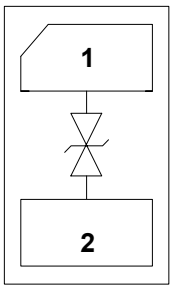
GOOD-ARK
SEMICONDUCTOR

GSEZ16B003
ESD Protection Diode

Features

- Ultra low capacitance: 0.3pF typical
- Ultra low leakage: nA level
- Operating voltage: 16V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
  -IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±20kV
  Contact discharge: ±15kV
- RoHS compliant

DFN1006



Schematic Diagram

Applications

- Cellular handsets and accessories
- Serial ATA
- MDDI ports
- USB ports
- PCI express and serial SATA ports

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P_{pk}	50	W
ESD per IEC 61000−4−2 (Air)	V_{ESD}	±20	kV
ESD per IEC 61000−4−2 (Contact)		±15	
Operating Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}	Pin 1 to Pin 2	-	-	16	V
		Pin 2 to Pin 1	-	-	10	
Breakdown Voltage	V_{BR}	I_T=1mA, Pin 1 to Pin 2	16.5	-	-	V
		I_T=1mA, Pin 2 to Pin 1	10.5	-	-	V
Reverse Leakage Current	I_R	V_{RWM}=16V, Pin 1 to Pin 2	-	-	0.5	μA
		V_{RWM}=10V, Pin 2 to Pin 1	-	-	0.5	μA
TLP Clamping Voltage	V_C	I_{PP}=8A, Pin 1 to Pin 2	-	32	-	V
		I_{PP}=8A, Pin 2 to Pin 1	-	19	-	
		I_{PP}=16A, Pin 1 to Pin 2	-	33	-	
		I_{PP}=16A, Pin 2 to Pin 1	-	23	-	
Junction Capacitance	C_J	V_R=0V, F=1MHz	-	0.3	-	pF

Typical Performance Characteristic (T_A=25°C unless otherwise Specified)

