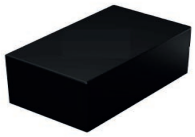
GOOD-ARK
SEMICONDUCTOR

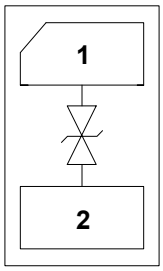
GSEZ3B560
ESD Protection Diode

Features

- Protects one data line
- Ultra low leakage: nA level
- Ultra Low operating voltage: 3.3V
- Ultra Low clamping voltage
- Complies with following standards:
  -IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±30kV
  Contact discharge: ±30kV
  -IEC61000-4-5 (Lightning) 30A (8/20μs)
- RoHS compliant



DFN1006



Schematic Diagram

Applications

- Cellular handsets and accessories
- Personal digital assistants
- Computer interfaces protection
- Control signal lines protection
- Digital cameras
- Peripherals
- Audio players
- Keypads, side keys, LCD displays

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P_{pk}	300	W
Peak Pulse Current (8/20μs)	I_{PP}	30	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	-40 to +85	°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}	-	-	-	3.3	V
Punch-Through Voltage	V_{PT}	I_T=2μA	3.5	-	-	V
Snap-Back Voltage	V_{SB}	I_T=50mA	2.8	-	-	V
Reverse Leakage Current	I_R	V_{RWM}=3.3V	-	-	0.2	μA
Clamping Voltage	V_C	I_{PP}=1A (8 x 20μs pulse)	-	-	5.5	V
Clamping Voltage	V_C	I_{PP}=30A (8 x 20μs pulse)	-	-	10.0	V
Junction Capacitance	C_J	V_R=0V, f=1MHz	-	56	-	pF

