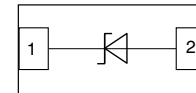
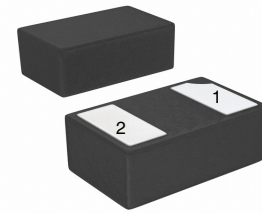


ESD/Surge Protection Diode in DFN1610

Features

- 1800 Watts peak pulse power ($T_p = 8/20\mu s$)
- DFN1610 package
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Normal capacitance ($C_j=450pF$)
- Protection one data/power line to:
 - IEC 61000-4-2 $\pm 30kV$ contact $\pm 30kV$ air
 - IEC 61000-4-4 (EFT) 40A (5/50ns)
 - IEC 61000-4-5 (Lightning) 75A (8/20 μs)



Mechanical Data

- **Case:** DFN1610 (plastic package)
Lead free; RoHS compliant; Halogen free
- **Molding Compound Flammability Rating:**
UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:
260 °C/10 sec. at terminals

Applications

- Charger Protection
- Parallel & Serial Port Protection
- Personal Digital Assistant (PDA)
- Microcontroller Input Protection
- Cellular Phones
- I²C Bus Protection

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

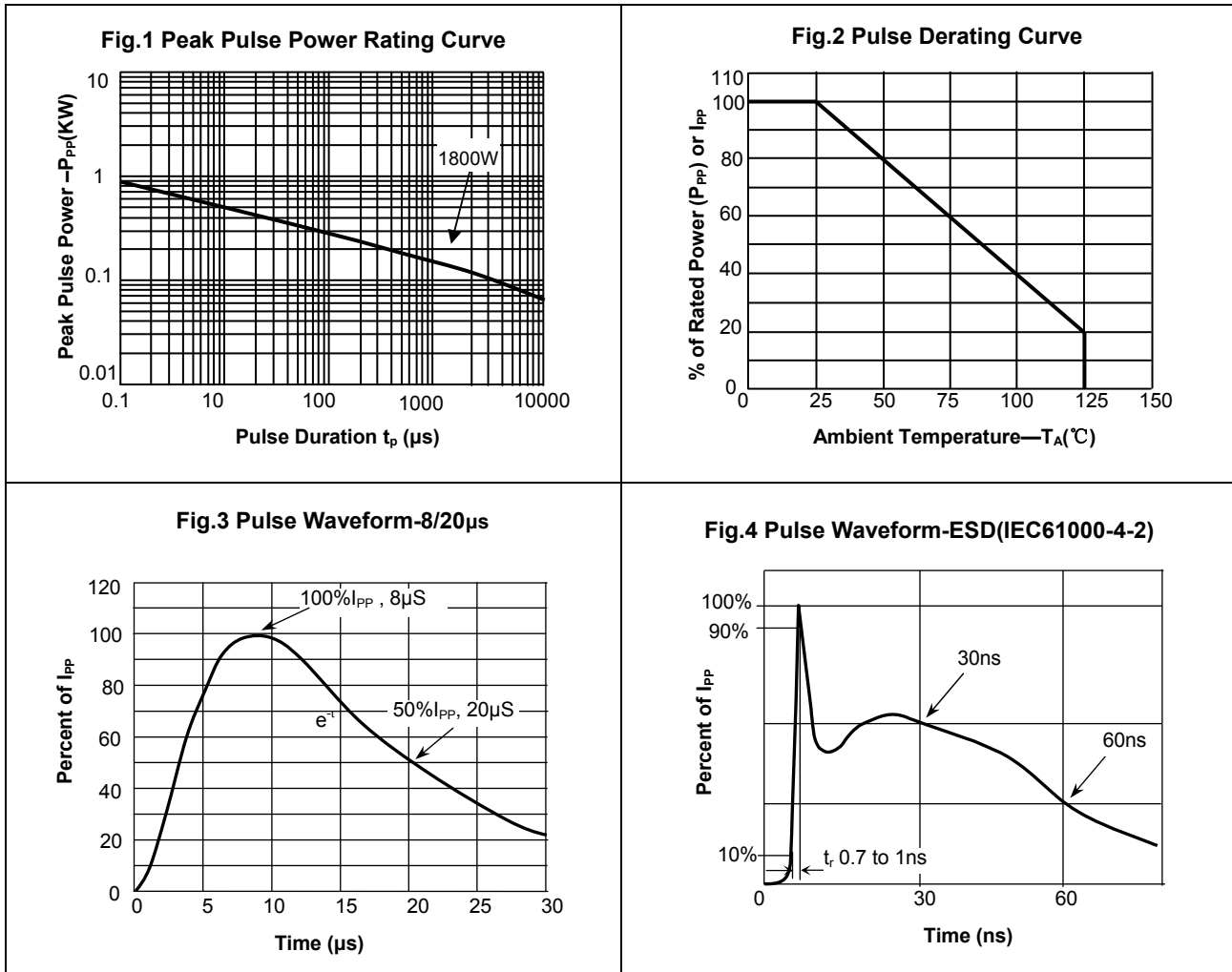
| Parameter | Symbol | Value | Unit |
|---|-----------|-------------|------|
| Peak Pulse Power ($T_p=8/20\mu s$) | P_{PP} | 1800 | W |
| ESD contact/air discharge (IEC-61000-4-2) | V_{ESD} | 30/30 | kV |
| Peak Pulse Current ($t_p = 8/20\mu s$) | I_{PP} | 75 | A |
| Junction Temperature | T_J | -55 to +125 | °C |
| Storage temperature | T_{STG} | -55 to +125 | °C |

