

**Features**

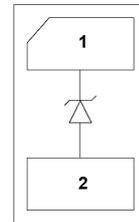
- Protects one data line
- Ultra low leakage: nA level
- Operating voltage: 24V
- Ultra low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
  - Air discharge: ±30kV
  - Contact discharge: ±30kV
  - IEC 61000-4-5 (Lightning) 10A (8/20µs)



**DFN1006**

**Applications**

- Cellular handsets and accessories
- Personal digital assistants
- Notebooks, desktops, servers
- Portable instrumentation
- Digital cameras
- Analog inputs
- Audio players
- Keypads, side keys, LCD displays
- Laser diode protection



**Schematic Diagram**

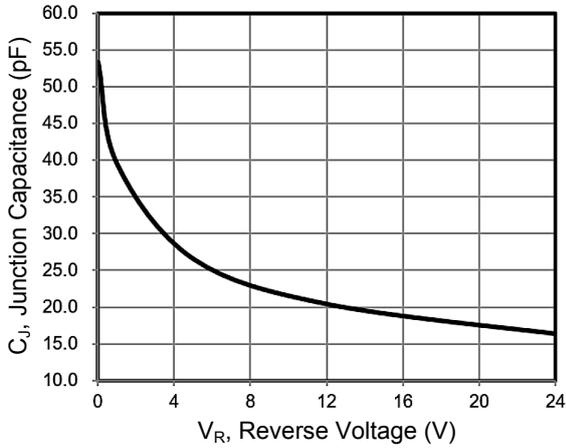
**Absolute Maximum Ratings** ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20µs)	$P_{pk}$	420	W
Peak Pulse Current (8/20µs)	$I_{pp}$	10	A
ESD Per IEC 61000-4-2 (Air)	$V_{ESD}$	±30	kV
ESD Per IEC 61000-4-2 (Contact)	$V_{ESD}$	±30	kV
Operating Temperature Range	$T_J$	-55 to +125	°C
Storage Temperature Range	$T_{stg}$	-55 to +150	°C

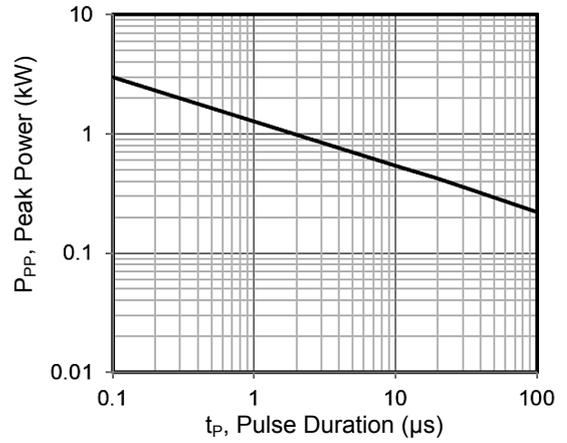
**Electrical Characteristics** ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	$V_{RWM}$	-	-	-	24	V
Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}$	26.7	-	-	V
Reverse Leakage Current	$I_R$	$V_{RWM}=24\text{V}$	-	-	0.2	µA
Forward Voltage	$V_F$	$I_F=10\text{mA}$	-	-	1.2	V
Clamping Voltage	$V_C$	$I_{PP}=1\text{A}$ (8 x 20µs pulse)	-	-	30	V
		$I_{PP}=10\text{A}$ (8 x 20µs pulse)	-	-	42	V
Junction Capacitance	$C_J$	$V_R=0\text{V}$ , $f=1\text{MHz}$	-	54	-	pF

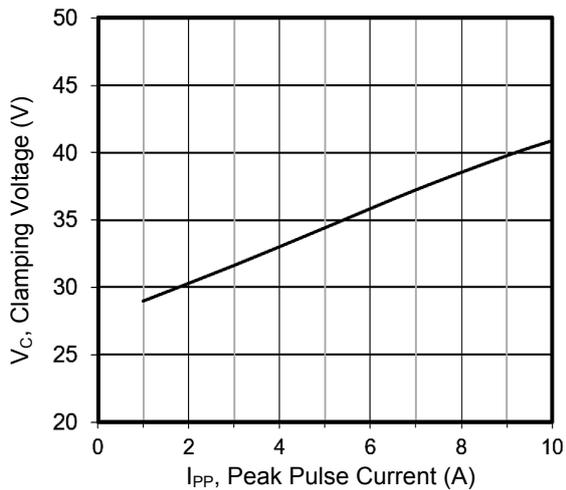
**Typical Performance Characteristics** ( $T_A=25^\circ\text{C}$  unless otherwise specified)



