

## Features

- Ultra small package: 1.6x1.0x0.5mm
- Protects one data or power line
- Ultra low leakage: nA level
- 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) 80A (5/50ns)
  - IEC61000-4-5 (Lightning) 60A (8/20 $\mu\text{s}$ )
- RoHS Compliant

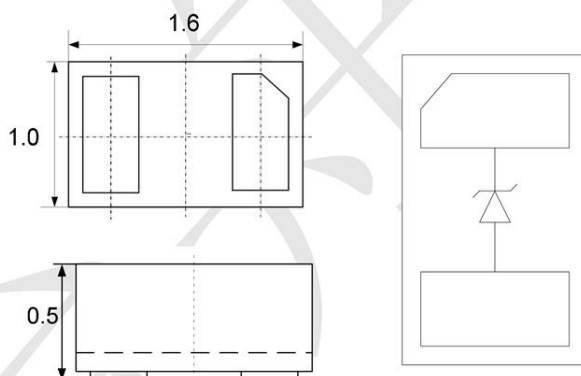
## Mechanical Characteristics

- Package: DFN1610-2
- Lead Finish: NiPdAu
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Shipping Qty : 3000 Or 8000pcs/7Inch Tape & Reel

## Applications

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

## Dimensions and Pin Configuration



**Marking: 72 Or 72.x**

**“72” is Part Number ,Fixed  
“x” is internal code**

**Absolute Maximum Ratings** (T<sub>amb</sub>=25°C unless otherwise specified)

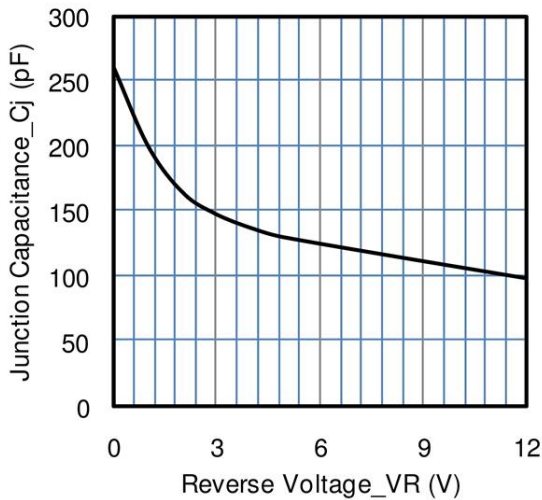
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	1500	W
Peak Pulse Current (8/20μs)	Ipp	60	A
ESD per IEC 61000-4-2 (Air)	VESD	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

**Electrical Characteristics** (T<sub>A</sub>=25°C unless otherwise specified)

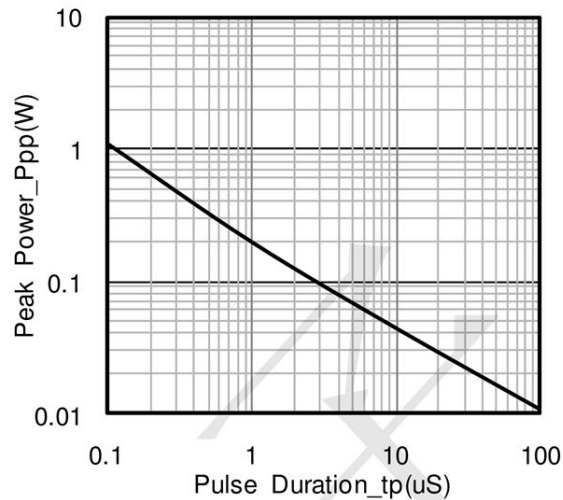
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>	11		12	V	
Breakdown Voltage	V <sub>BR</sub>	12.5	14.5	15.5	V	I <sub>T</sub> = 1mA
Reverse Leakage Current	I <sub>R</sub>			50	nA	V <sub>RWM</sub> = 12V
Forward Voltage	V <sub>F</sub>		1.0	1.2	V	I <sub>F</sub> = 10mA
Clamping Voltage	V <sub>C</sub>			18.5	V	I <sub>PP</sub> = 10A (8 x 20μs pulse)
Clamping Voltage	V <sub>C</sub>			25	V	I <sub>PP</sub> = 60A (8 x 20μs pulse)
Junction Capacitance	C <sub>J</sub>			400	pF	V <sub>R</sub> = 0V, f = 1MHz

**Electrical Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise specified)**

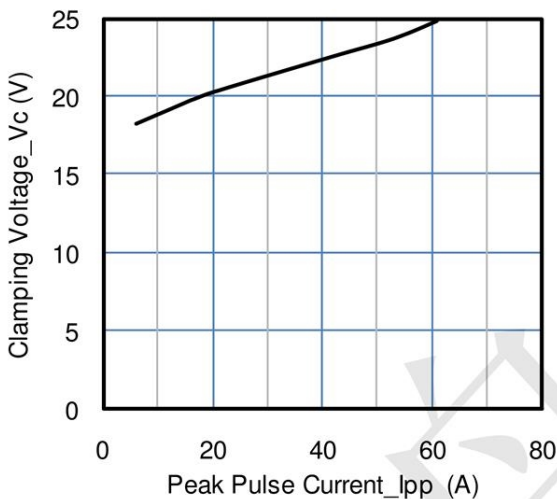
[www.sot23.com.tw](http://www.sot23.com.tw)



