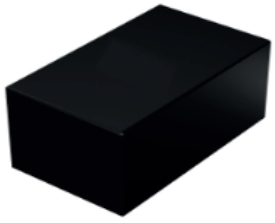
GOOD-ARK SEMICONDUCTOR

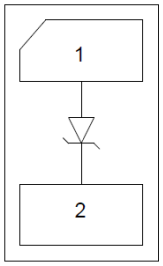
GSEY5U4000
ESD Protection Diode

Features

- Protects one data or power line
- Ultra low leakage: nA level
- Operating voltage: 4.8V
- 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) 180A (8/20μs)
- RoHS compliant



DFN1610



Schematic Diagram

Applications

- Cellular handsets and accessories
- Personal digital assistants
- Notebooks and handhelds
- Portable instrumentation
- 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}	2340	W
Peak Pulse Current (8/20μs)	I_{PP}	180	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}	-	-	-	4.8	V
Breakdown Voltage	V_{BR}	I_T=1mA	5	-	6.5	V
Reverse Leakage Current	I_R	V_{RWM}=4.8V	-	-	0.5	μA
Clamping Voltage	V_C	I_{PP}=100A (8 x 20μs pulse)	-	8	9	V
		I_{PP}=180A (8 x 20μs pulse)	-	11	13	
Junction Capacitance	C_J	V_R=0V, F=1MHz	-	400	500	pF

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

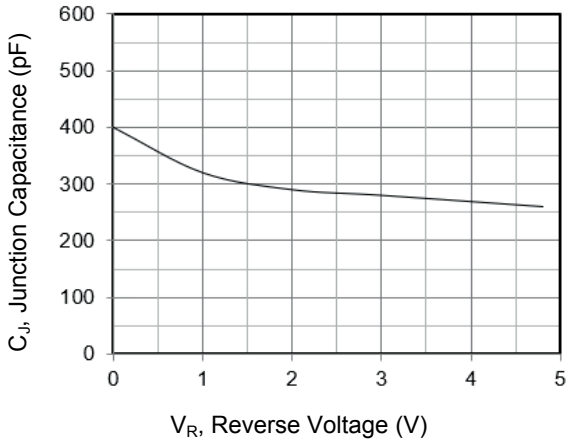


Figure 1. Junction Capacitance vs. Reverse Voltage

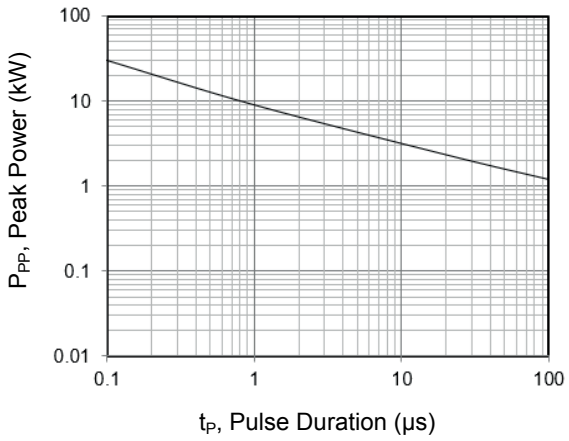


Figure 2. Peak Pulse Power vs. Pulse Time

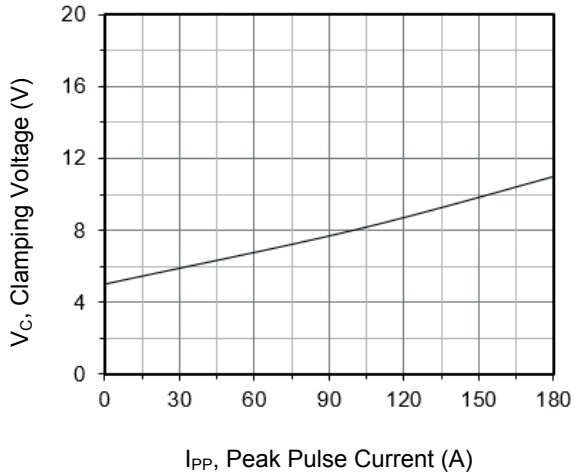


Figure 3. Clamping Voltage vs. Peak Pulse Current (t_P=8/20μs)

