

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 $\pm 16kV$ Contact, $\pm 20kV$ 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 ($\pm 4 kV$ 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 | - | Ω |
| Junction Capacitance | C_J | $V_R=0V, f=1MHz, I/O$ to GND | - | 0.3 | 0.50 | pF |

Typical Characteristic Curves

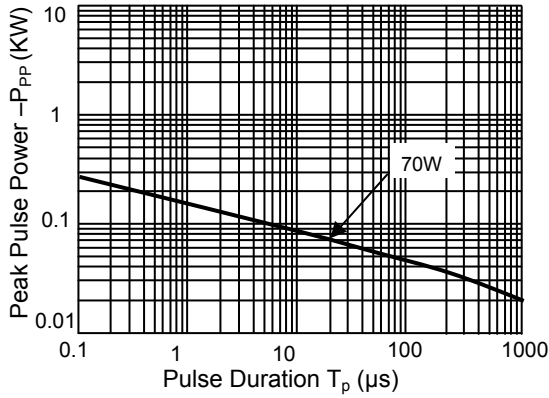


Figure 1. Peak Pulse Power Rating Curve

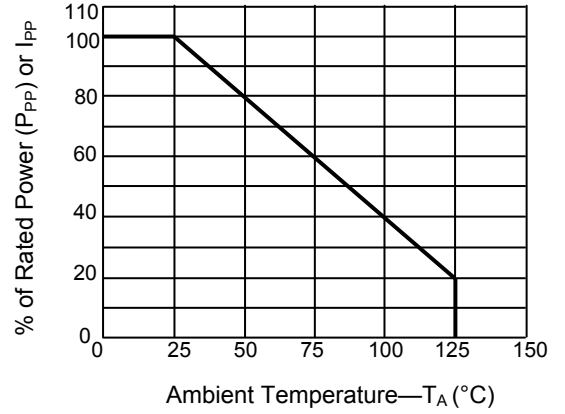


Figure 2. Pulse Derating Curve

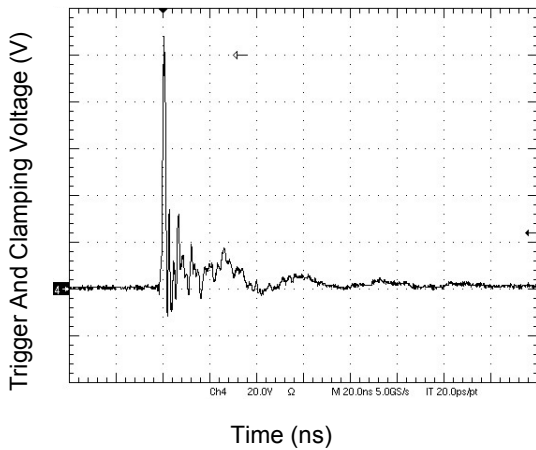


Figure 3. IEC61000-4-2 +8kV Contact Discharge

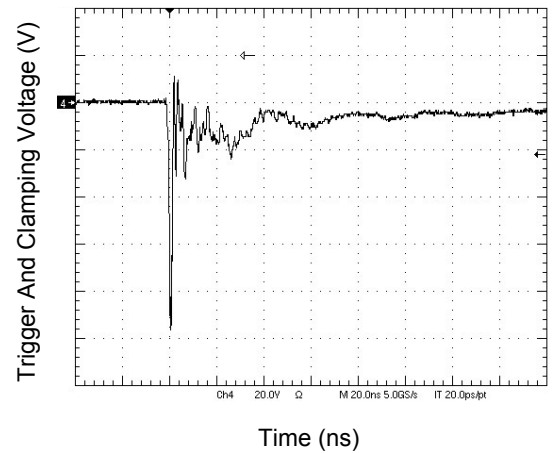


Figure 4. IEC61000-4-2 -8kV Contact Discharge

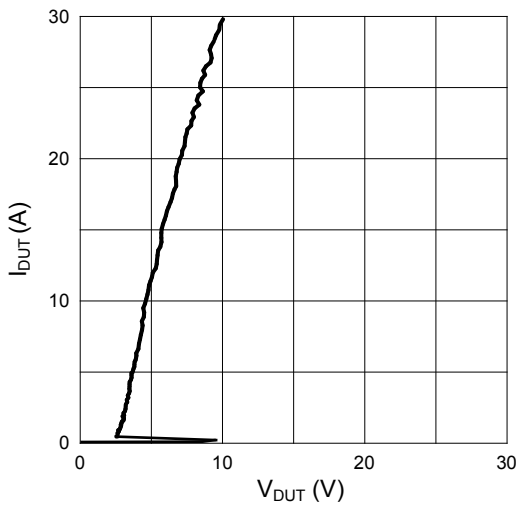


Figure 5. Transmission Line Pulse ($T_p=100ns$)

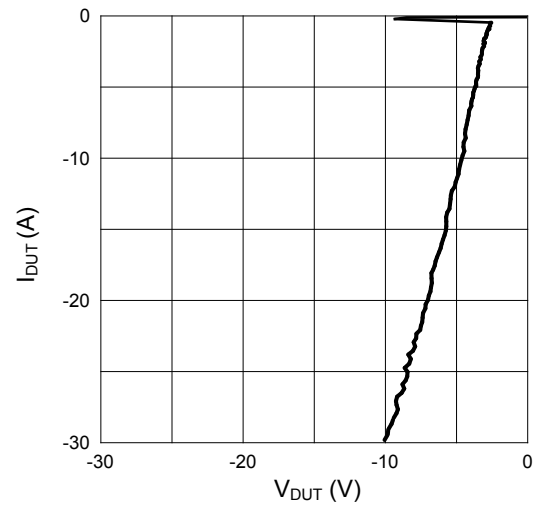
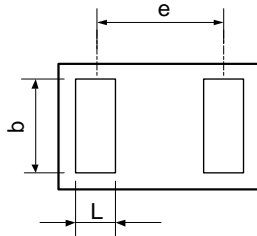
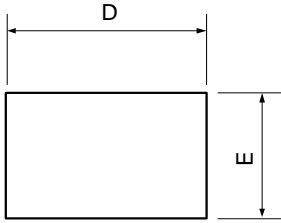
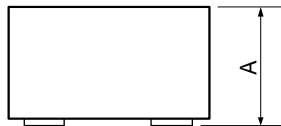


Figure 6. Transmission Line Pulse ($T_p=100ns$)

Product Dimensions DFN1006



| Symbol | 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 |