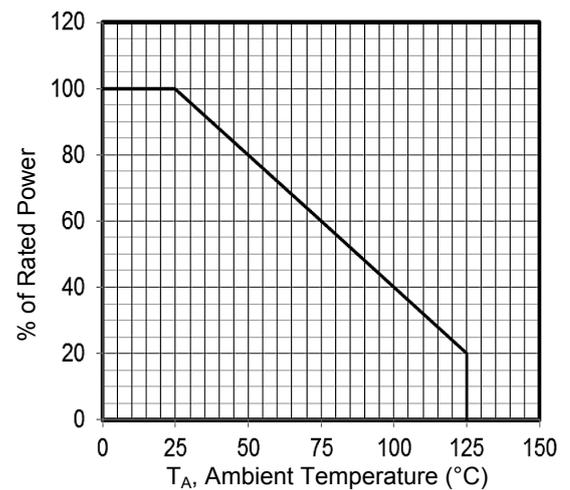
**Figure 1. Junction Capacitance vs. Reverse Voltage**



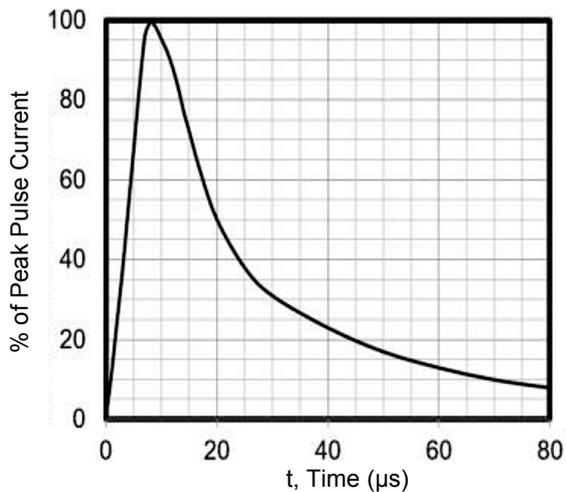
**Figure 2. Peak Pulse Power vs. Pulse Time**



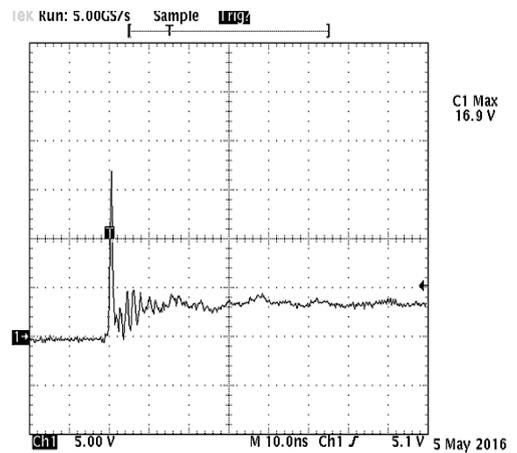
**Figure 3. Clamping Voltage vs. Peak Pulse Current**



**Figure 4. Power Derating Curve**

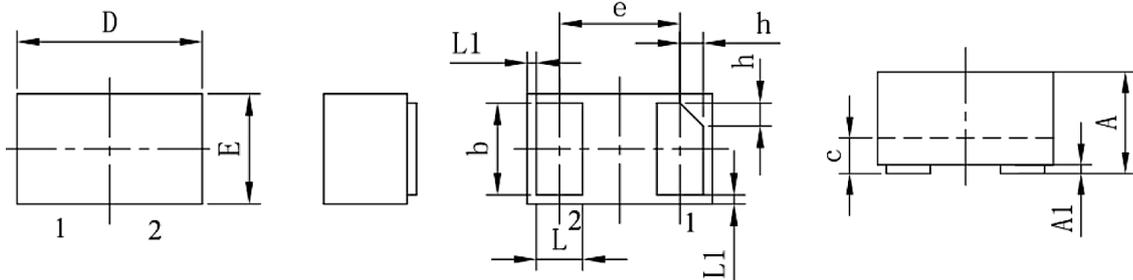


**Figure 5. 8 x 20 $\mu\text{s}$  Pulse Waveform**



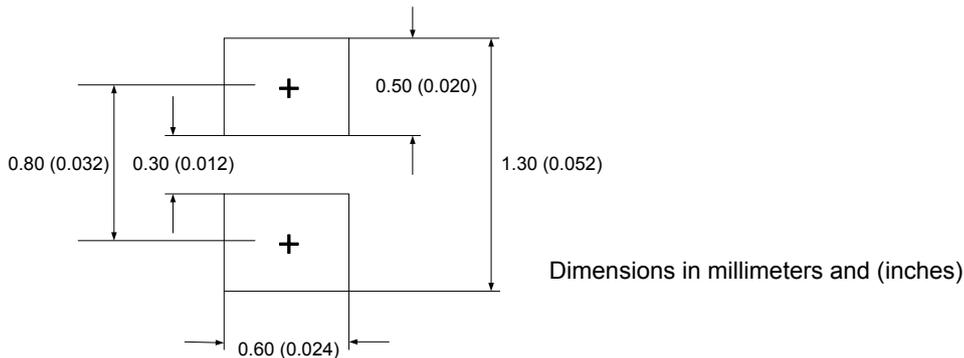
**Figure 6. ESD Clamping Voltage**  
 8kV Contact per IEC 61000-4-2

**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	Packaging	SPQ
GSEZ24U540	DFN1006	4PH	Tape & Reel	10,000 Pcs / Reel