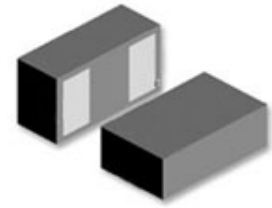
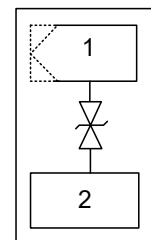


Features

- low capacitance: 0.3pF typical
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- 2-pin lead less package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: ±15kV
Contact discharge: ±15kV
 - IEC 61000-4-5 (Lightning) 5A (8/20μs)
- RoHS compliant



DFN0603



Schematic Diagram

Applications

- Cellular handsets and accessories
- Display ports
- MDDI / MHL
- USB 2.0 / USB 3.0
- Digital visual interface (DVI)
- PCI express and serial SATA ports

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

| Parameter | Symbol | Value | Unit |
|---------------------------------|------------------|-------------|------|
| Peak Pulse Power (8/20μs) | P _{pk} | 50 | W |
| Peak Pulse Current (8/20μs) | I _{pp} | 5 | A |
| ESD Per IEC 61000-4-2 (Air) | V _{ESD} | ±15 | kV |
| ESD Per IEC 61000-4-2 (Contact) | | ±15 | |
| 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} | - | - | - | 5 | V |
| Breakdown Voltage | V _{BR} | I _T =1mA | 6 | - | - | V |
| Reverse Leakage Current | I _R | V _{RWM} =5V | - | - | 0.2 | μA |
| Clamping Voltage | V _C | I _{pp} =5A (8 x 20μs pulse) | - | - | 10 | V |
| ESD Clamping Voltage ¹ | V _C | I _{pp} =4A, t _p =0.2/100ns (TLP) | - | 4.6 | - | V |
| | | I _{pp} =16A, t _p =0.2/100ns (TLP) | - | 9.1 | - | V |
| Dynamic Resistance ² | R _{DYN} | t _p =0.2/100ns (TLP) | - | 0.38 | - | Ohm |
| Junction Capacitance | C _J | V _R =0V, F=1MHz | - | 0.3 | - | pF |

Note:

1. Transmission line pulse test (TLP) settings: t_p=100ns, t_r=0.2ns.
2. Dynamic resistance calculated from ITLP=4A to ITLP=16A.

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

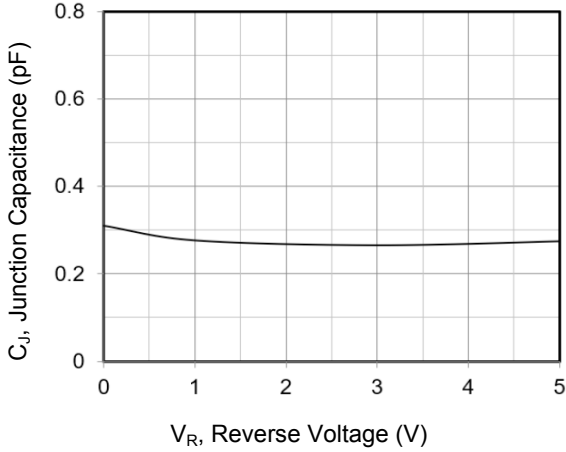


Figure 1. Junction Capacitance vs. Reverse Voltage

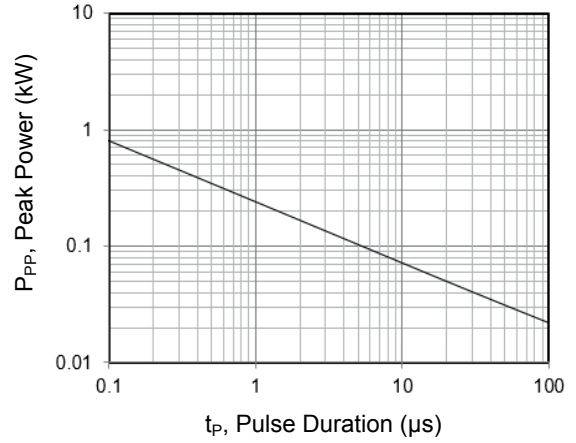


Figure 2. Peak Pulse Power vs. Pulse Time

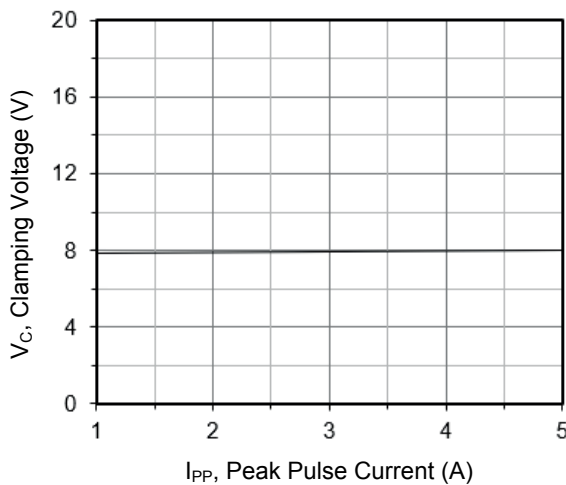


Figure 3. Clamping Voltage vs. Peak Pulse Current
($t_p=8/20\mu\text{s}$)

