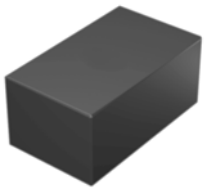
GOOD-ARK SEMICONDUCTOR

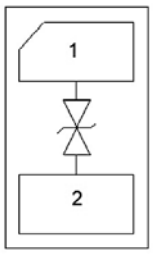
GSEZ6B2000
ESD Protection Diode

Features

- Ultra small package: 1.0x0.6x0.5mm
- Protects one data or power line
- Operating voltage: 6.3V
- Low clamping voltage
- 2-Pin leadless package
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test Air discharge: ±30kV
  Contact discharge: ±30kV
  - IEC 61000-4-5 (Lightning) 90A (8/20μs)



DFN1006



Schematic Diagram

Applications

- Cellular handsets and accessories
- Personal digital assistants
- Notebooks and handhelds
- Portable instrumentation
- Digital cameras
- Peripherals

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P_{pk}	1485	W
Peak Pulse Current (8/20μs)	I_{PP}	90	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	°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}	-	-	-	6.3	V
Breakdown Voltage	V_{BR}	I_T=1mA	6.5	-	9.5	V
Reverse Leakage Current	I_R	V_{RWM}=6.3V	-	-	0.5	μA
Clamping Voltage[1]	V_C	I_{PP}=90A (8 x 20μs pulse)	-	-	16.5	V
		I_{PP}=4A, t_p=0.2/100ns (TLP)	-	7.1	-	V
		I_{PP}=16A, t_p=0.2/100ns (TLP)	-	7.8	-	V
Dynamic Resistance[2]	R_{DYN}	t_p=0.2/100ns (TLP)	-	0.06	-	Ω
Junction Capacitance	C_J	V_R=0V, f=1MHz	-	200	-	pF

Notes:

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

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

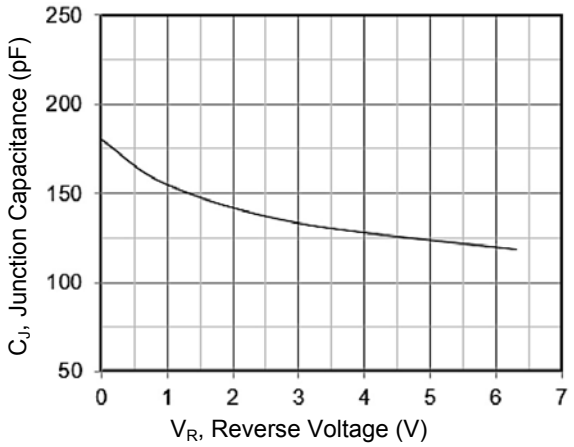


Figure 1. Junction Capacitance vs. Reverse Voltage

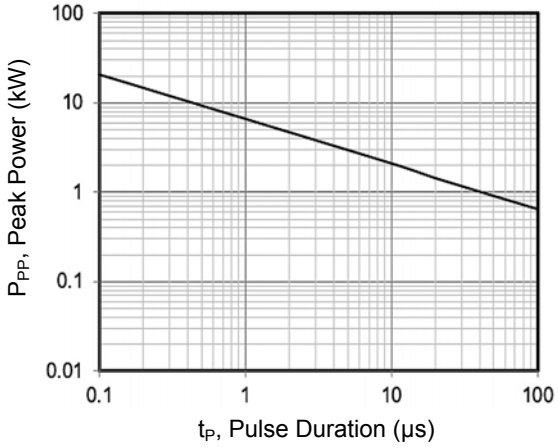


Figure 2. Peak Pulse Power vs. Pulse Time

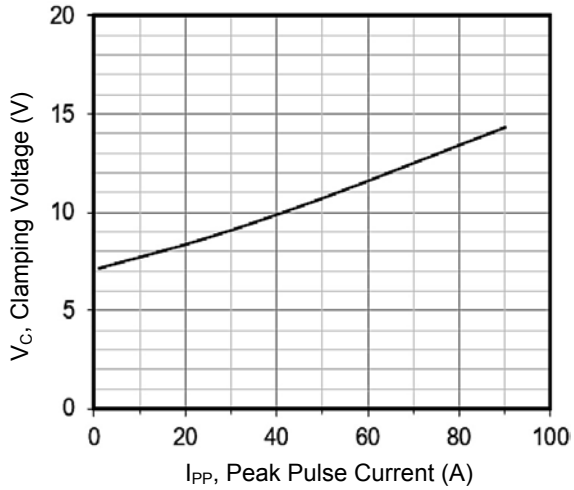


Figure 3. Clamping Voltage vs. Peak Pulse Current (t_p=8/20μs)

