

GSEZ5B003

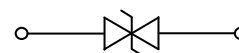
Ultra Low Capacitance TVS Diode

Features

- 70 Watts peak pulse power ($T_P=8/20\mu s$)
- Bi-directional configuration
- Snap-back technology
- Low clamping voltage
- Low leakage current
- Ultra low capacitance (0.30pF typical)
- ESD protection for high-speed data lines to:
IEC 61000-4-2 ± 16 KV Contact, ± 20 KV Air
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Lightning) 10A (8/20 μs)
- RoHS compliant



DFN1006



Schematic Diagram

Applications

- USB 3.0, USB 2.0, MHL
- HDMI 2.0, Display Port 1.3, eSATA
- Unified Display Interface (UDI)
- Digital Visual Interface (DVI)
- 1G/2.5G/5G/10G Ethernet

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

Parameter	Symbol	Value	Unit
Peak Pulse Power ($T_P=8/20\mu s$)	P_{PP}	70	W
Peak Pulse Current ($T_P=8/20\mu s$)	I_{PP}	10	A
Junction Temperature	T_J	-55 To +125	$^\circ C$
Storage Temperature	T_{STG}	-55 To +150	$^\circ C$

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	V_{RWM}	-	-	-	5	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	5.5	6.5	8.6	V
Reverse Leakage Current	I_R	$V_R=5.0V$	-	0.01	0.05	μA
Trigger Voltage	V_T	$I_{PP}=10A$, $T_P=8/20\mu s$	-	9.0	-	V
Clamping Voltage	V_C	$I_{PP}=10A$, $T_P=8/20\mu s$	-	7.0	-	V
Clamping Voltage (TLP 8A)	V_C	IEC 61000-4-2 Level 2 (± 4 kV Contact, ± 4 kV Air)	-	4.5	-	V
Clamping Voltage (TLP 16A)	V_C	IEC 61000-4-2 Level 4 (± 8 kV Contact, ± 8 kV Air)	-	6.0	-	V
Dynamic Resistance	R_{dyn}	$I_T=0$ to 30A, $T_P=TLP$	-	0.25	-	Ω
Junction Capacitance	C_J	$V_R=0V$, $f=1MHz$, I/O to GND	-	0.3	0.50	pF

