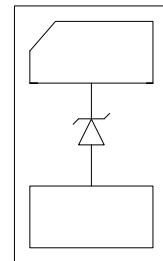


### Features

- Small package: 1.6x1.0x0.5mm
- Protects one data or power line
- Operating voltage: 5V
- High peak pulse current capability
- Ultra low clamping voltage
- 2-pin leadless package
- RoHS Compliant
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
  - – IEC 61000-4-5 (Lightning) 125A (8/20µs)



DFN1610



Schematic Diagram

### Applications

- Mobile phones and accessories
- Battery protection
- USB VBus
- Power line protection
- Hand held portable applications

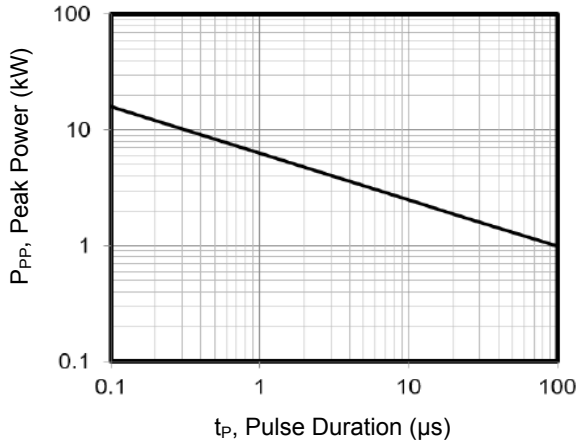
### Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20µs)	P <sub>pk</sub>	1875	W
Peak Pulse Current (8/20µs)	I <sub>pp</sub>	125	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C

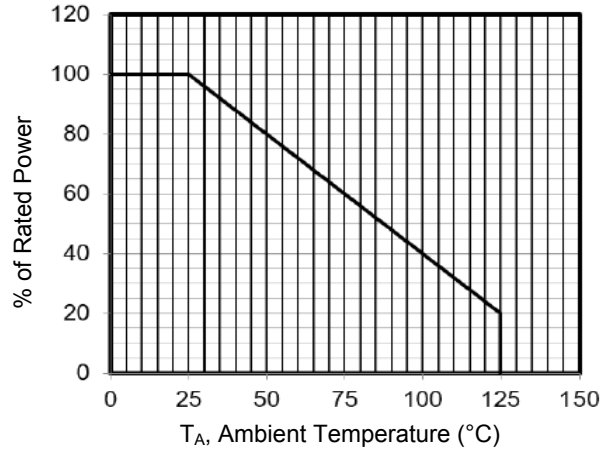
### Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V <sub>RWM</sub>	-	-	-	5	V
Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA	6	-	-	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> =5V	-	-	1.0	µA
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 10mA	-	1.0	1.2	V
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =90A (8 x 20µs pulse)	-	-	15	V
		I <sub>PP</sub> =125A (8 x 20µs pulse)	-	-	17	
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V, F=1MHz	-	960	-	pF

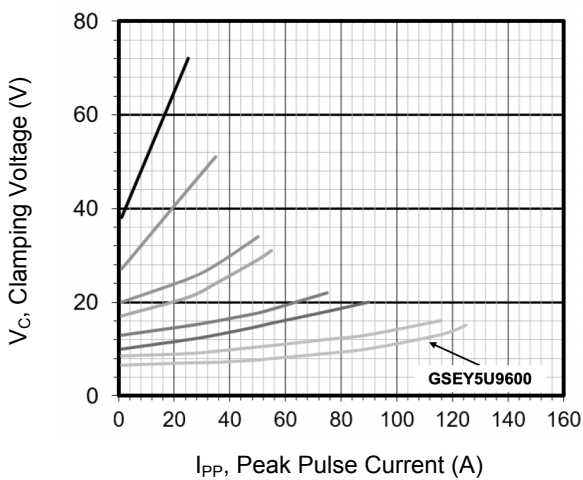
**Typical Performance Characteristic** ( $T_A=25^\circ\text{C}$  unless otherwise Specified)



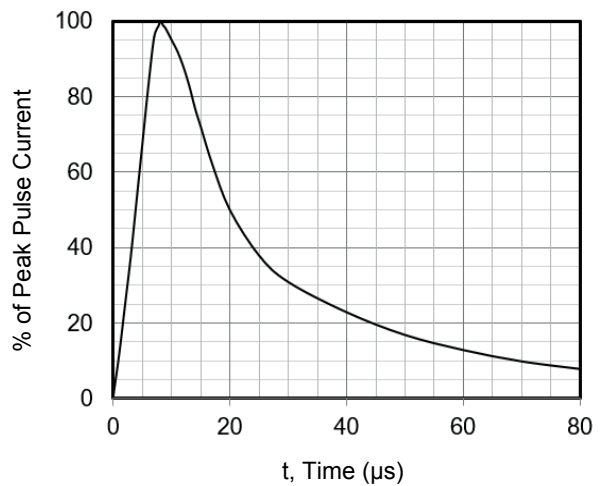
**Figure 1. Peak Pulse Power vs. Pulse Time**