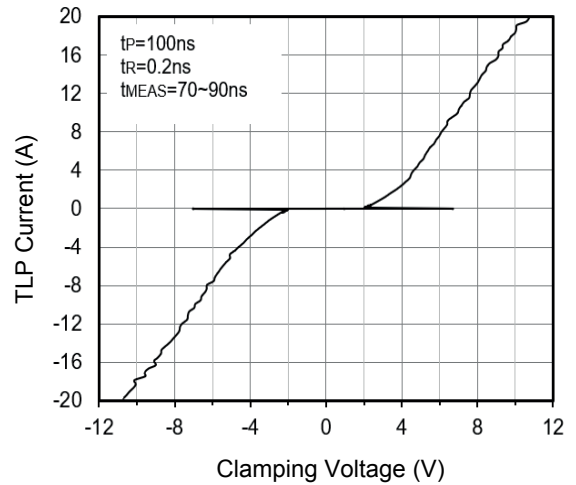


Figure 4. TLP Measurement

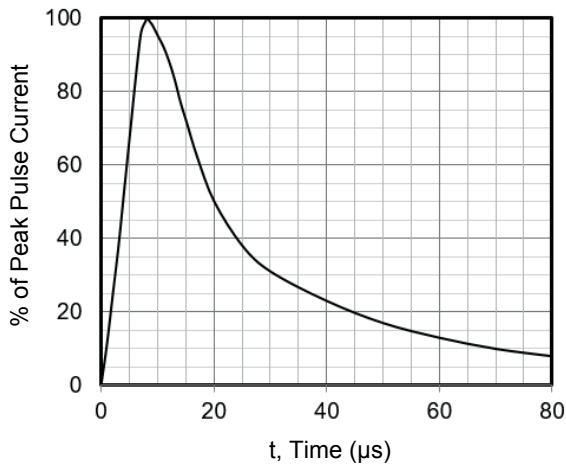


Figure 5. 8 X 20 μs Pulse Waveform

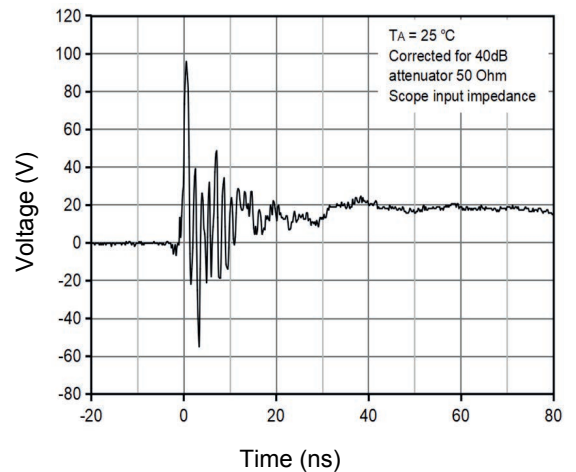
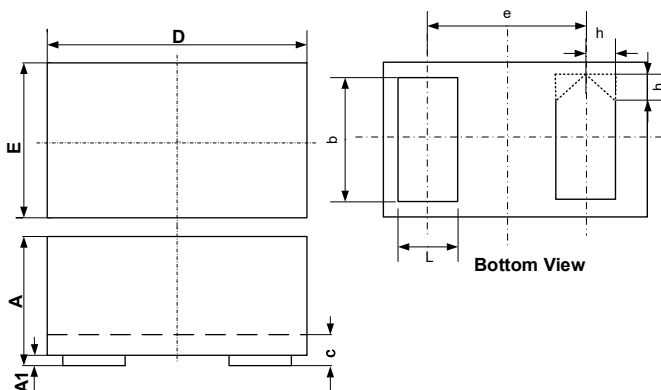


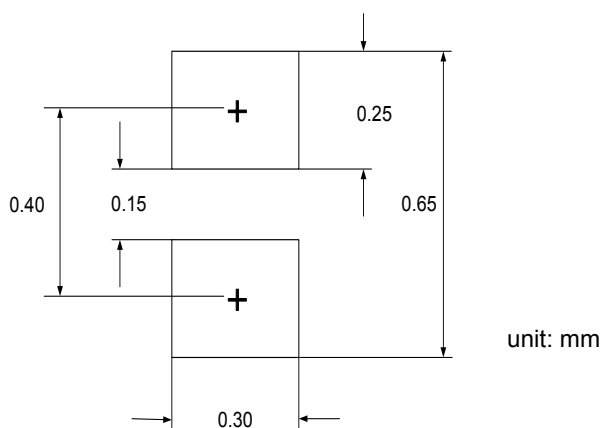
Figure 6. ESD Clamping Voltage
8kV Contact per IEC61000-4-2

Package Outline Dimensions (DFN0603)



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.230 | 0.340 | 0.009 | 0.013 |
| A1 | 0.000 | 0.050 | 0.000 | 0.002 |
| b | 0.215 | 0.275 | 0.008 | 0.011 |
| c | 0.120 | 0.180 | 0.005 | 0.007 |
| D | 0.550 | 0.650 | 0.022 | 0.026 |
| e | 0.360 BSC | | 0.014 BSC | 0.000 |
| E | 0.250 | 0.350 | 0.010 | 0.014 |
| L | 0.160 | 0.220 | 0.006 | 0.009 |
| h | 0.079 BSC | | 0.003 BSC | 0.000 |

Recommended Pad Layout



Order Information

| Device | Package | Marking | Carrier | Quantity |
|------------|---------|---------|-------------|-------------------|
| GSEN5B0031 | DFN0603 | 2R | Tape & Reel | 10,000 pcs / Reel |