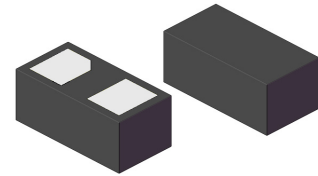
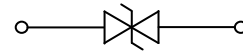


Features

- 100W peak pulse power ($t_p = 8/20\mu s$)
- DFN0603 (0201) package
- Bidirectional configurations
- R2R + Zener technology
- Low clamping voltage
- Low leakage current
- Ultra low capacitance ($C_j=0.2pF$ typ.)
- Protection one data/power line to:
 - IEC 61000-4-2 $\pm 15kV$ contact $\pm 15kV$ air
 - IEC 61000-4-4 (EFT) 40A (5/50ns)
 - IEC 61000-4-5 (Lightning) 5A (8/20 μs)
- RoHS compliant



DFN0603-X2



Schematic Diagram

Applications

- USB3.0, Firewire, DVI, HDMI, S-ATA
- Thunderbolt, Display Port
- Mobile HDMI Link, MDDI, MIPI, SWP / NFC

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} | 100 | W |
| ESD Contact/Air Discharge (IEC-61000-4-2) | V_{ESD} | 15/15 | kV |
| Peak Pulse Current ($t_P = 8/20\mu S$) | I_{PP} | 5 | A |
| Junction Temperature | T_J | -55 to +125 | $^\circ C$ |
| Storage Temperature | T_{STG} | -55 to +150 | $^\circ C$ |
| Maximum Lead Solder Temperature(10 second duration) | T_L | 260 | $^\circ C$ |

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

| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|----------------------------------|-----------|------------------|-----|-----|------|------|
| Reverse stand-off Voltage | V_{RWM} | - | - | - | 5.0 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1mA$ | 6.5 | 8.5 | - | V |
| Reverse Leakage Current | I_R | $V_R=5.0V$ | - | 5 | 100 | nA |
| Clamping Voltage (IEC 61000-4-5) | V_C | $I_{PP}=5A$ | - | - | 20.5 | V |
| Trigger Voltage (IEC 61000-4-2) | V_T | $V_{ESD}=8kV$ | - | 135 | - | V |
| Clamping Voltage (IEC 61000-4-2) | V_C | $V_{ESD}=8kV$ | - | 20 | - | V |
| Junction Capacitance | C_J | $V_R=0V, f=1MHz$ | - | 0.2 | 0.3 | pF |