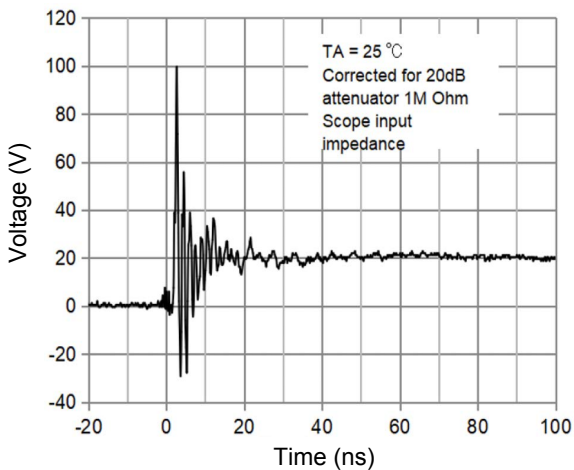
**Figure 2. Power Derating Curve**



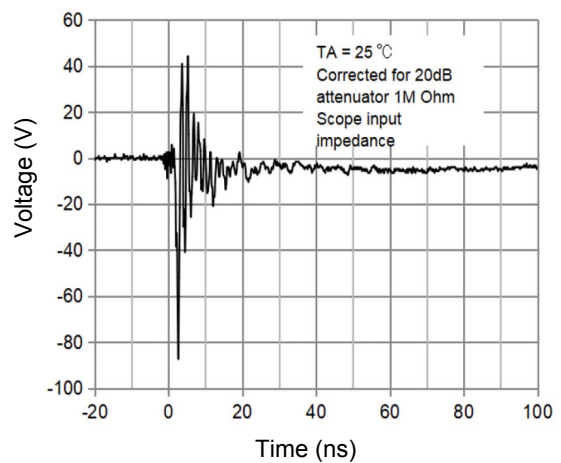
**Figure 3. Clamping Voltage vs. Peak Pulse Current**  
( $t_p = 8/20\mu\text{s}$ )



**Figure 4. 8 X 20 $\mu\text{s}$  Pulse Waveform**

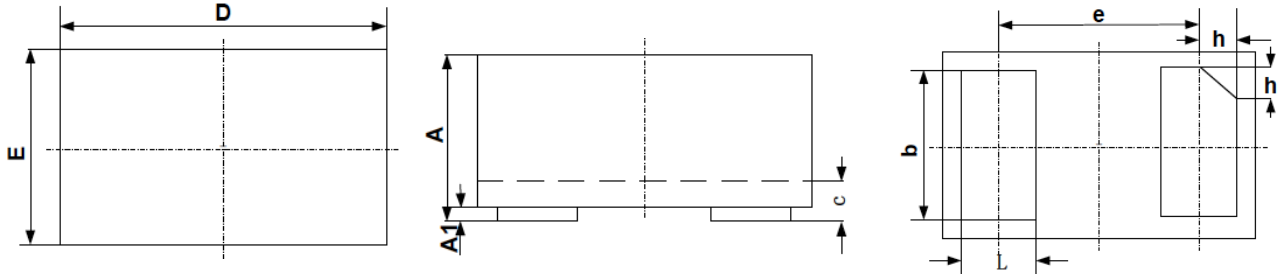


**Figure 5. ESD Clamping Voltage**  
8 kV Contact per IEC61000-4-2



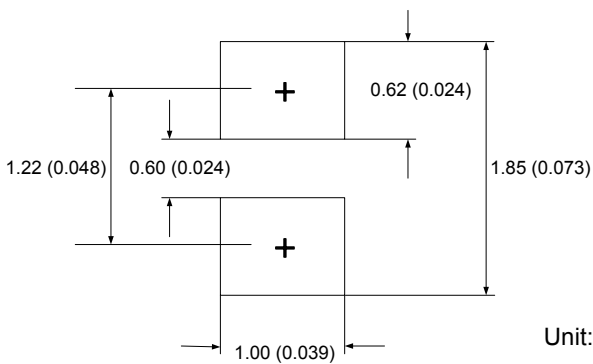
**Figure 6. ESD Clamping Voltage**  
-8 kV Contact per IEC61000-4-2

**Package Outline Dimensions (DFN1610)**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.45	0.55	0.018	0.022
A1	0.00	0.05	0.000	0.002
b	0.75	0.85	0.030	0.033
c	0.10	0.20	0.004	0.008
D	1.55	1.65	0.061	0.065
e	1.10 BSC		0.043 BSC	
E	0.95	1.05	0.037	0.041
L	0.35	0.45	0.014	0.018
h	0.15	0.25	0.006	0.010

**Recommended Pad Layout**



**Order Information**

Device	Package	Marking	Carrier	Quantity
GSEY5U9600	DFN1610	91	Tape & Reel	3,000pcs / Reel