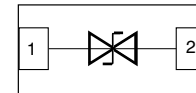
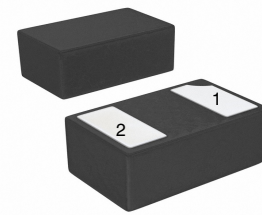


ESD/Surge Protection Diode in DFN1610

Features

- 450 Watts peak pulse power ($T_p = 8/20\mu s$)
- DFN1610 package
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Normal capacitance ($C_j = 105pF$)
- 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) 45A (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

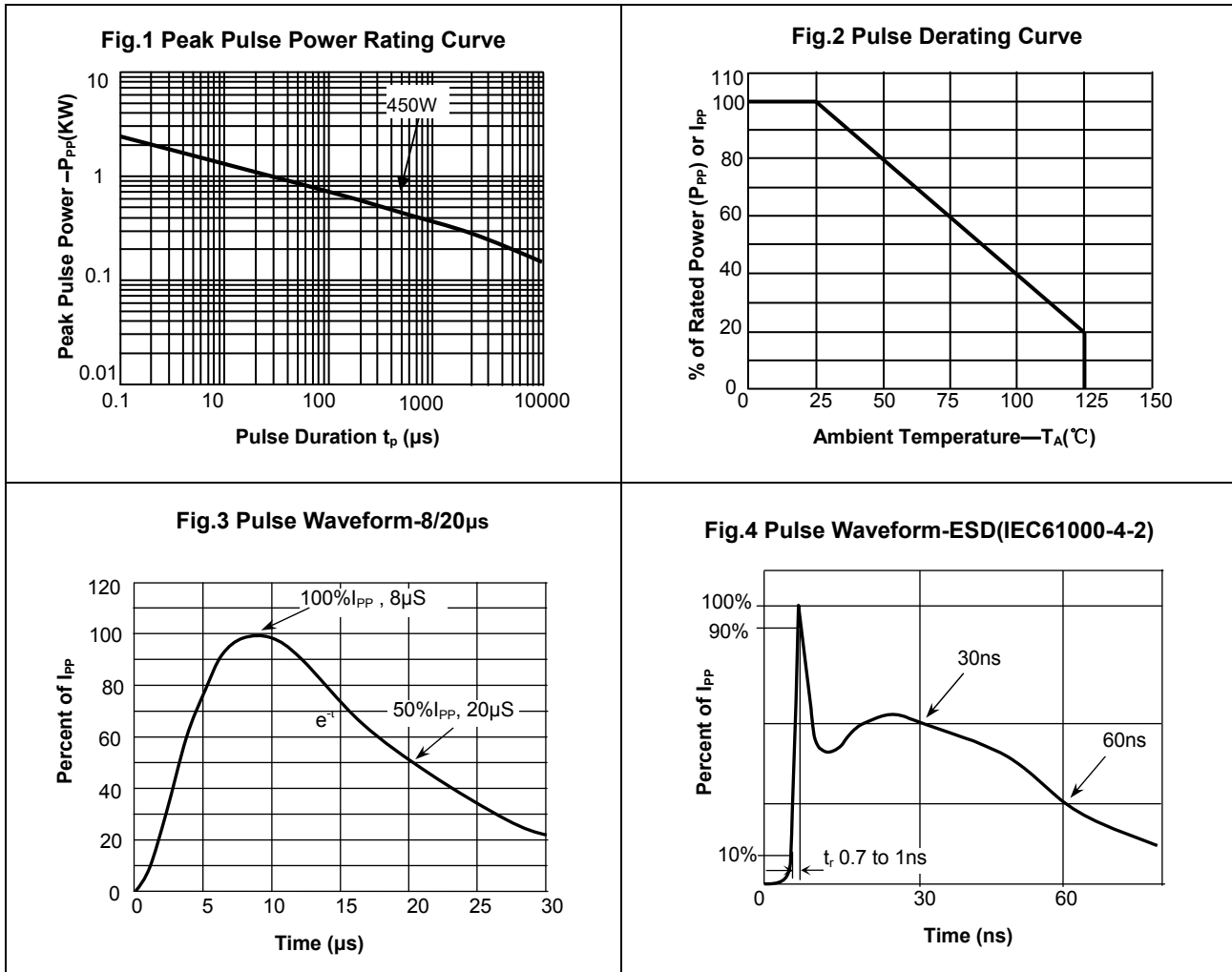
| Parameter | Symbol | Value | Unit |
|---|-----------|-------------|------|
| Peak Pulse Power ($T_p = 8/20\mu s$) | P_{PP} | 450 | W |
| ESD contact/air discharge (IEC-61000-4-2) | V_{ESD} | 30/30 | kV |
| Peak Pulse Current ($t_p = 8/20\mu s$) | I_{PP} | 45 | A |
| Junction Temperature | T_J | -55 to +125 | °C |
| Storage temperature | T_{STG} | -55 to +150 | °C |

