

■ Bidirectional ESD Protection Diodes
■ Features

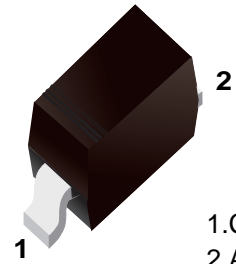
- Bidirectional ESD protection of one line.
- Max. peak pulse power : $P_{pp} = 350W$ at $t_p = 8/20 \mu s$
- ESD protection $>25 kV$ per MIL-STD-883C, Method 3015-6:Class3
- IEC 61000-4-2, level 4 (ESD), $>15KV$ (air); $>8KV$ (contact).

■ Application

- Computers and peripherals
- Communication system
- Notebooks. Desktops & Servers.
- Portable electronics
- Cellular handsets and accessories.

■ General Description

Electro Static Discharge (ESD) protection diodes in ultra small SMD Plastic packages designed to protect one signal line from the damage caused by ESD and other transients.



1.Cathode
2.Anode

■ Simplified outline(SOD-323)

Top View 

| Marking Code | |
|--------------|-----|
| ESD3Z12CA | WBC |

■ Absolute Maximum Ratings $T_a = 25^\circ C$

| Parameter | Symbol | Value | Unit |
|---------------------------------------|-----------|-------------|------------|
| Peak Pulse Power($t_p=8/20\mu s$) | P_{PPM} | 350 | W |
| Peak Pulse Current($t_p=8/20\mu s$) | I_{PP} | 15 | A |
| Operating Junction Temperature | T_J | -55 to +150 | $^\circ C$ |
| Storage Temperature | T_{STG} | -55 to +150 | $^\circ C$ |

■ Electrical Characteristics $T_a = 25^\circ C$

| Parameter | Symbol | Conditions | Minimum | Typical | Maximum | Units |
|---------------------------|-----------|-------------------------------|---------|---------|---------|---------|
| Reverse Stand-Off Voltage | V_{DRM} | | | | 12.0 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1mA$ | 13.3 | | 15.5 | V |
| Reverse Leakage Current | I_R | $V_{RWM}=12V, T_a=25^\circ C$ | | | 1.0 | μA |
| Clamping Voltage | V_C | $I_{PP}=15A, t_p=8/20\mu s$ | | | 24 | V |
| Junction Capacitance | C_j | $V_R=0V, f=1HMz$ | | | 100 | pF |

