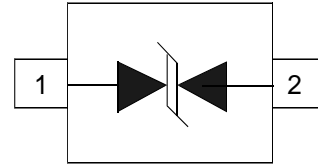


DESCRIPTION

The ESD5Z3.3C is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. This device has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).



Features

- IEC61000-4-2 (ESD) ± 15KV (Air)
 ± 8KV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- Peak power dissipation: 84W (8/20us)
- Protects one directional I/O line
- Low clamping voltage
- Working voltages : 3.3V
- Low leakage current

Applications

- High Speed Line : USB 1.0/2.0, VGA, DVI, SDI,
- Serial and Parallel Ports
- Notebooks, Desktops, and Servers Cellular
- handsets and accessories
- Portable Instrumentation
- Projection TV
- Peripherals

Mechanical Characteristics

- Package: SOD-523
- Flammability Rating: UL 94V-0
- Terminals: Gold plated, solderable per MIL-STD-750

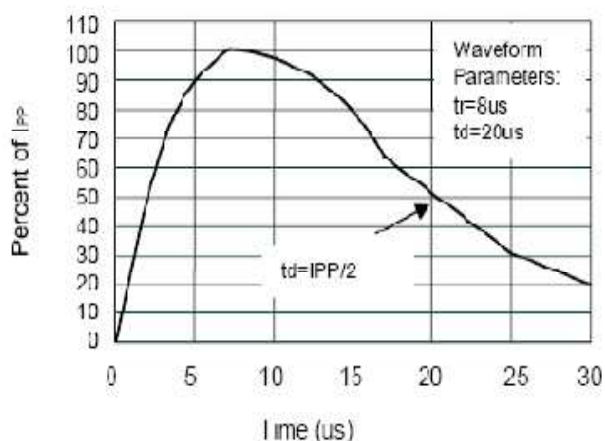
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---------------------------------|--------|-------------|------|
| ESD per IEC 61000-4-2 (Air) | VESD | ± 25 | KV |
| ESD per IEC 61000-4-2 (Contact) | | ± 20 | |
| Peak Pulse Power (8/20µs) | PPP | 84 | W |
| Operating Temperature | TOPT | -40 to +150 | °C |
| Storage Temperature | TSTG | -40 to +150 | °C |

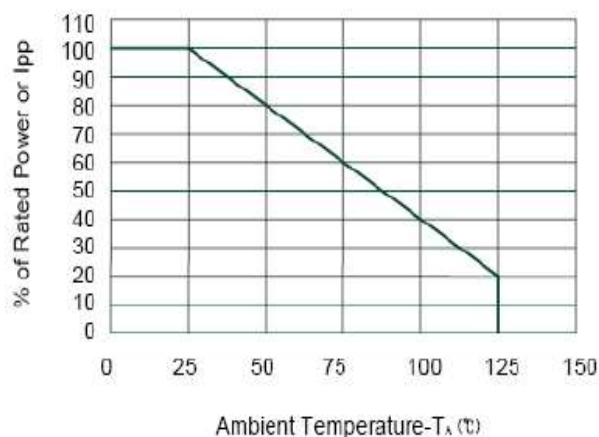
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

| Symbol | Param | Test Condition | Min | Typ | Max | Units |
|-----------|---------------------------|--|-----|-----|-----|---------------|
| V_{RWM} | Reverse Working Voltage | | | | 3.3 | V |
| V_{BR} | Reverse Breakdown Voltage | $I_T = 1\text{mA}$ | 3.6 | | | V |
| I_R | Reverse Leakage Current | $V_{RWM} = 3.3\text{V}$ | | | 1.0 | μA |
| V_C | Clamping Voltage | $I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$ | | | 8.0 | V |
| V_C | Clamping Voltage | $I_{PP} = 7\text{A}$, $t_p = 8/20\mu\text{s}$ | | | 12 | V |
| C_J | Junction Capacitance | $V_R = 0\text{V}$, $f = 1\text{MHz}$ | | | 15 | pF |

ELECTRICAL CHARACTERISTICS CURVE

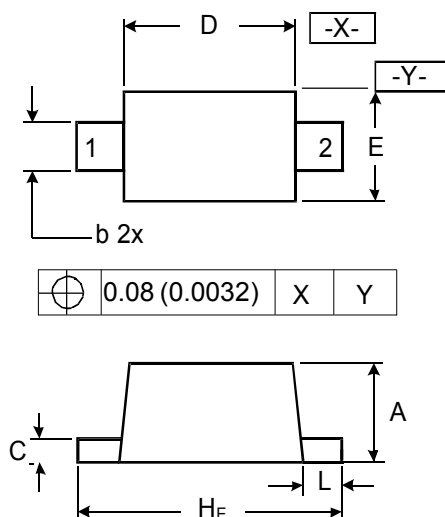


Pulse Waveform



Power Derating Curve

Outline Drawing – SOD-523



DIMENSIONS

| SYMBOL | MILLIMETER | | INCHES | |
|----------------|------------|------|--------|--------|
| | MIN | MAX | MIN | MAX |
| A | 0.50 | 0.70 | 0.020 | 0.028 |
| b | 0.25 | 0.35 | 0.010 | 0.014 |
| C | 0.07 | 0.20 | 0.0028 | 0.0079 |
| D | 1.10 | 1.30 | 0.043 | 0.051 |
| E | 0.70 | 0.90 | 0.028 | 0.035 |
| H _E | 1.50 | 1.70 | 0.059 | 0.067 |
| L | 0.15 | 0.25 | 0.006 | 0.010 |

Marking



Ordering information

| Order code | Package | Baseqty | Deliverymode |
|---------------|---------|---------|---------------|
| UMW ESD5Z3.3C | SOD-523 | 3000 | Tape and reel |