Typical Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

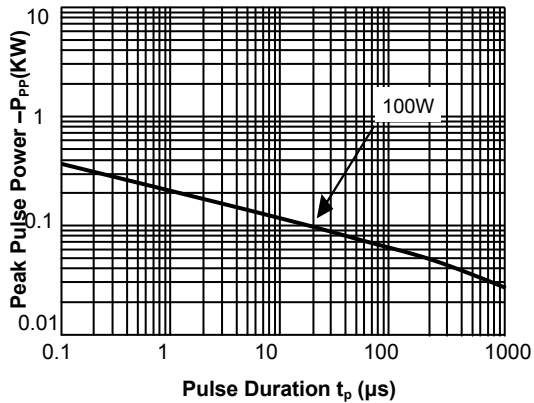


Fig.2 Pulse Derating Curve

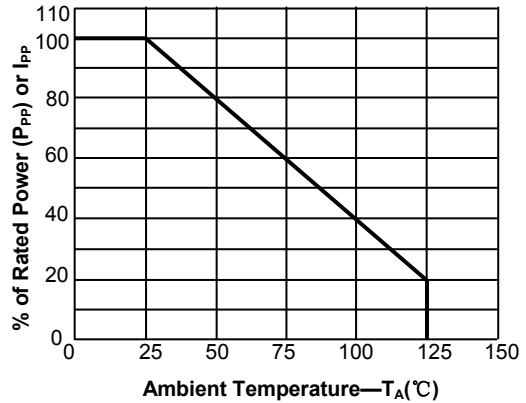


Fig.3 Pulse Waveform-8/20μs

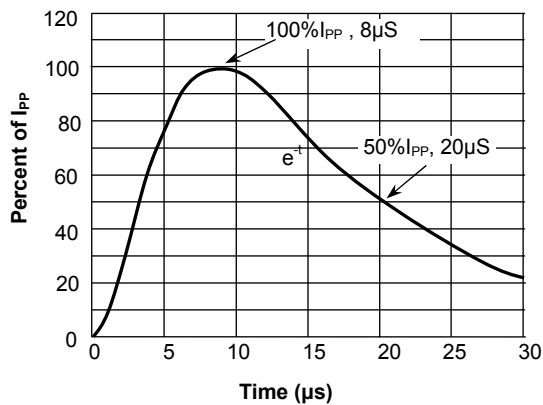


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

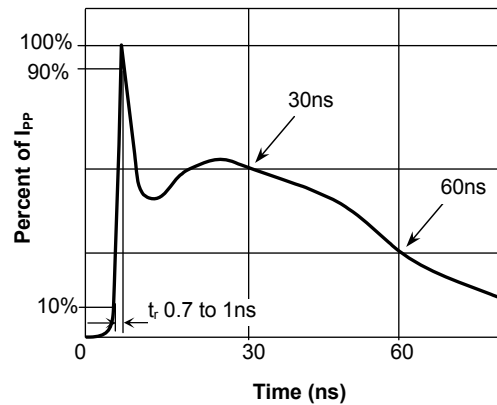


Fig.5 IEC61000-4-2 +8kV Contact Discharge

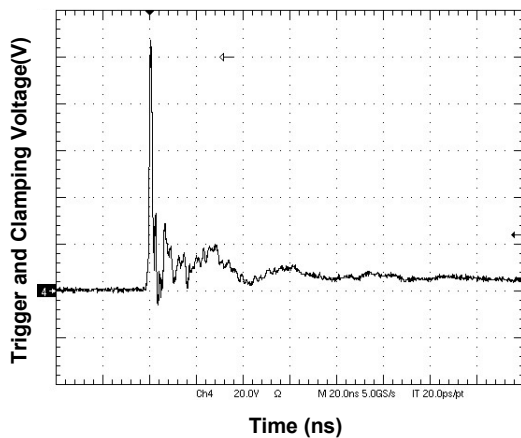
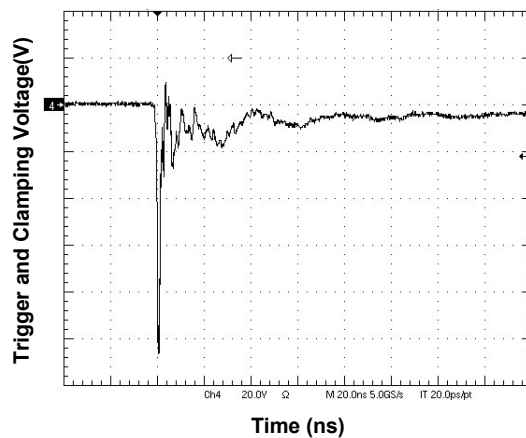
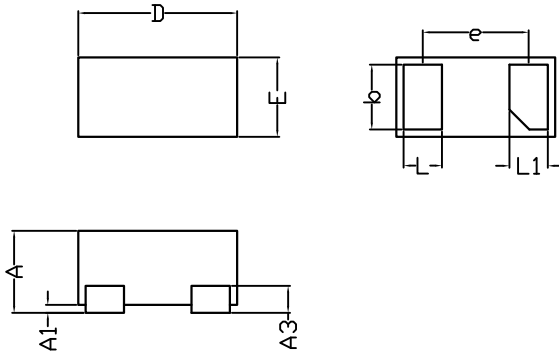


Fig.6 IEC61000-4-2 -8kV Contact Discharge



Product Dimensions

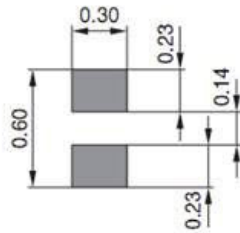
DFN0603-X2



| Symbol | Dimensions in millimeters | | |
|--------|---------------------------|-------|-------|
| | Min | Nom | Max |
| A | 0.23 | - | 0.33 |
| A1 | 0.00 | - | 0.05 |
| A3 | 0.102 REF | | |
| D | 0.55 | 0.60 | 0.65 |
| E | 0.25 | 0.30 | 0.35 |
| b | 0.215 | 0.245 | 0.275 |
| L | 0.115 | 0.145 | 0.175 |
| L1 | 0.115 | 0.145 | 0.175 |
| e | 0.40 BSC | | |

Recommended Footprint

Unit: mm



Marking



Order Information

| Device | Package | Carrier | Quantity | HSF Status |
|------------------|---------|-------------|-----------------|----------------|
| SPESUC5VD0603-2B | DFN0603 | Tape & Reel | 15000pcs / Reel | RoHS Compliant |