Electrical Characteristics

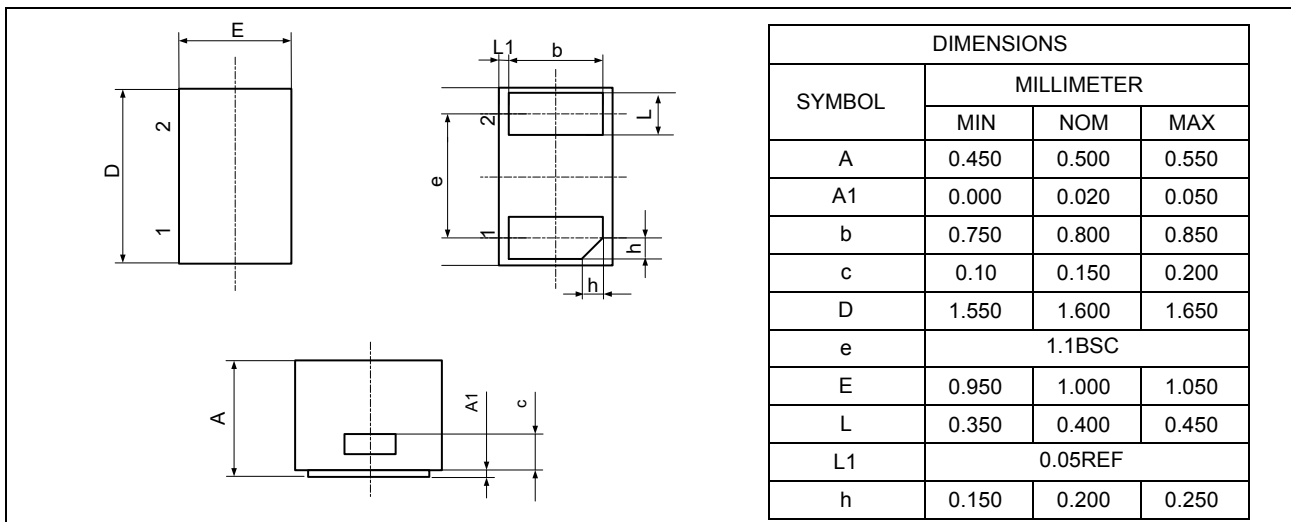
($T_A = 25\text{ °C}$ unless otherwise specified)

| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|----------------------------------|-----------|----------------------|-----|-----|-----|---------|
| Reverse stand-off Voltage | V_{RWM} | | | | 5 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T = 1mA$ | 6.0 | 7.5 | | V |
| Reverse Leakage Current | I_R | $V_R = 5V$ | | | 1 | μA |
| Clamping Voltage (IEC 61000-4-5) | V_C | $I_{PP} = 45A$ | | 10 | | V |
| Junction Capacitance | C_J | $V_R = 0V, f = 1MHz$ | | 105 | | pF |

