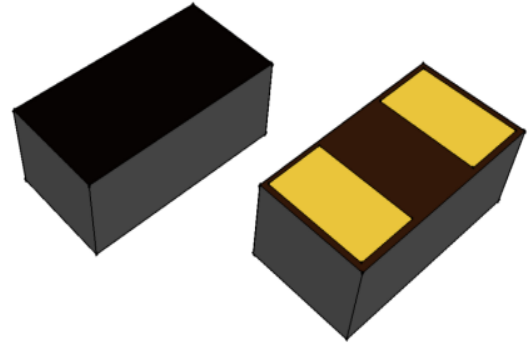




Features

- The best ESD protection for high speed, low voltage applications
- RoHS compliant and halogen free
- Ultra low capacitance, 0.05 pF (typ.)
- Low leakage current (<10nA)
- Fast response time (<1ns)
- Bi-directional, single line protection
- Surface mount



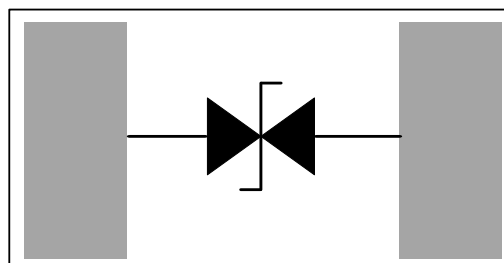
Applications

- Smart Phone/Mobile Internet Device
- Laptop/Desktop Computer
- Antennas
- High Speed Ethernet
- USB 2.0 and USB 3.0
- Lightning and Thunder Bolt Interface

Mechanical Data

- Surface mount
- RoHS Compliant
- Halogen Free

Schematic & PIN Configuration





Absolute Maximum Rating

| Rating | Symbol | Conditions | Value | Units |
|--|-----------|------------|----------------|-------|
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact) | V_{ESD} | | 15 8 | kV |
| Lead Soldering Temperature | T_L | | 260(10seconds) | °C |
| Operating Temperature | T_O | | -55 to + 125 | °C |
| Storage Temperature | T_{stg} | | -40 to + 125 | °C |

Electrical Characteristics

| Parameter | Symbol | Conditions | Min | Typical | Max | Units |
|------------------------------|----------|---------------------------------------|------|---------|-----|-------|
| Continuous Operating Voltage | V_{DC} | | | | 5.0 | V |
| Trigger Voltage | V_T | IEC61000-4-2 8KV contact discharge | | 450 | | V |
| Leakage Current | I_L | $V_{DC}=5V, T=25^{\circ}C$ | | | 10 | nA |
| Clamping Voltage | V_C | IEC61000-4-2 8KV contact discharge | | 40 | | V |
| Capacitance | C_p | Measured at 10MHz | | 0.05 | | pF |
| ESD Pulse Withstand | Pulses | IEC61000-4-2 8KV contact discharge | 1000 | | | |



