

Features

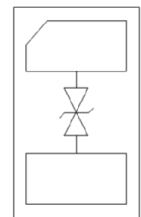
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
 -IEC 61000-4-2 (ESD) immunity test Air discharge: $\pm 30\text{kV}$
 Contact discharge: $\pm 30\text{kV}$
 -IEC61000-4-5 (Lightning) 12A (8/20 μs)



DFN1006

Applications

- Cellular handsets and accessories
- Display ports
- MDDI / MHL
- USB 2.0 / USB 3.0
- Digital visual interface (DVI)
- PCI express and serial SATA ports



Schematic Diagram

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{pk}	72	W
Peak Pulse Current (8/20 μs)	I_{pp}	12	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T_J	-55 to $+125$	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to $+150$	$^\circ\text{C}$

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}	-	-	-	5	V
Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	6	-	9	V
Reverse Leakage Current	I_R	$V_{RWM}=5\text{V}$	-	-	0.2	μA
Clamping Voltage	V_C	$I_{PP}=12\text{A}$ (8 x 20 μs pulse)	-	-	6	V
ESD Clamping Voltage ¹	V_C	$I_{PP}=1\text{A}$, $t_p=0.2/100\text{ns}$ (TLP)	-	2.5	-	V
		$I_{PP}=4\text{A}$, $t_p=0.2/100\text{ns}$ (TLP)	-	3.5	-	V
		$I_{PP}=16\text{A}$, $t_p=0.2/100\text{ns}$ (TLP)	-	6.3	-	V
Dynamic Resistance ²	R_{DYN}	$t_p=0.2/100\text{ns}$ (TLP)	-	0.23	-	Ohm
Junction Capacitance	C_J	$V_R=0\text{V}$, $F=1\text{MHz}$	-	0.5	-	pF

Note:

1. Transmission line pulse test (TLP) settings: $t_p=100\text{ns}$, $t_r=0.2\text{ns}$.
2. Dynamic resistance calculated from $I_{TLP}=4\text{A}$ to $I_{TLP}=16\text{A}$.

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

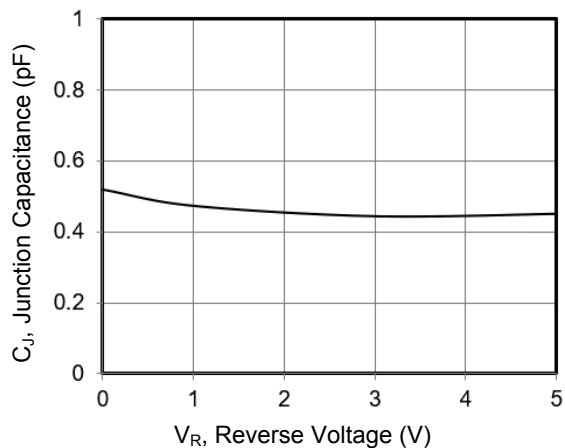


Figure 1. Junction Capacitance vs. Reverse Voltage

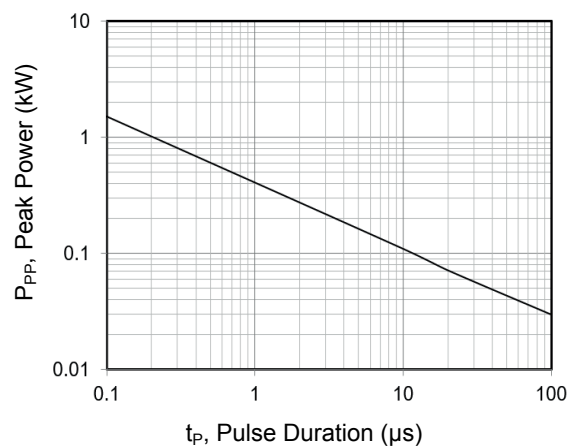


Figure 2. Peak Pulse Power vs. Pulse Time

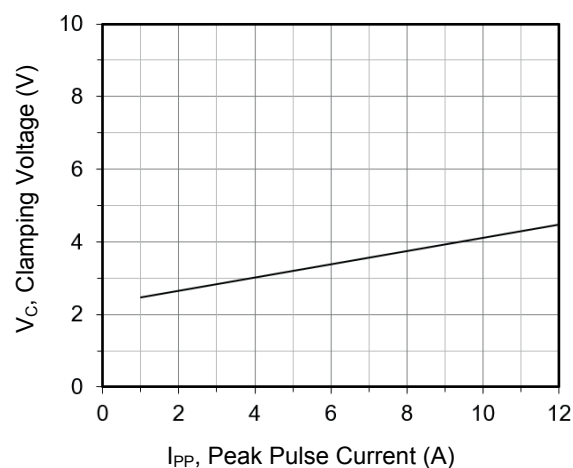


Figure 3. Clamping Voltage vs. Peak Pulse Current
($t_p=8/20\mu\text{s}$)