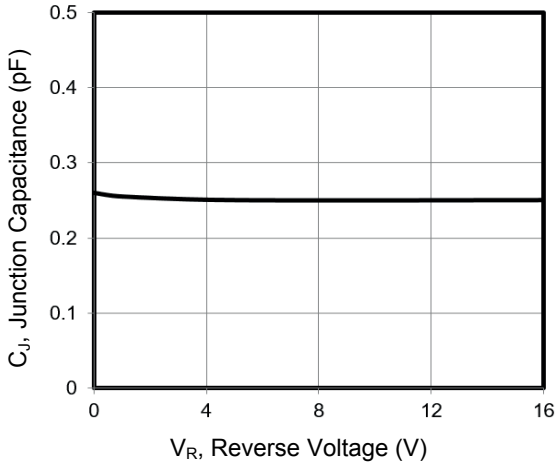


Figure 1. Junction Capacitance vs. Reverse Voltage

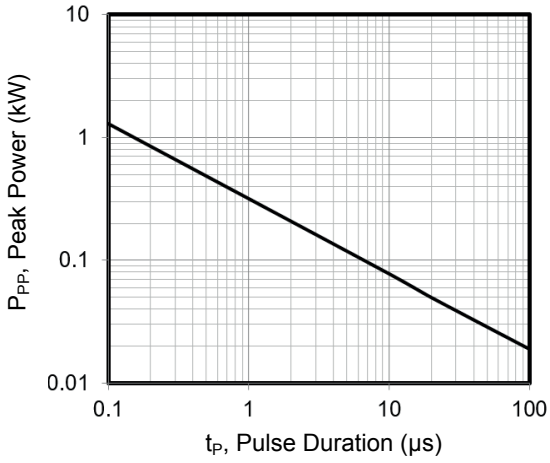


Figure 2. Peak Pulse Power vs. Pulse Time

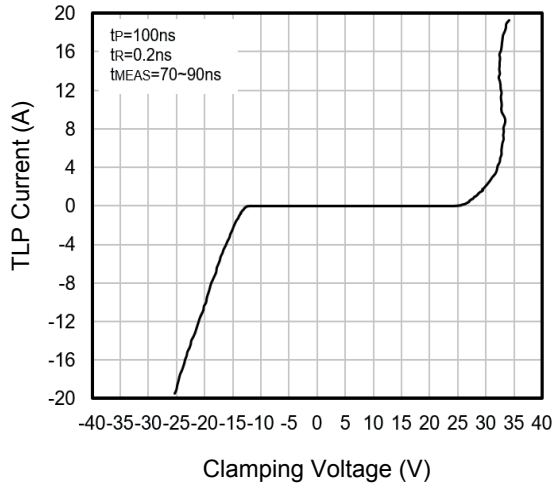


Figure 3. TLP Curve

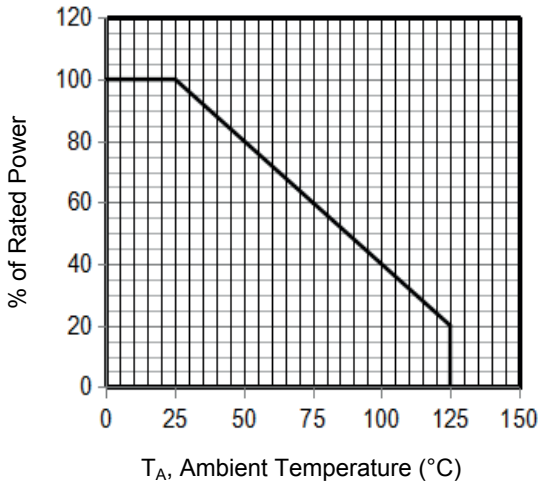


Figure 4. Power Derating Curve

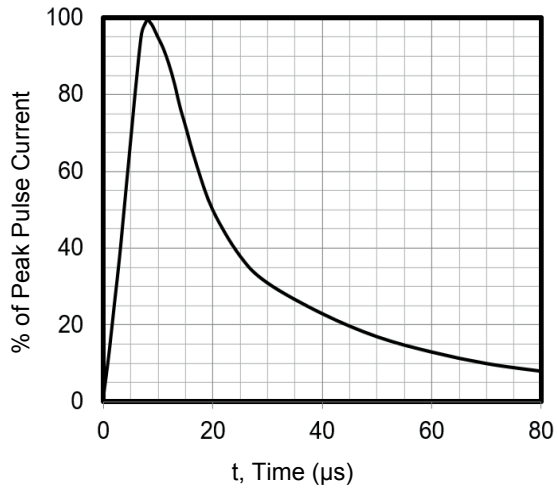


Figure 5. 8 X 20μs Pulse Waveform

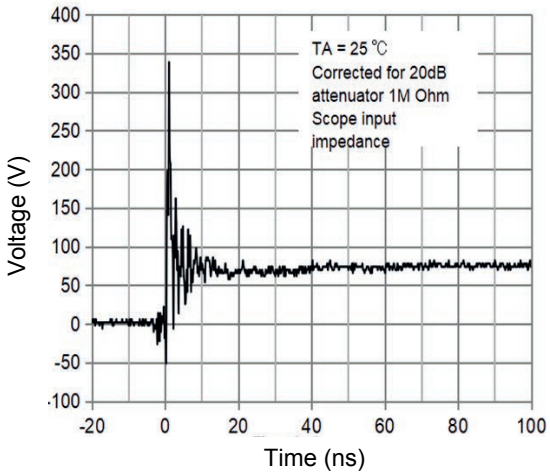
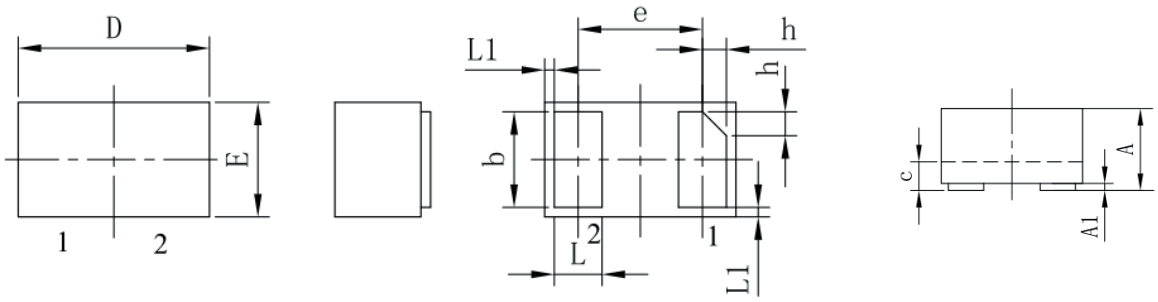


Figure 6. ESD Clamping Voltage
8 kV Contact per IEC61000−4−2

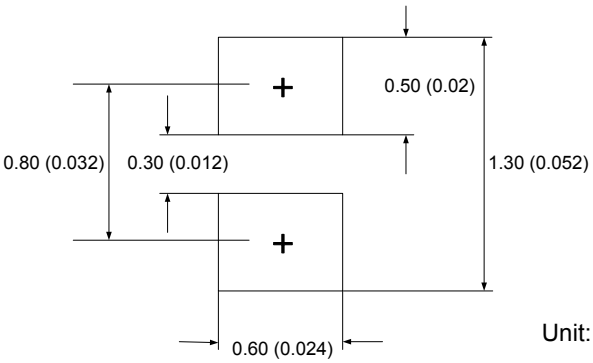
Note：Data is taken with a 10x attenuator

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



Unit: Millimeters (Inch)

Order Information

Device	Package	Marking	Carrier	Quantity
GSEZ16B003	DFN1006	5N	Tape & Reel	10,000pcs / Reel