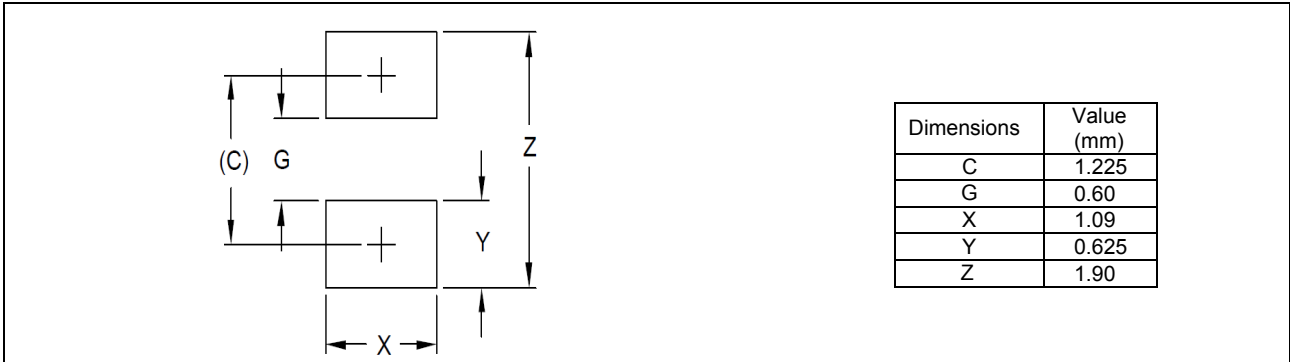
Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)



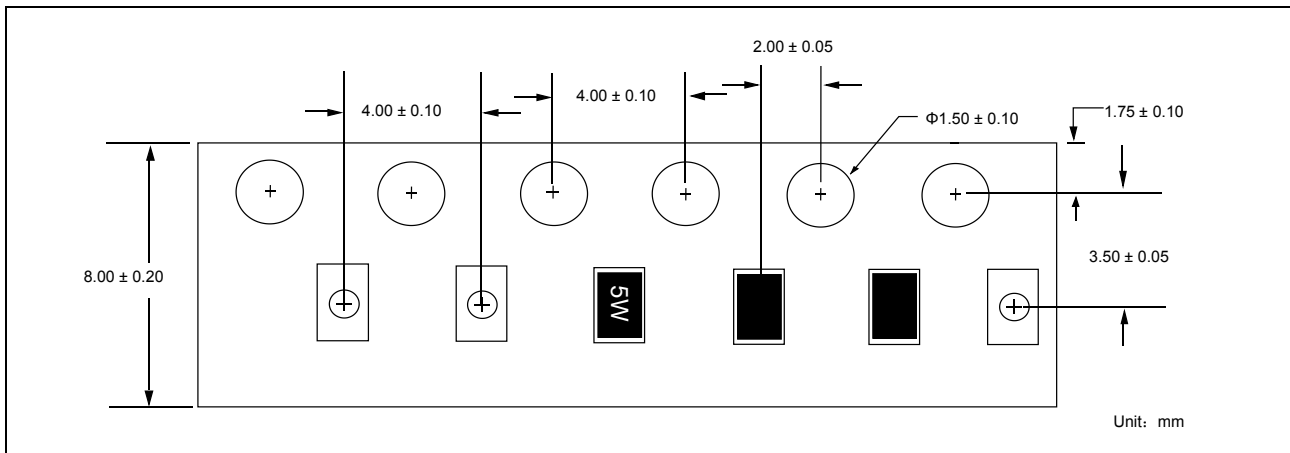
Package Dimensions



Pad Dimensions



Package Information



Marking



Ordering information

| Order code | Package | Packaging option | Base quantity | Weight | Packaging specification |
|---------------|---------|------------------|-----------------|--------|-------------------------|
| CESD1610HC5VB | DFN1610 | Tape and reel | 10000pcs / reel | 3.5mg | EIA STD RS-481 |

Revision history

| Date | Revision | Changes |
|-------------|----------|-----------------|
| 23-May-2020 | 1.0 | Initial release |

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