Pulse Current	I _{PP}	T _P =8/20μs	--	--	50	A
Clamping Voltage	V _C	I _{PP} =10A (8/20μs pulse)	--	21	--	V
Clamping Voltage	V _C	I _{PP} =50A (8/20μs pulse)	--	30	--	V
Junction Capacitance	C _J	V _R =0V, f=1Mhz	--	290	--	pF

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

Fig1. 8/20μs Pulse Waveform

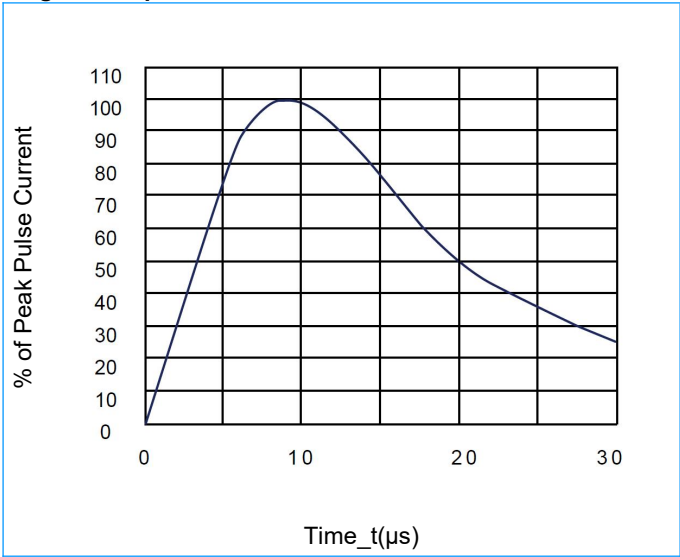
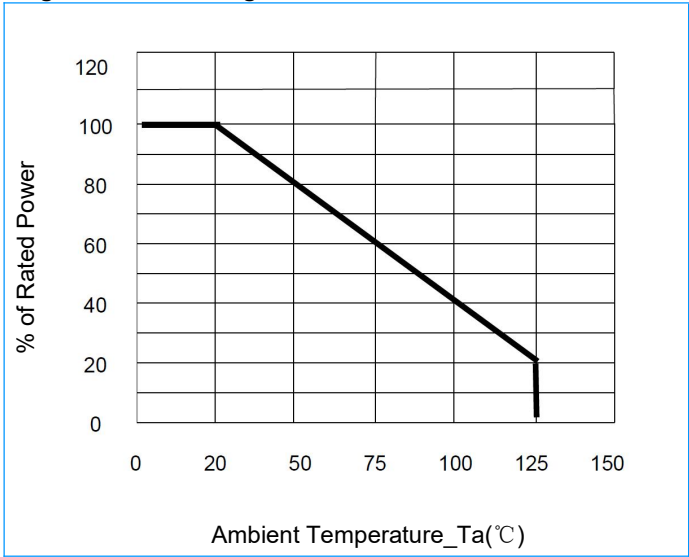


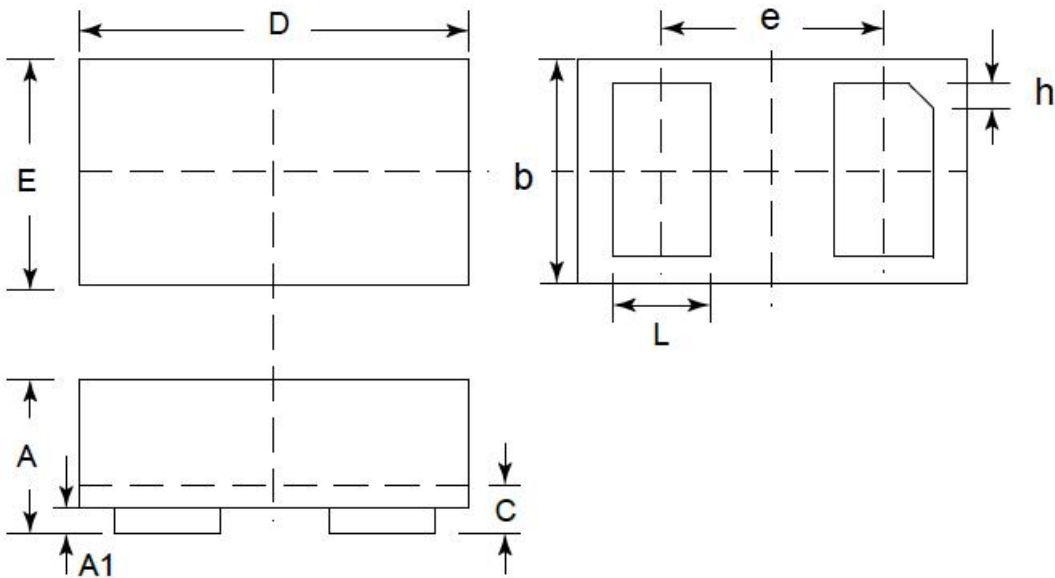
Fig2. Power Derating Curve



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DFN1610-2 Package Outline Drawing



Symbol	Dimensions					
	Millimeters			Inches		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	--	0.02	0.05	--	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