ESD Clamping Test

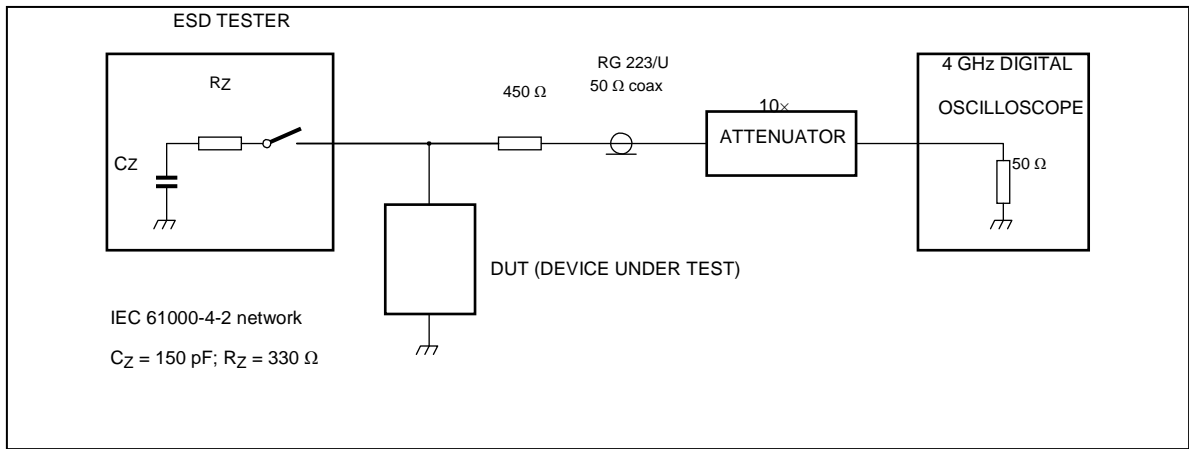


Fig.1 ESD Clamping Test Waveform

Fig.2 ESD Waveform after Clamping

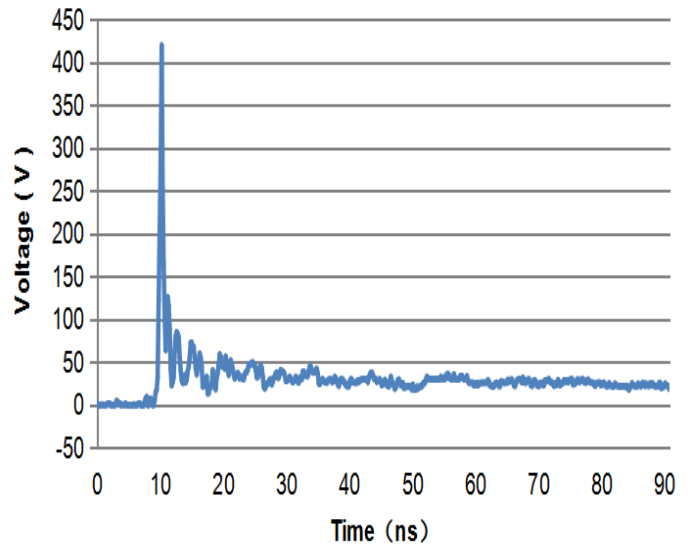
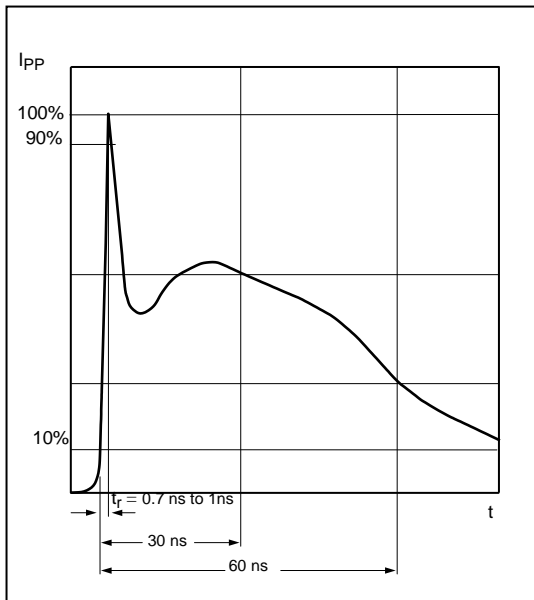
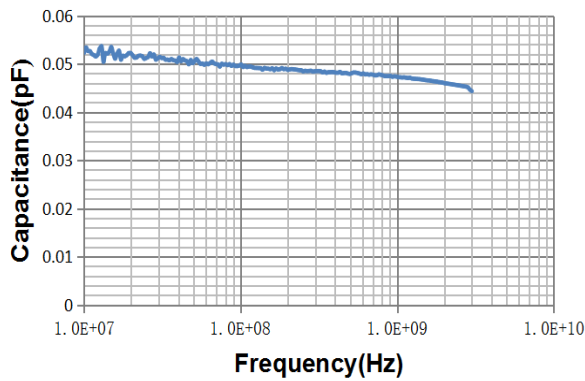
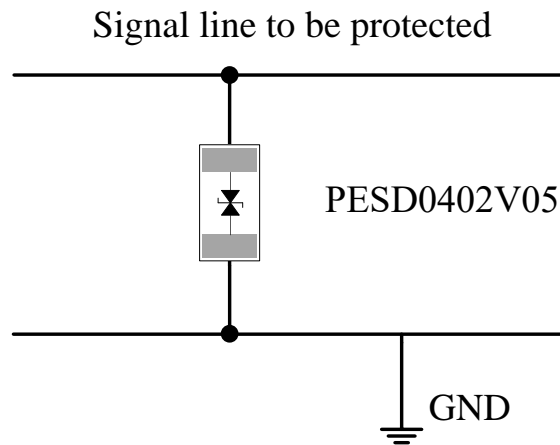