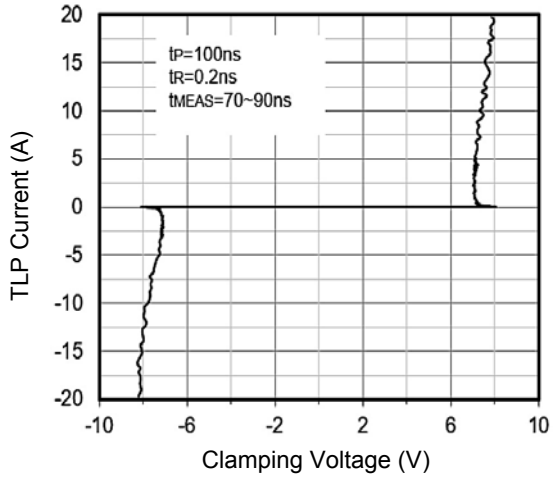


Figure 4. TLP Measurement

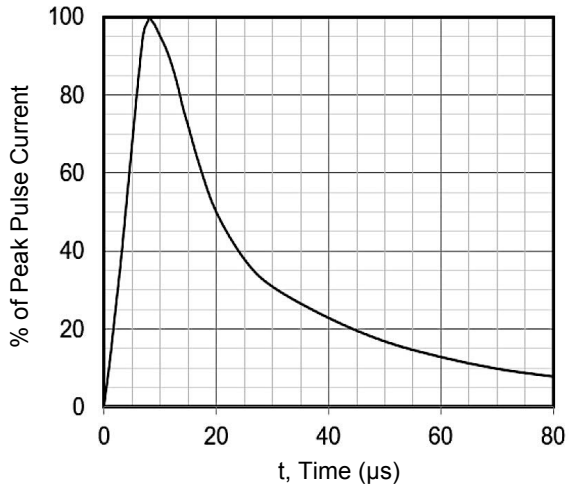


Figure 5. 8 x 20μs Pulse Waveform

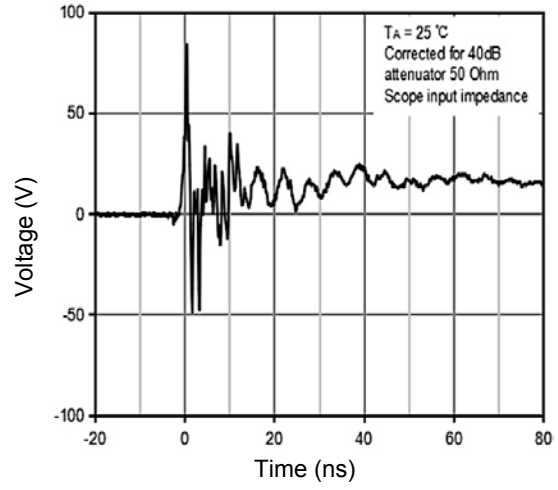
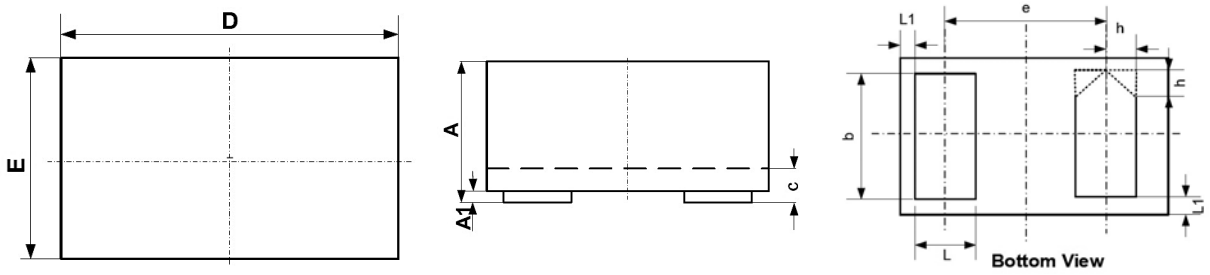


Figure 6. ESD Clamping Voltage

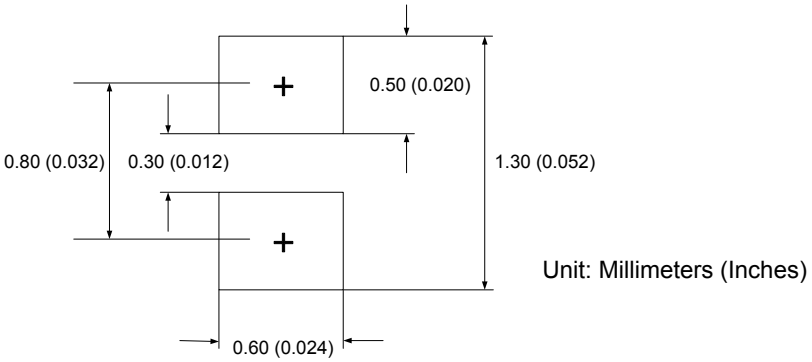
8 kV Contact Per IEC61000-4-2

Package Outline Dimensions (DFN1006)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.40	0.55	0.016	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 (Inches)

Order Information

Device	Package	Marking	Carrier	Quantity
GSEZ6B2000	DFN1006	C8	Tape & Reel	10,000 Pcs / Reel