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

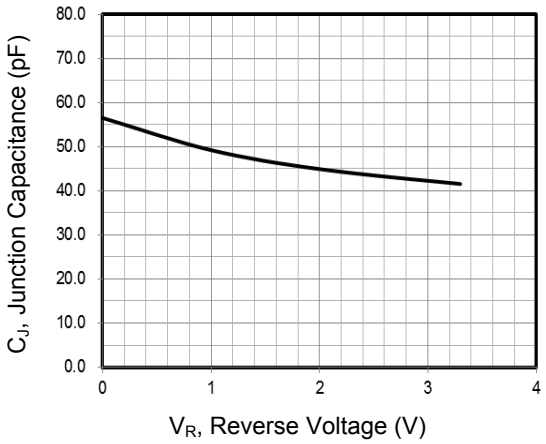


Figure 1. Junction Capacitance vs. Reverse Voltage

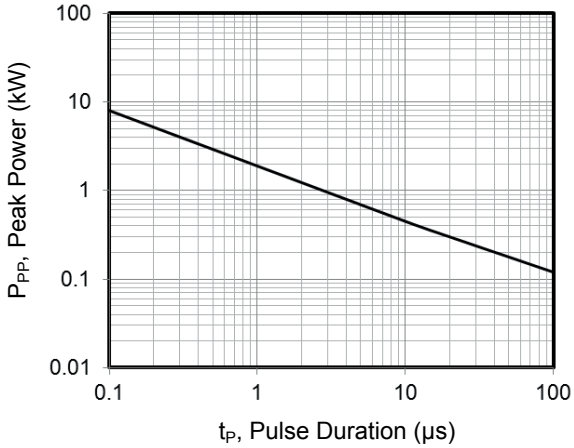


Figure 2. Peak Pulse Power vs. Pulse Time

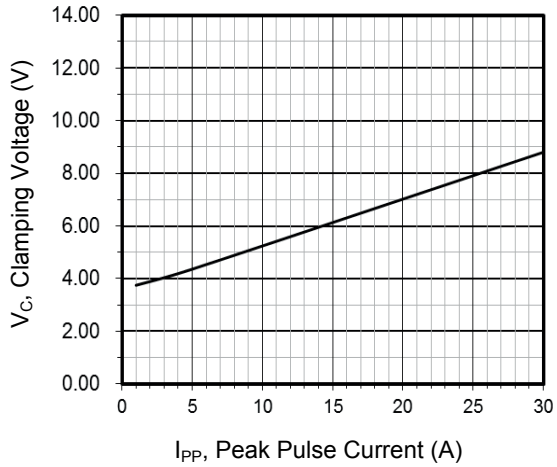


Figure 3. Clamping Voltage vs. Peak Pulse Current

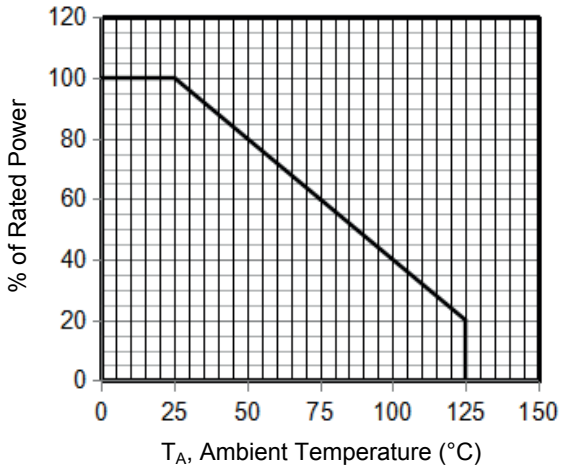


Figure 4. Power Derating Curve

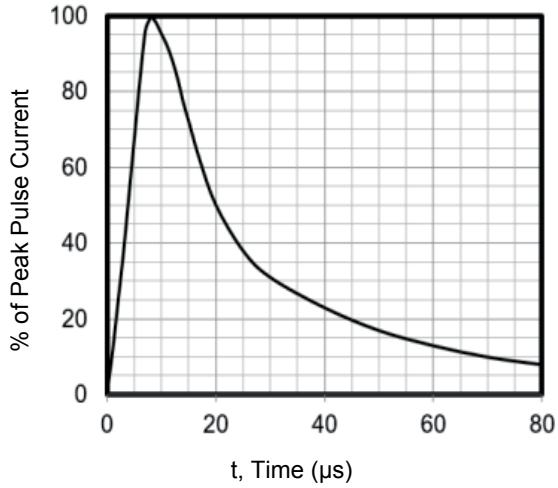
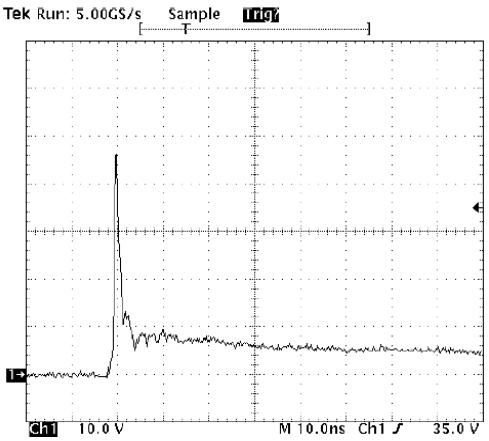


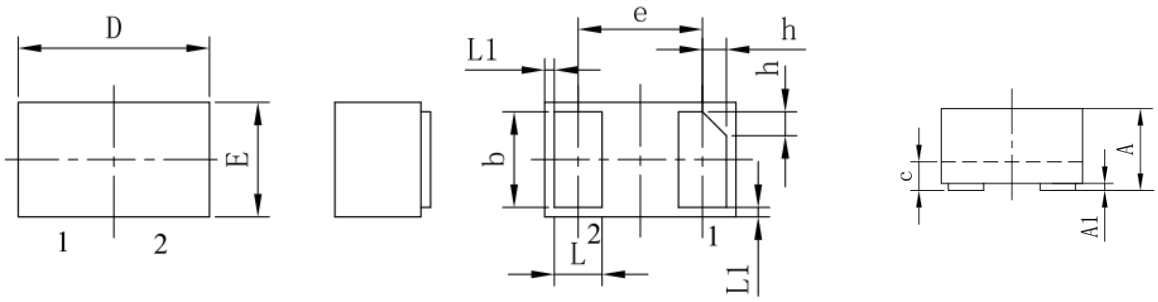
Figure 5. 8 X 20μs Pulse Waveform



Note: Data is taken with a 10x attenuator

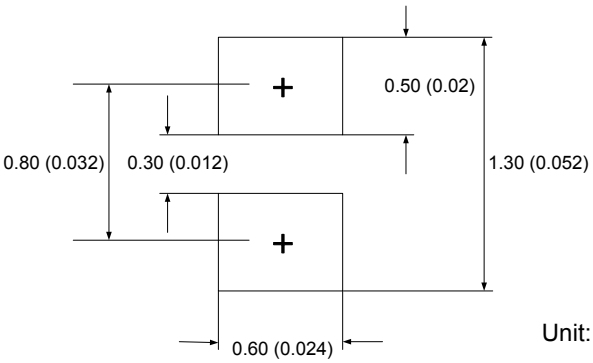
Figure 6. ESD Clamping Voltage
8 kV Contact per IEC61000-4-2

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



Unit: Millimeters (Inch)

Order Information

Device	Package	Marking	Carrier	Quantity
GSEZ3B560	DFN1006	38	Tape & Reel	10,000pcs / Reel