

## Features

- 400W peak pulse power (8/20 $\mu$ s)
- Ultra low leakage: nA level
- Operating voltage: 7V or 12V
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30$ kV
    - Contact discharge:  $\pm 30$ kV
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 17A (8/20 $\mu$ s)
- RoHS Compliant

## Mechanical Characteristics

- Package: SOT-23
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below

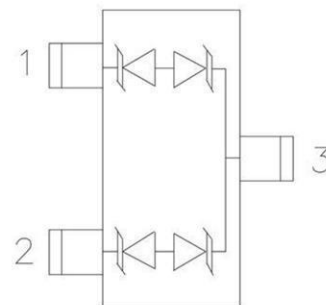
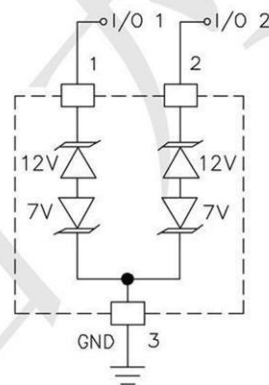
## Applications

- Wireless System
- Networks
- Portable Instrumentation
- RS485 Ports

## Ordering Information

| Part Number   | Qty per Reel | Reel Size |
|---------------|--------------|-----------|
| CDSOT23-SM712 | 3000         | 7"        |

## Dimensions and Pin Configuration



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

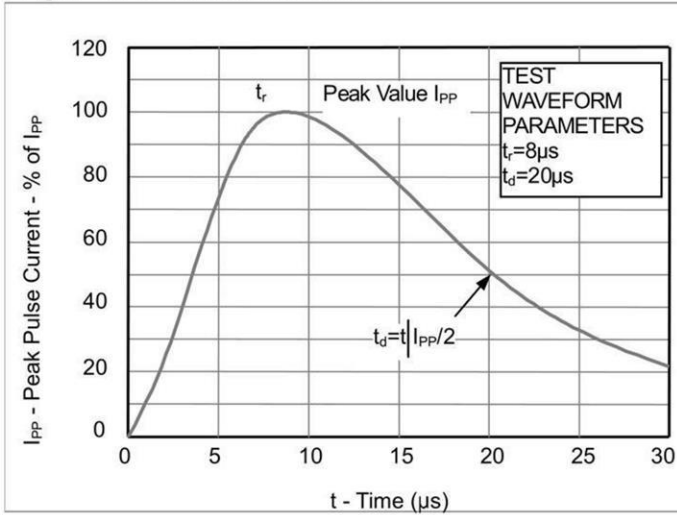
| Parameter  | Symbol | Value       | Unit |
|--|--------|-------------|------|
| Peak Pulse Power (8/20μs)                                      | Ppk    | 400         | W    |
| Peak Pulse Current (8/20μs)                                    | Ipp    | 17          | A    |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | VESD   | ±30<br>±30  | kV   |
| Operating Temperature Range                                    | TJ     | -55 to +125 | °C   |
| Storage Temperature Range                                      | Tstg   | -55 to +150 | °C   |

**Electrical Characteristics** (TA=25°C unless otherwise specified)

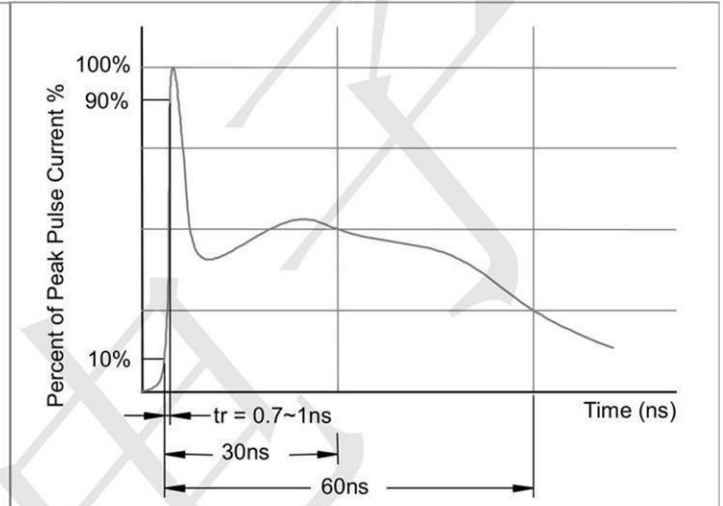
| Parameter               | Symbol | Pin 1 to 3 and<br>2 to 3<br>(12V TVS) |     |      | Pin 3 to 1 and<br>3 to 2<br>(7V TVS) |     |     | Unit | Test Condition                         |
|-------------------------|--------|---------------------------------------|-----|------|--------------------------------------|-----|-----|------|--|
|                         |        | Min                                   | Typ | Max  | Min                                  | Typ | Max |      |  |
| Reverse Working Voltage | VRWM   |                                       |     | 12   |                                      |     | 7   | V    |  |
| Breakdown Voltage       | VBR    | 13.3                                  |     |      | 7.5                                  |     |     | V    | IT = 1mA                               |
| Reverse Leakage Current | IR     |                                       |     | 0.05 |                                      |     | 2.0 | uA   | VR = VRWM                              |
| Clamping Voltage        | VC     |                                       |     | 20   |                                      |     | 10  | V    | I <sub>PP</sub> = 5A (8 x 20μs pulse)  |
| Clamping Voltage        | VC     |                                       |     | 26   |                                      |     | 12  | V    | I <sub>PP</sub> = 17A (8 x 20μs pulse) |
| Junction Capacitance    | CJ     |                                       |     | 75   |                                      |     | 75  | pF   | VR = 0V, f = 1MHz                      |
| Junction Capacitance    | CJ     |                                       | 45  |      |                                      | 45  |     | pF   | VR = VRWM, f = 1MHz                    |