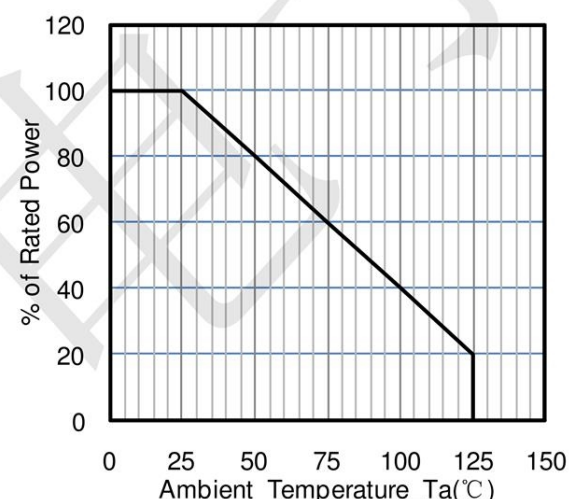
**Fig1. Junction Capacitance vs. Reverse Voltage**



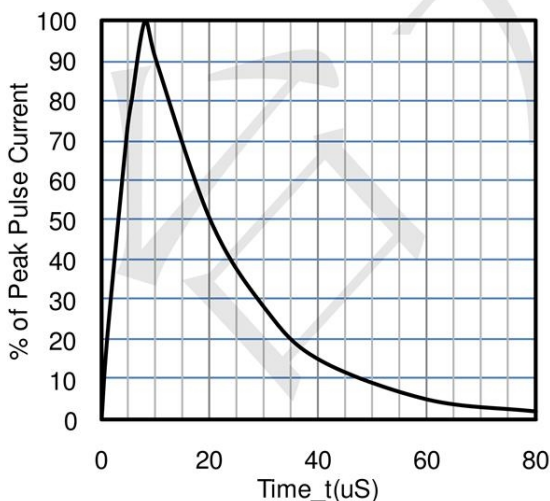
**Fig2. Peak Pulse Power vs. Pulse Time**



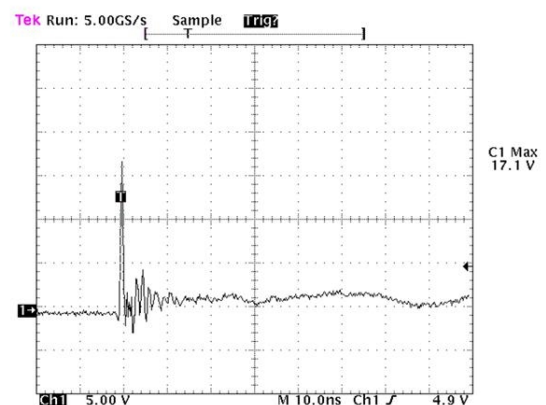
**Fig3. Clamping Voltage vs. Peak Pulse Current**



**Fig4. Power Derating Curve**

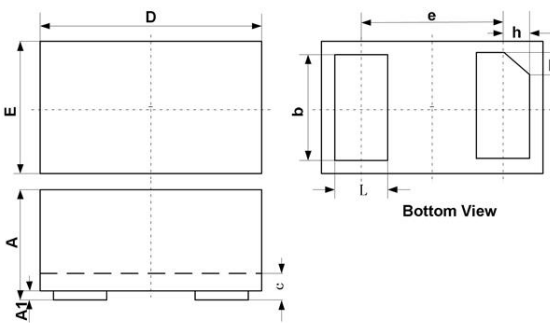


**Fig 5. 8 X 20uS Pulse Waveform**



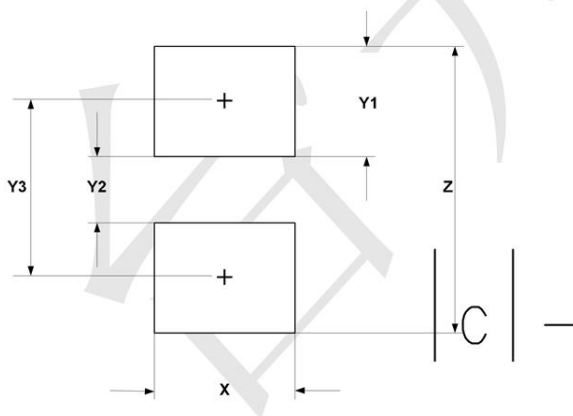
**Fig 6. ESD Clamping Voltage  
8 kV Contact per IEC61000-4-2**

## 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

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