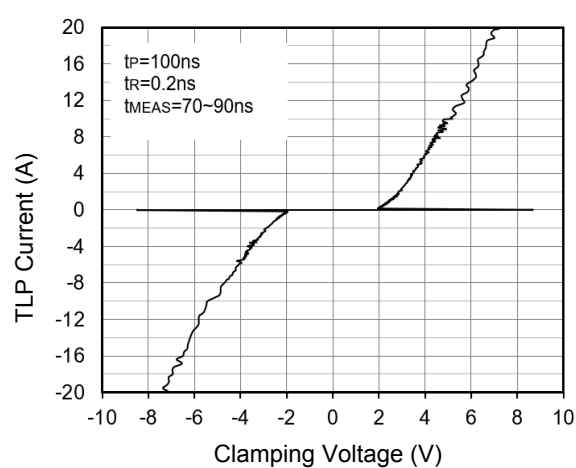


Figure 4. TLP Measurement

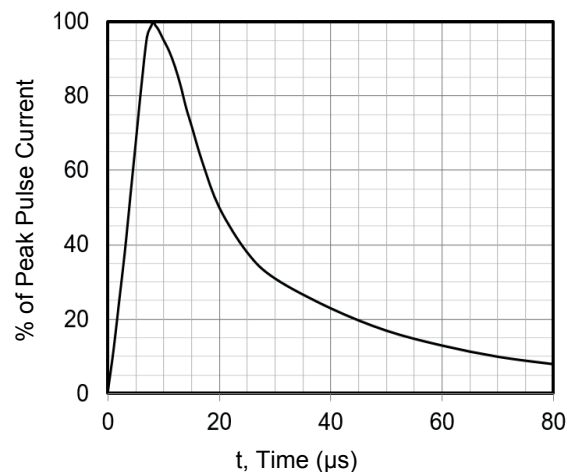


Figure 5. 8 X 20 μs Pulse Waveform

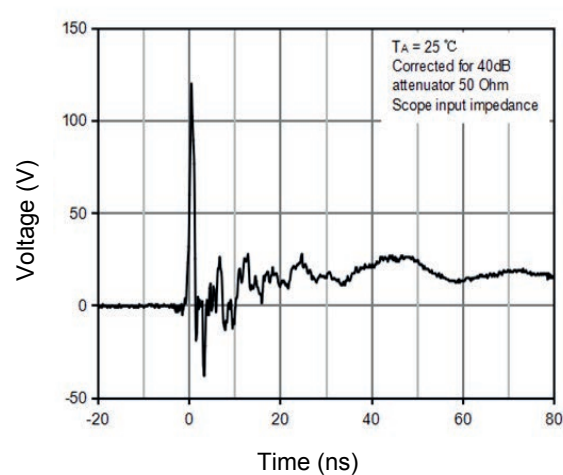
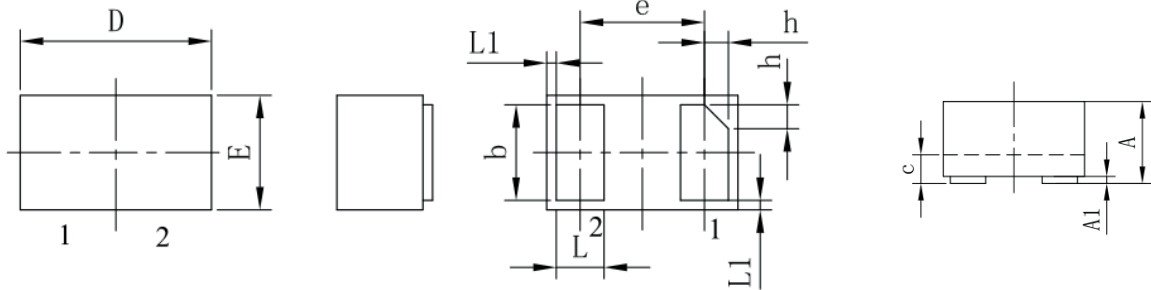


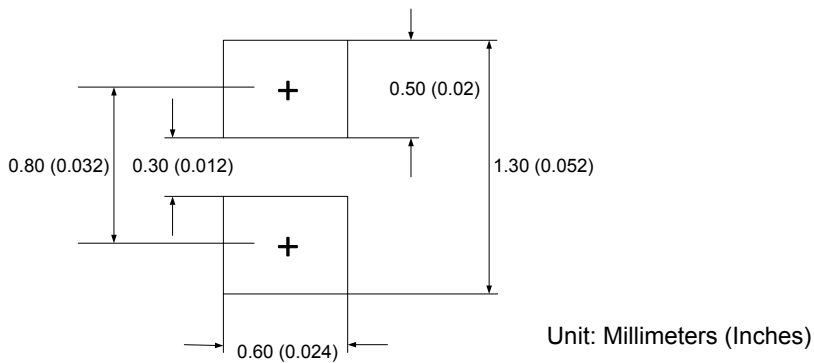
Figure 6. ESD Clamping Voltage
8 kV Contact per IEC61000-4-2

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
GSEZ5B0051	DFN1006	4X	Tape & Reel	10,000 pcs / Reel