**PROTECTION PRODUCTS**  
Typical characteristics

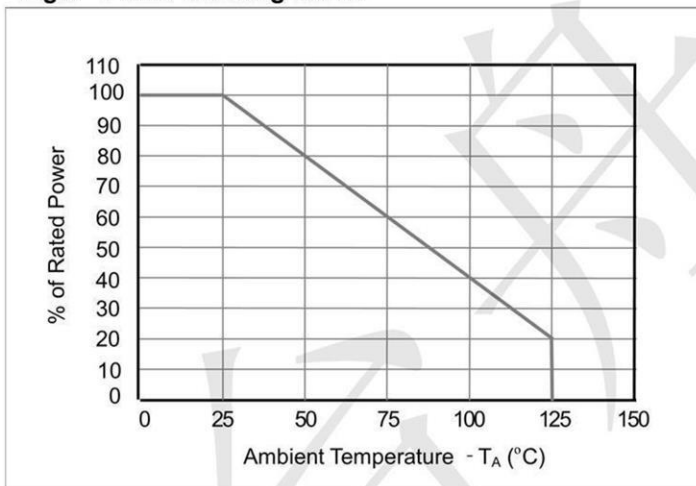
**Fig1. 8/20 $\mu$ s Pulse Waveform**



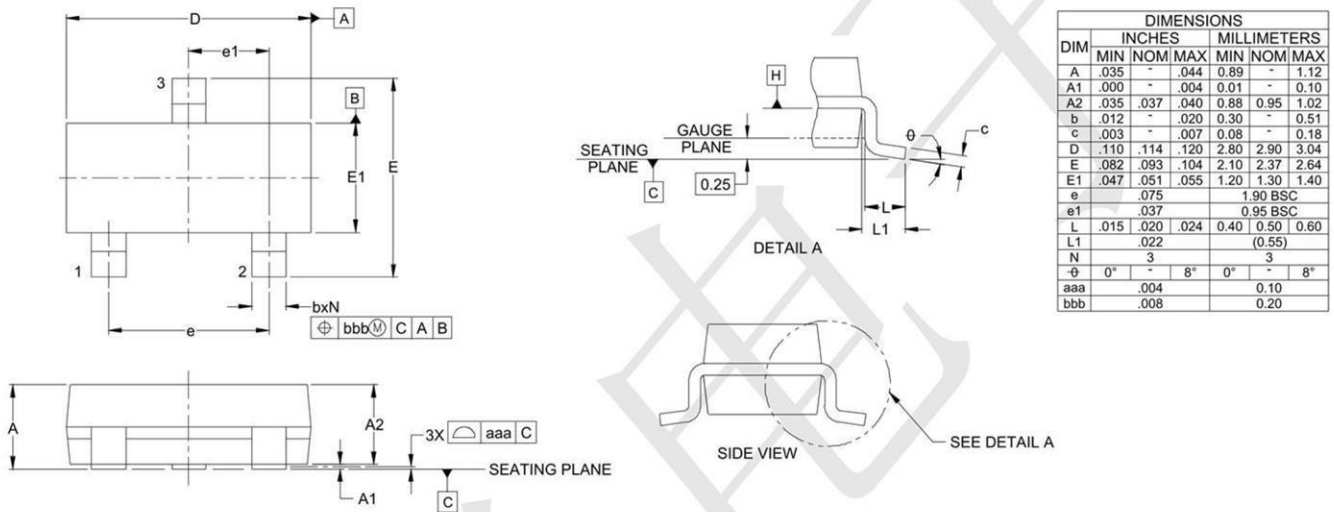
**Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)**



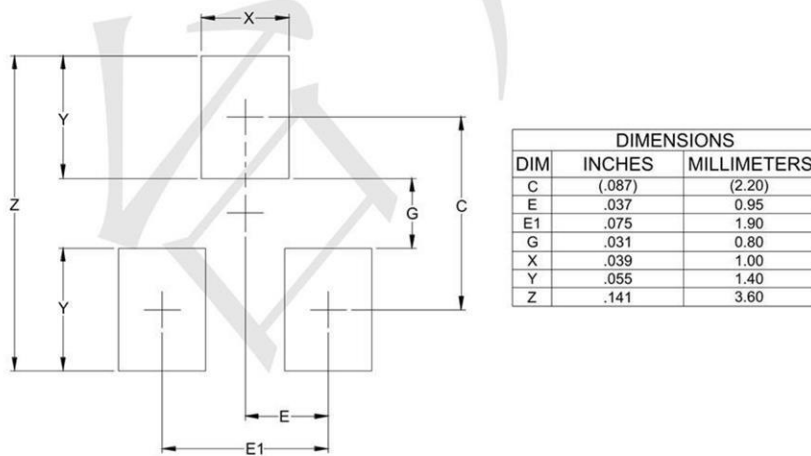
**Fig3. Power Derating Curve**



## Outline Drawing - SOT23



## Land Pattern - SOT23



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