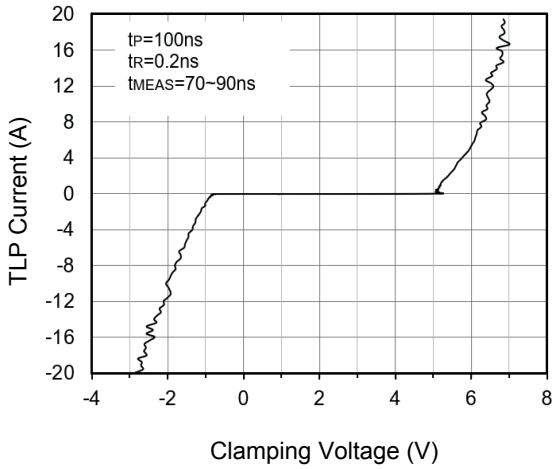


Figure 4. TLP Measurement

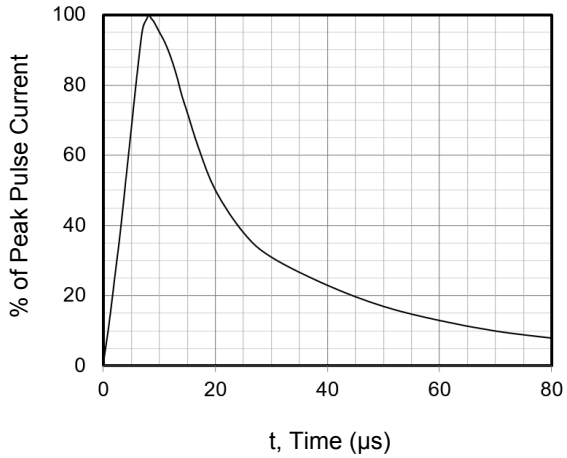


Figure 5. 8 X 20μs Pulse Waveform

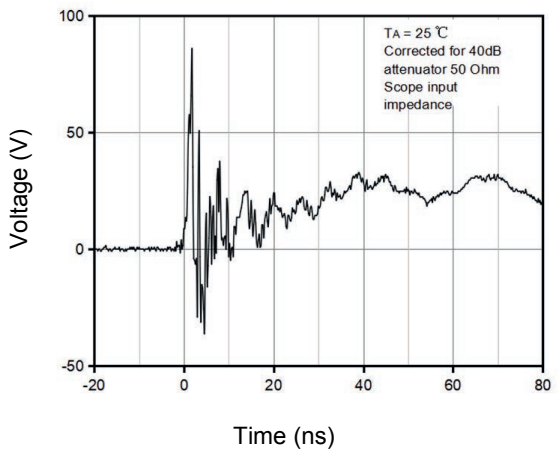
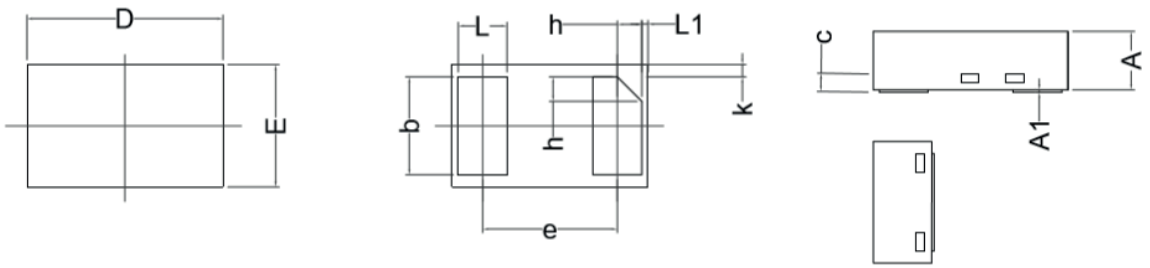


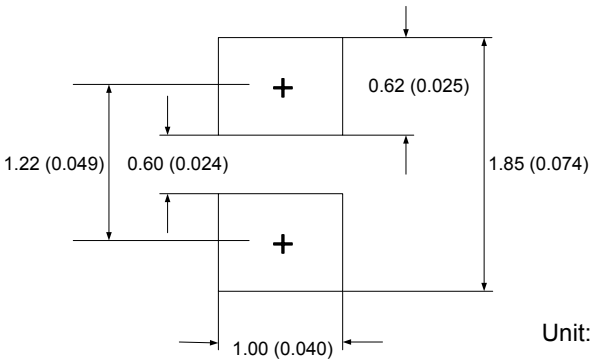
Figure 6. ESD Clamping Voltage 8kV Contact per IEC61000−4−2

Package Outline Dimensions (DFN1610)



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	0.75	0.85	0.030	0.034
c	0.10	0.20	0.004	0.008
D	1.55	1.65	0.062	0.066
e	1.10 BSC		0.044 BSC	
E	0.95	1.05	0.038	0.042
L	0.35	0.45	0.014	0.018
h	0.15	0.25	0.006	0.010
k	0.05	0.15	0.002	0.006
L1	0.05 REF.		0.002 REF.	

Recommended Pad Layout



Unit: Millimeters (Inches)

Order Information

Device	Package	Marking	Carrier	Quantity
GSEY5U4000	DFN1610	49	Tape & Reel	3,000pcs / Reel