Electrical Characteristics

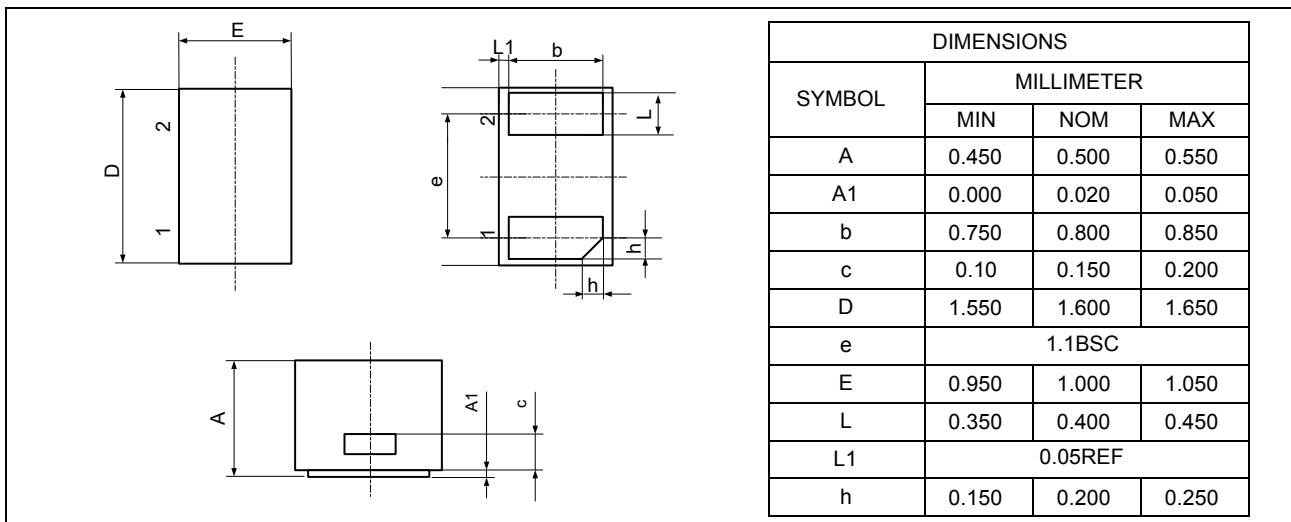
($T_A = 25\text{ °C}$ unless otherwise specified)

| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|----------------------------------|-----------|------------------|------|-----|-----|---------|
| Reverse stand-off Voltage | V_{RWM} | | | | 12 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1mA$ | 13.3 | | | V |
| Reverse Leakage Current | I_R | $V_R=12V$ | | | 1 | μA |
| Clamping Voltage (IEC 61000-4-5) | V_C | $I_{PP}=1A$ | | | 15 | V |
| Clamping Voltage (IEC 61000-4-5) | V_C | $I_{PP}=50A$ | | 22 | | V |
| Clamping Voltage (IEC 61000-4-5) | V_C | $I_{PP}=75A$ | | 24 | | V |
| Junction Capacitance | C_J | $V_R=0V, f=1MHz$ | | 450 | | pF |

