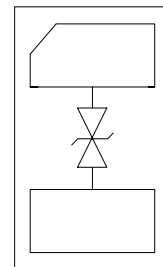


## Features

- Ultra small package: 1.0x0.6x0.5mm
- Protects one data or power line
- Ultra low leakage: nA level
- Low operating voltage: 5V
- 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 61000-4-5 (Lightning) 7A (8/20 $\mu\text{s}$ )
- RoHS compliant



DFN1006



Schematic Diagram

## Applications

- Cellular handsets and accessories
- Personal digital assistants
- Notebooks and handhelds
- Portable instrumentation
- Digital cameras
- Peripherals
- Audio players
- Keypads, side keys, LCD displays

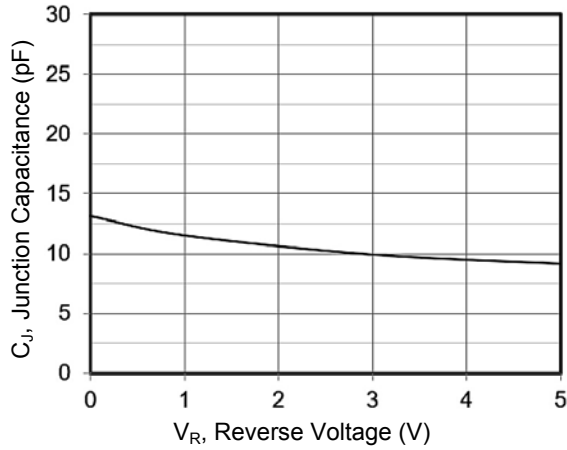
## Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	P <sub>pk</sub>	80.5	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	I <sub>pp</sub>	7	A
ESD Per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	$\pm 30$	kV
ESD Per IEC 61000-4-2 (Contact)	V <sub>ESD</sub>	$\pm 30$	kV
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C

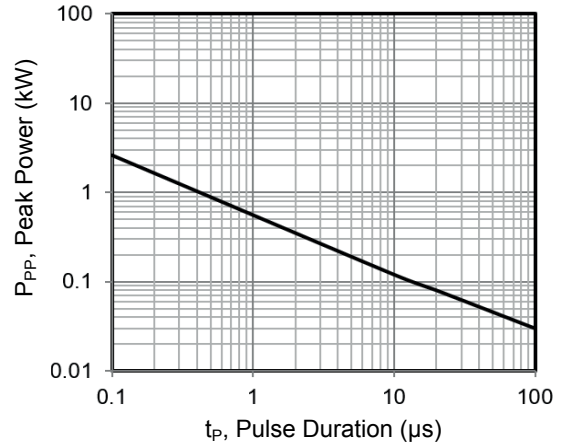
## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)

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	-	-	0.2	$\mu\text{A}$
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =1A (8 x 20 $\mu\text{s}$ pulse)	-	-	8	V
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =7A (8 x 20 $\mu\text{s}$ pulse)	-	-	11.5	V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V, f=1MHz	-	13	-	pF

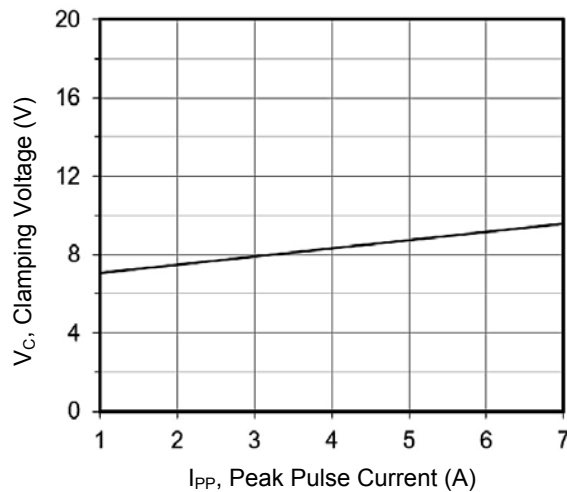
**Typical Performance Characteristics** ( $T_A=25^\circ\text{C}$  unless otherwise Specified)



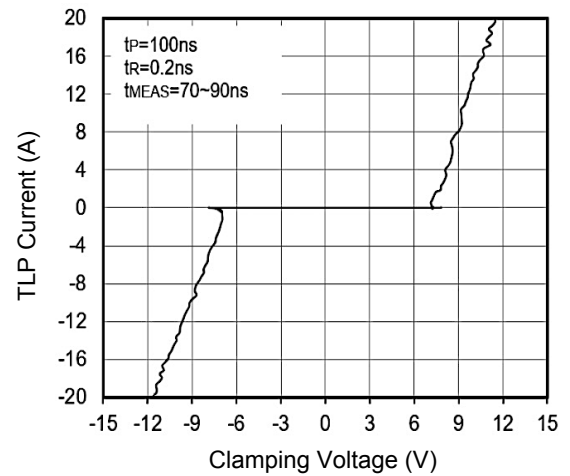
**Figure 1. Junction Capacitance vs. Reverse Voltage**