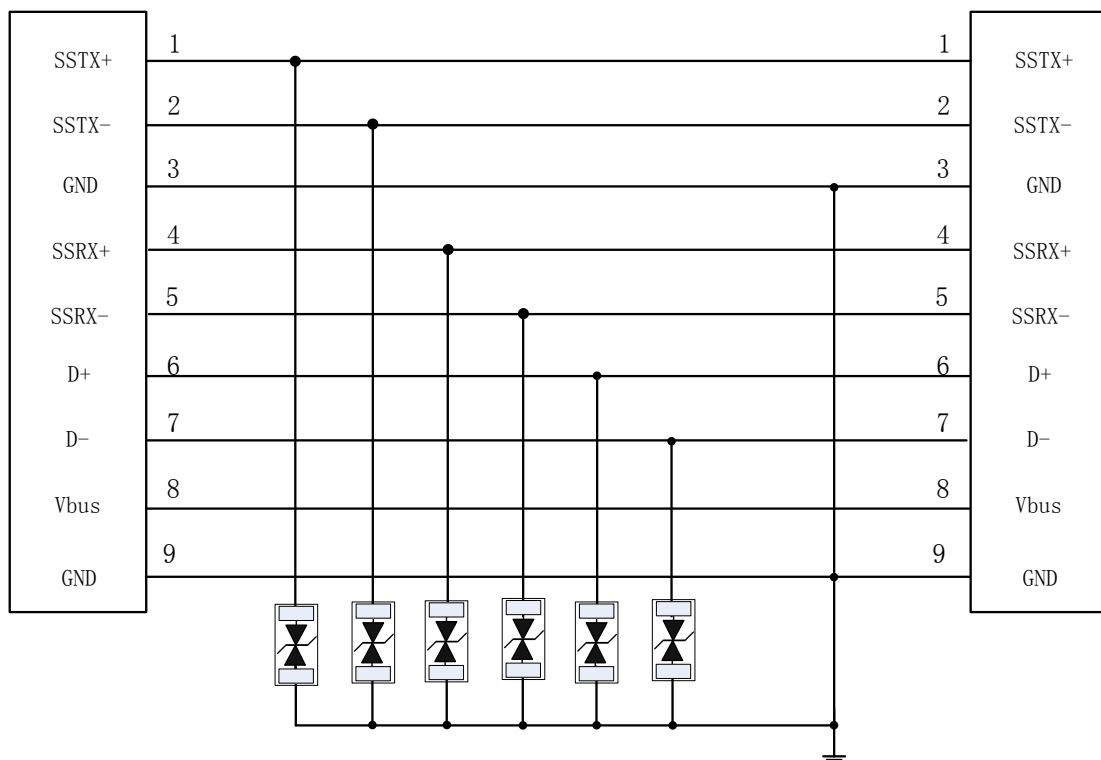
Fig.3 Capacitance VS Frequency



Application Information



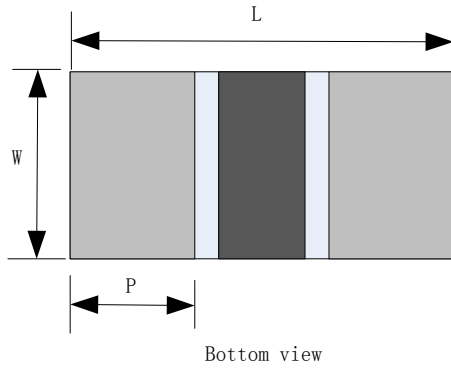
PESD0402V05 in Signal line protected



PESD0402V05 in USB3.0 application



Outline Drawing



| Dimension | Unit: Millimeters | | |
|-----------|-------------------|------|------|
| | Min. | Typ. | Max. |
| L | 0.90 | 1.00 | 1.10 |
| W | 0.42 | 0.52 | 0.62 |
| P | 0.15 | 0.25 | 0.35 |
| H | 0.25 | 0.38 | 0.45 |