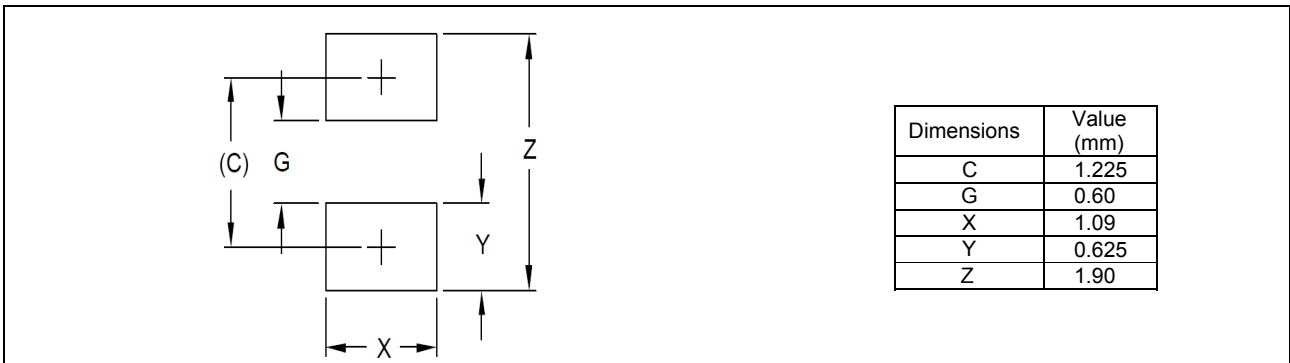
Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)



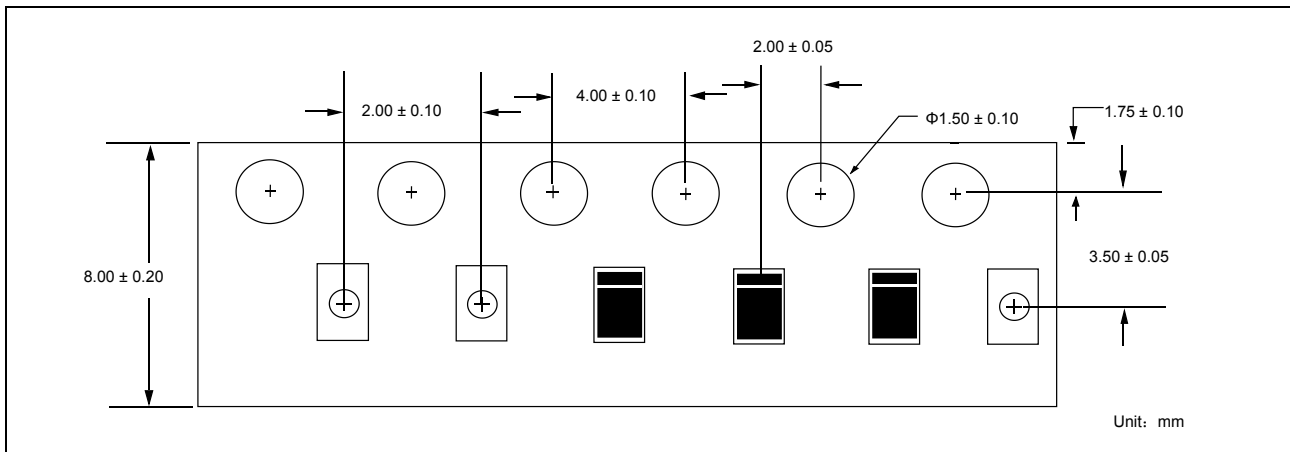
Package Dimensions



Pad Dimensions



Package Information



Marking



Ordering information

| Order code | Package | Packaging option | Base quantity | Weight | Packaging specification |
|-----------------|---------|------------------|-----------------|--------|-------------------------|
| TESD1610HC12VUH | DFN1610 | Tape and reel | 10000pcs / reel | 3.5mg | EIA STD RS-481 |