Typical Characteristic Curves

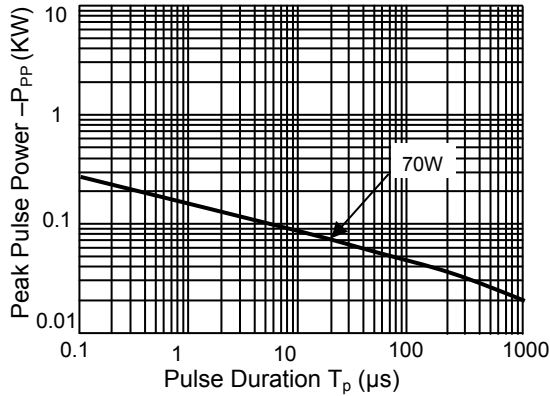


Figure 1. Peak Pulse Power Rating Curve

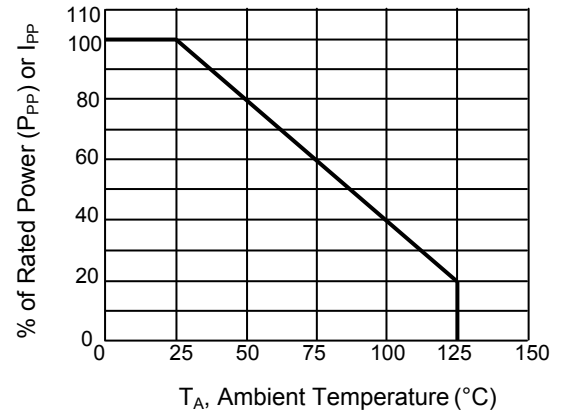


Figure 2. Pulse Derating Curve

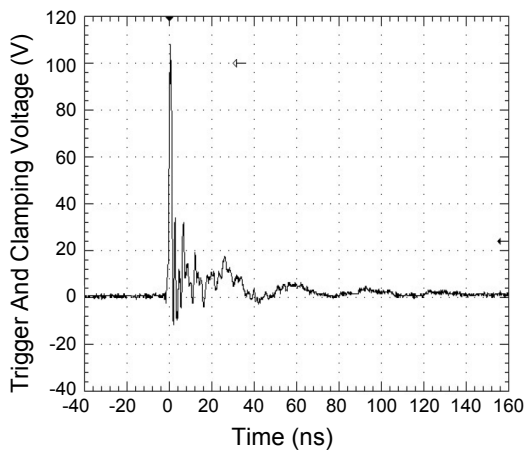


Figure 3. IEC61000-4-2 +8kV Contact Discharge

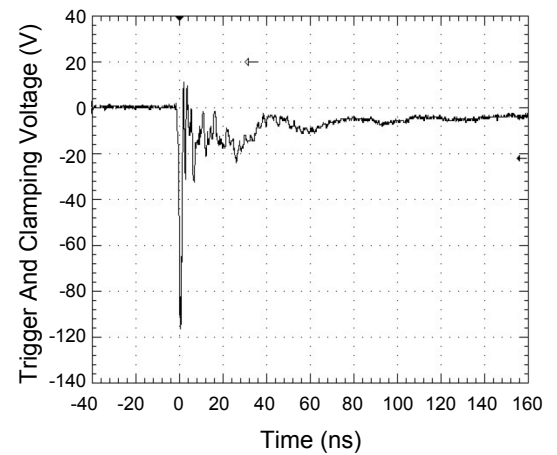


Figure 4. IEC61000-4-2 -8kV Contact Discharge

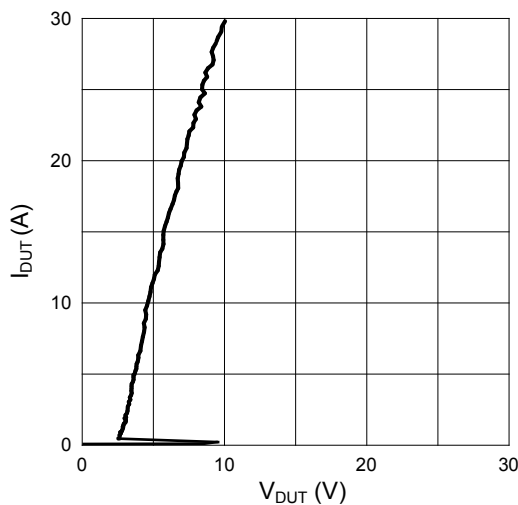


Figure 5. Transmission Line Pulse ($T_p=100ns$)

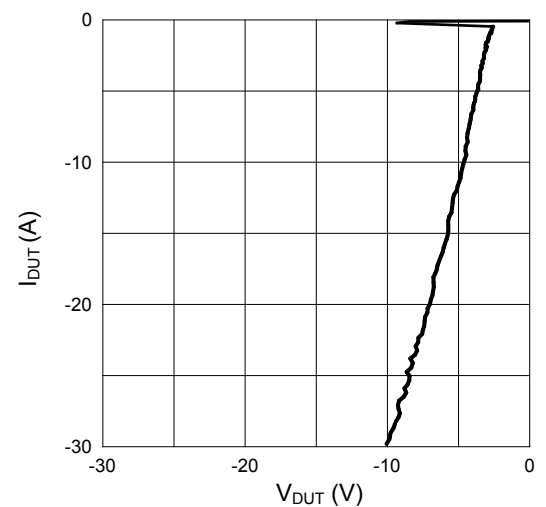
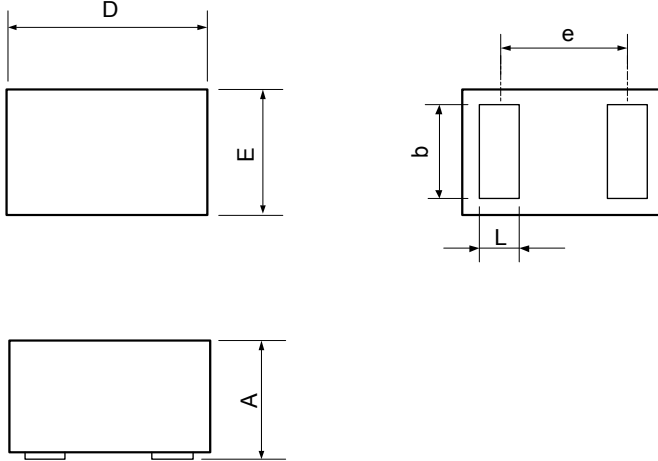


Figure 6. Transmission Line Pulse ($T_p=100ns$)

Product Dimensions (DFN1006)



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
D	0.950	1.050	0.037	0.041
E	0.550	0.650	0.022	0.026
A	0.450	0.550	0.018	0.022
b	0.450	0.550	0.018	0.022
L	0.200	0.300	0.008	0.012
e	0.650 BSC		0.026 BSC	

Order Information

Device	Package	Marking	Carrier	Quantity
GSEZ5B003	DFN1006	S	Tape & Reel	10,000pcs / Reel