

## 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  $\pm 16$ KV Contact,  $\pm 20$ KV Air  
 IEC 61000-4-4 (EFT) 40A (5/50ns)  
 IEC 61000-4-5 (Lightning) 10A (8/20 $\mu s$ )
- 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

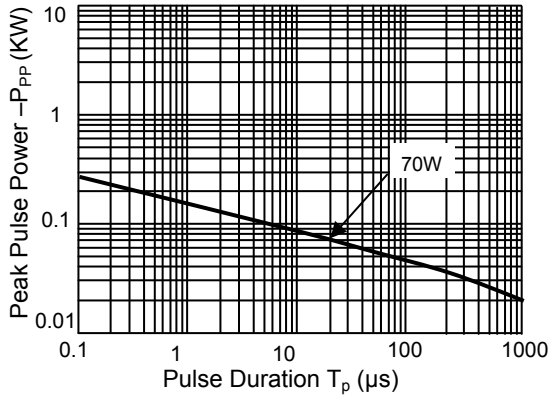
## Absolute Maximum Ratings ( $T_A=25^\circ C$ unless otherwise specified)

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	$^\circ C$

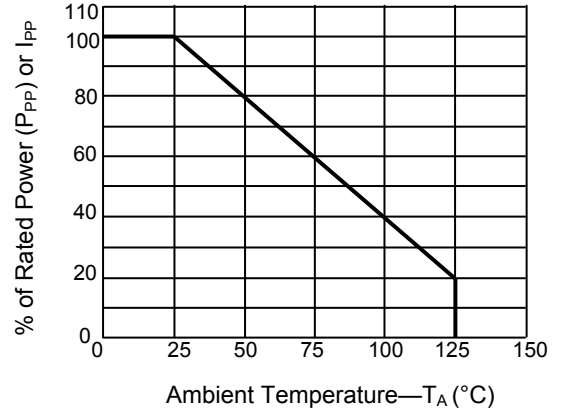
## Electrical Characteristics ( $T_A=25^\circ C$ unless otherwise specified)

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	$\mu A$
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 ( $\pm 4$ kV Contact, $\pm 4$ kV Air)	-	4.5	-	V
Clamping Voltage (TLP 16A)	$V_C$	IEC 61000-4-2 Level 4 ( $\pm 8$ kV Contact, $\pm 8$ kV Air)	-	6.0	-	V
Dynamic Resistance	$R_{dyn}$	$I_T=0$ to 30A, $T_p=TLP$	-	0.25	-	$\Omega$
Junction Capacitance	$C_J$	$V_R=0V, f=1MHz, I/O$ to GND	-	0.3	0.50	pF

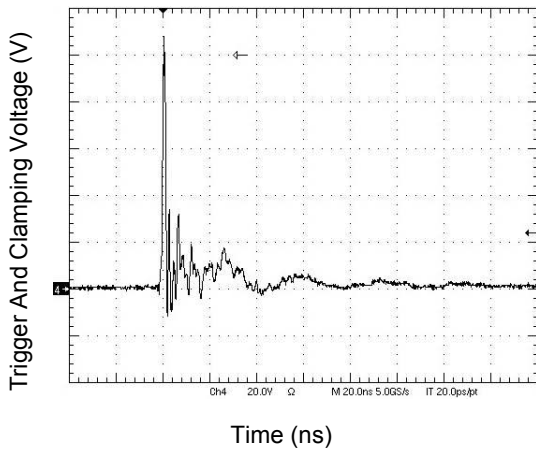
**Typical Characteristic Curves**



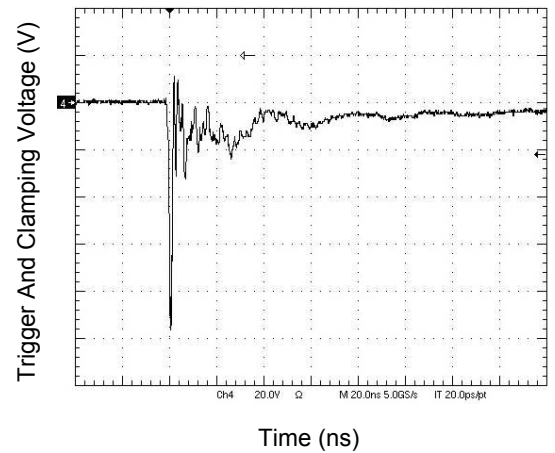
**Figure 1. Peak Pulse Power Rating Curve**



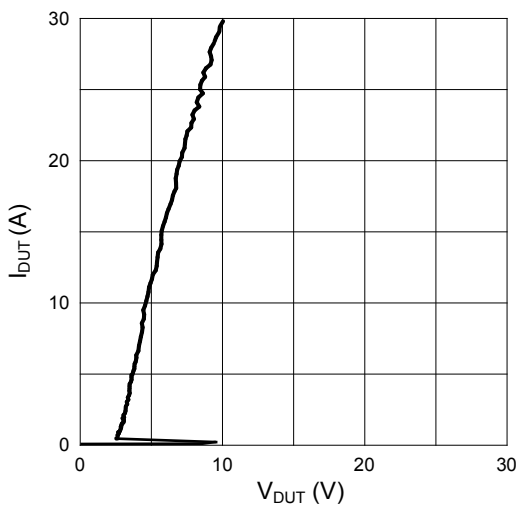
**Figure 2. Pulse Derating Curve**



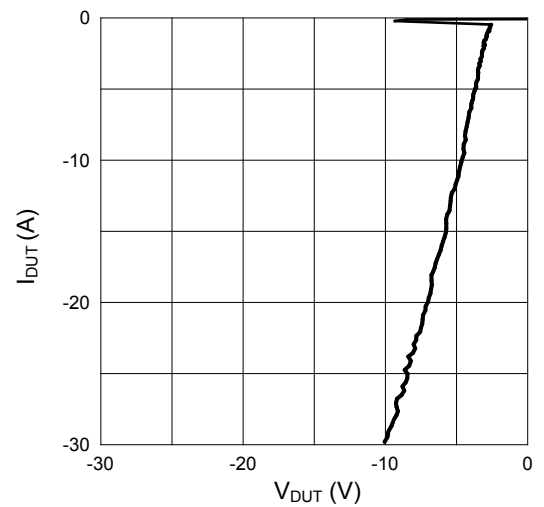
**Figure 3. IEC61000-4-2 +8kV Contact Discharge**



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

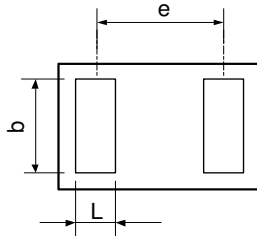
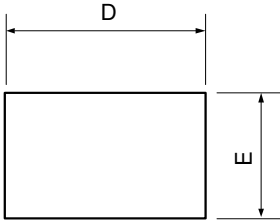


**Figure 5. Transmission Line Pulse ( $T_p=100ns$ )**



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

**Product Dimensions DFN1006**



Symbol	Milimeter		
	min	nom	max
D	0.95	1.00	1.05
E	0.55	0.60	0.65
A	0.45	0.50	0.55
b	0.45	0.50	0.55
L	0.20	0.25	0.30
e	0.65BSC		



**Marking**



**Order Information**

Device	Package	Marking	Carrier	Quantity	HSF Status
GSEZ5B003	DFN1006	S	Tape & Reel	10,000pcs	RoHS Compliant