Fig.1 Non-Repetitive Peak Pulse Power vs. Pulse Time

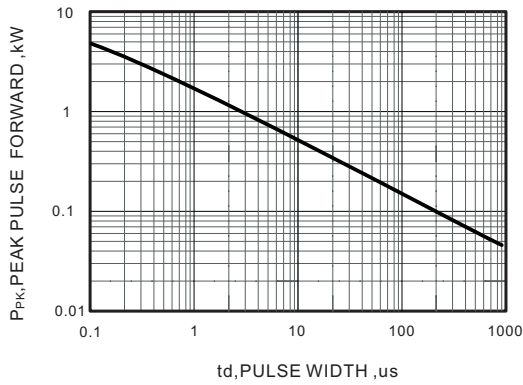


Fig.2 Forward Current Derating Curve

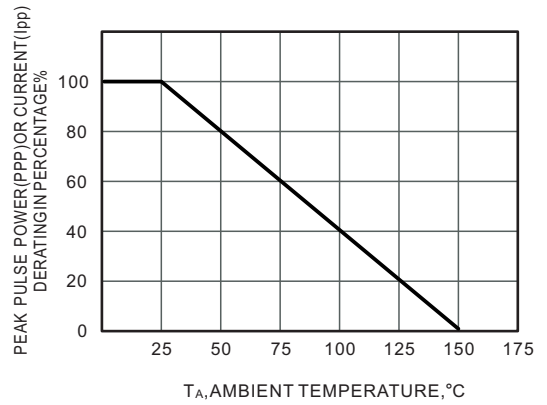


Fig.3 Waveform

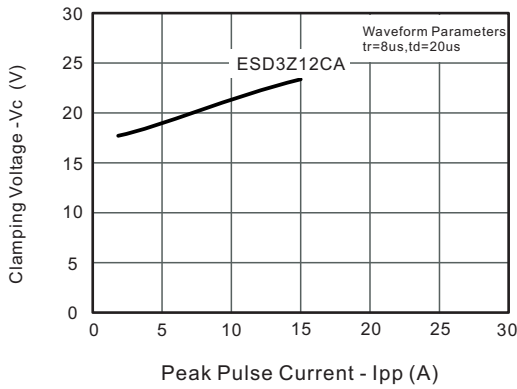


Fig.4 Power Derating Curve

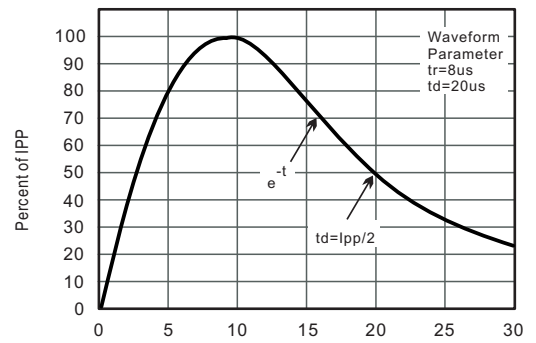
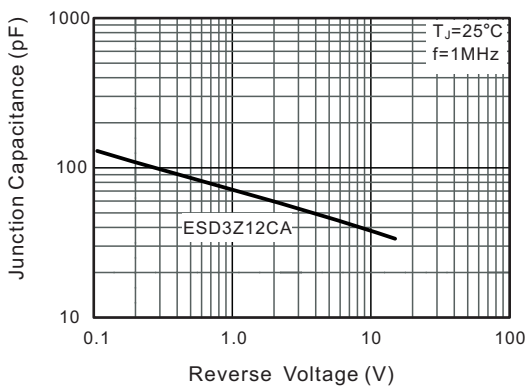
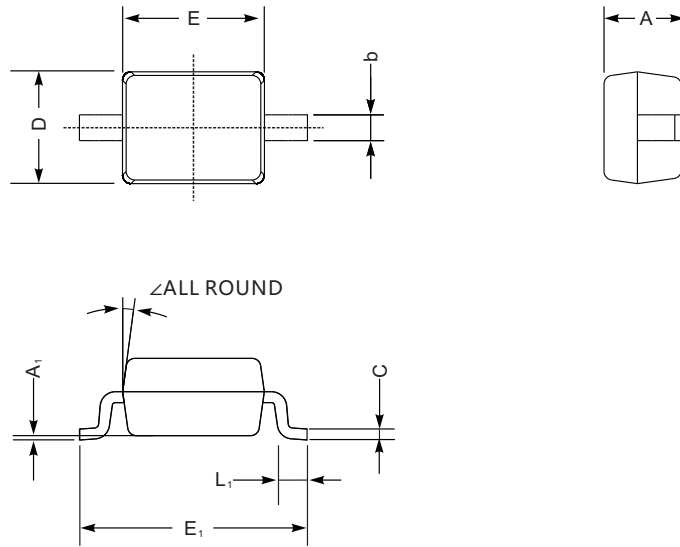


Fig.5 Typical Junction Capacitance

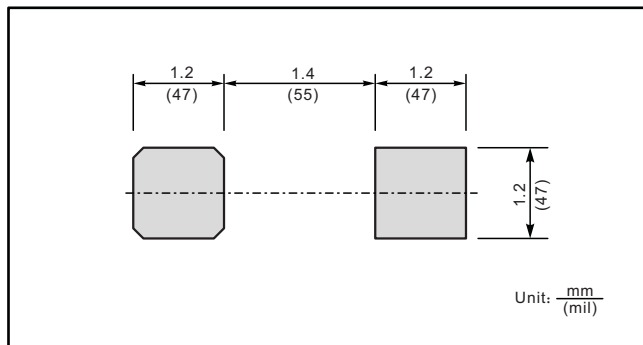




SOD-323 mechanical data

| UNIT | | A | C | D | E | E ₁ | b | L ₁ | A ₁ | ∠ |
|------|-----|-----|------|-----|-----|----------------|------|----------------|----------------|----|
| mm | max | 1.1 | 0.15 | 1.4 | 1.8 | 2.75 | 0.4 | 0.45 | 0.2 | 9° |
| | min | 0.8 | 0.08 | 1.2 | 1.4 | 2.55 | 0.25 | 0.2 | — | |
| mil | max | 43 | 5.9 | 55 | 70 | 108 | 16 | 16 | 8 | |
| | min | 32 | 3.1 | 47 | 63 | 100 | 9.8 | 7.9 | — | |

■ The recommended mounting pad size



Summary of Packing Options

| Package | Packing Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| SOD-323 | Tape/Reel, 7" reel | 3000 | EIA-481-1 |

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