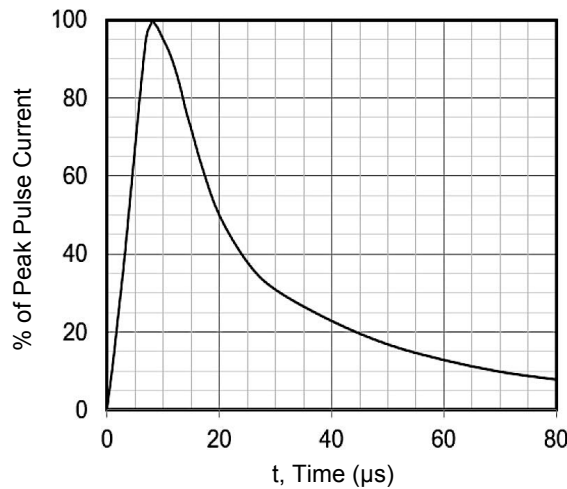
**Figure 2. Peak Pulse Power vs. Pulse Time**



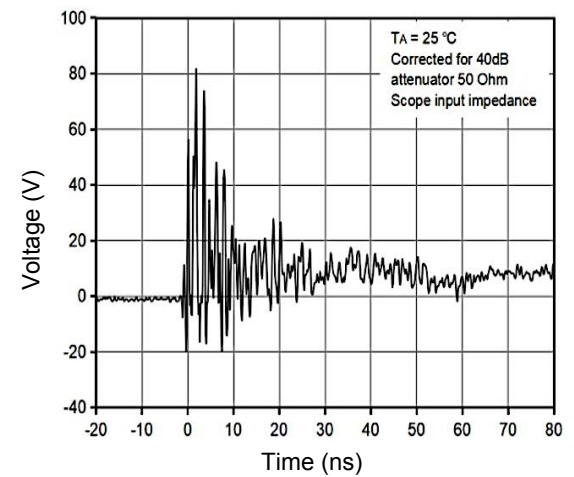
**Figure 3. Clamping Voltage vs. Peak Pulse Current**  
 ( $t_p=8/20\mu\text{s}$ )



**Figure 4. TLP Measurement**

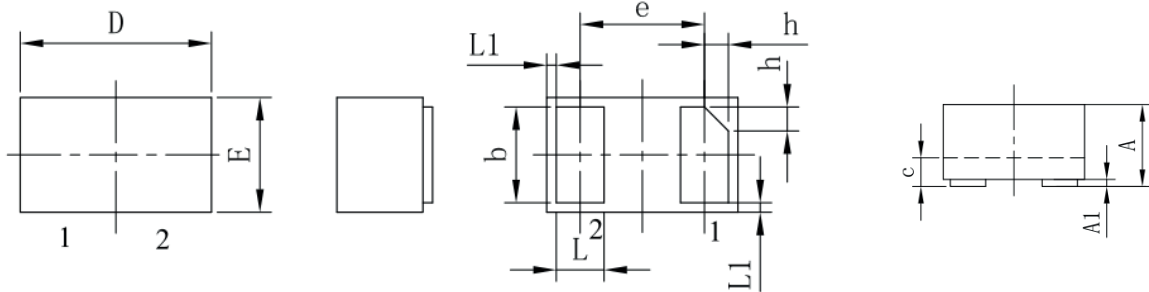


**Figure 5. 8 X 20 $\mu\text{s}$  Pulse Waveform**



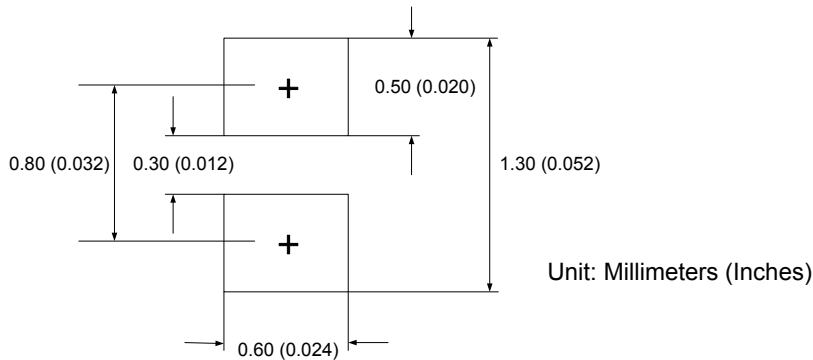
**Figure 6. ESD Clamping Voltage**  
 8 kV Contact Per IEC61000-4-2

**Package Outline Dimensions (DFN1006)**



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	0.45	0.55	0.018	0.022
c	0.12	0.18	0.005	0.007
D	0.95	1.05	0.037	0.041
e	0.65 BSC		0.026 BSC	
E	0.55	0.65	0.022	0.026
L	0.20	0.30	0.008	0.012
L1	0.05 REF		0.002 REF	
h	0.07	0.17	0.003	0.007

**Recommended Pad Layout**



**Order Information**

Device	Package	Marking	Carrier	Quantity
GSEZ5B130	DFN1006	PA	Tape & Reel	10,000 Pcs / Reel