



BIDIRECTIONAL ESD PROTECTION DIODES

Features

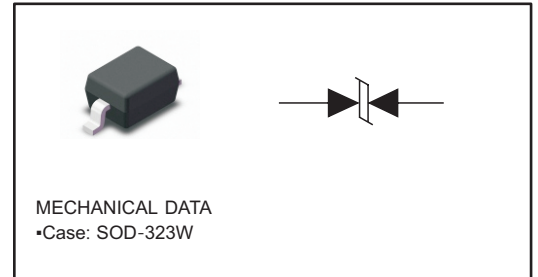
- 230Watts peak pulse power ($t_p = 8/20\mu s$)
- Tiny SOD-323W package
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance ($C_j = 1.4pF$ typ.)
- Protection one data/power line
- IEC 61000-4-2 $\pm 30V$ contact $\pm 30kV$ air

APPLICATION

- 10/100/1000Ethernet
- Intergated Magnetics/RJ45Connectors
- LAN/WAN Equipment
- Notebooks, Desktops, and Servers
- Portable Instrumentation

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Cathode |
| 2 | Anode |



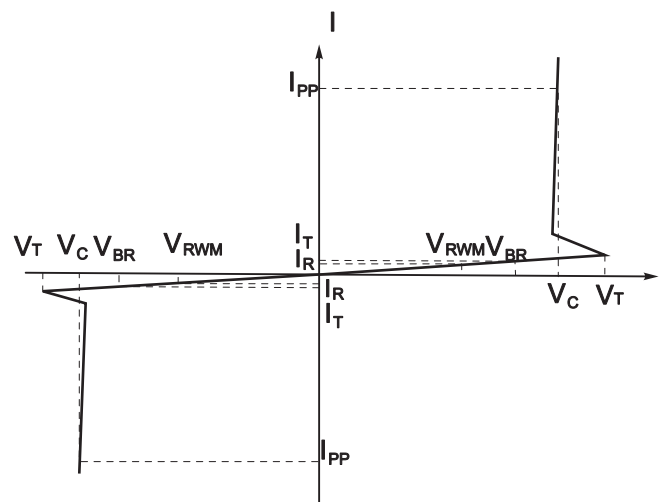
APPLICATION

- SOD323W package
- Packaging: Tape and Reel

Electronics Parameter

| Parameter | Symbol |
|-------------------------------------|-----------|
| Maximum Reverse Peak Pulse Current | I_{PP} |
| Clamping Voltage @ I_{PP} | V_C |
| Peak Reverse Working Voltage | V_{RWM} |
| Reverse Leakage Current @ V_{RWM} | I_R |
| Trigger Voltage @ I_T | V_T |
| Test Current | I_T |

- Note: 8/20us pulsed waveform





Absolute Ratings
(T_{amb}=25°C)

| Parameter | Symbol | Value | Unit |
|---|------------------|-------------|------|
| Peak Pulse Power(tp=8/20us) | P _{PPM} | 230 | W |
| Peak Pulse Current(tp=8/20us) | I _{PP} | 14 | A |
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2(Contact) | V _{ESD} | 30 30 | KV |
| Operating Junction Temperature | T _J | -55 to +125 | °C |
| Storage Temperature | T _{STG} | -55 to +125 | °C |

Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

| Parameter | Symbol | Conditions | Minimum | Typical | Maximum | Units |
|---------------------------|------------------|--|---------|---------|---------|-------|
| Reverse Stand-Off Voltage | V _{RWM} | | | | 5.0 | V |
| Reverse Breakdown Voltage | V _{BR} | I _T =1mA | 6.0 | | | V |
| Reverse Leakage Current | I _R | V _{RWM} =5V, T _a =25°C | | | 1.0 | uA |
| Clamping Voltage | V _C | I _{PP} =7A, t _p =8/20us | | | 13 | V |
| Clamping Voltage | V _C | I _{PP} =14A, t _p =8/20us | | | 17 | V |
| Junction Capacitance | C _j | V _R =0V, f=1MHz | | 1.4 | | pF |



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

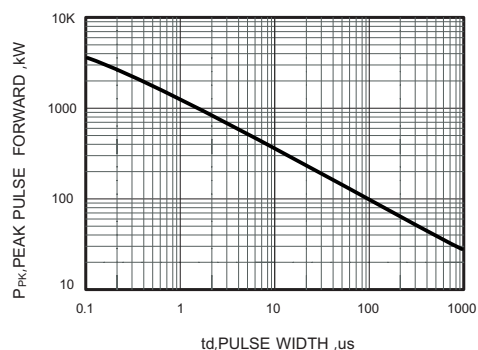


Fig.2 Power Derating Curve

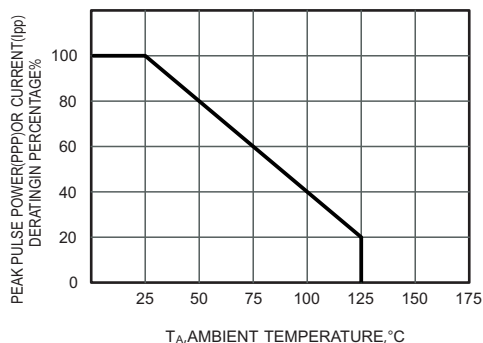


Fig.3 Clamping voltage vs I_{pp}

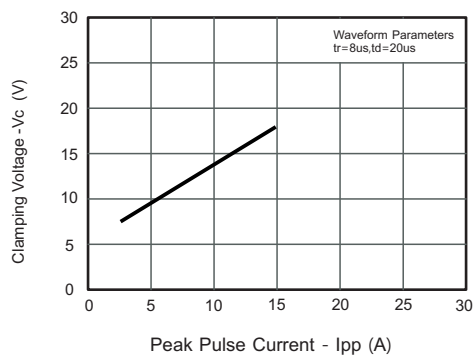
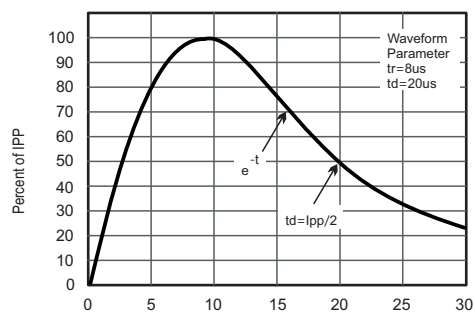


Fig.4 Pulse Waveform

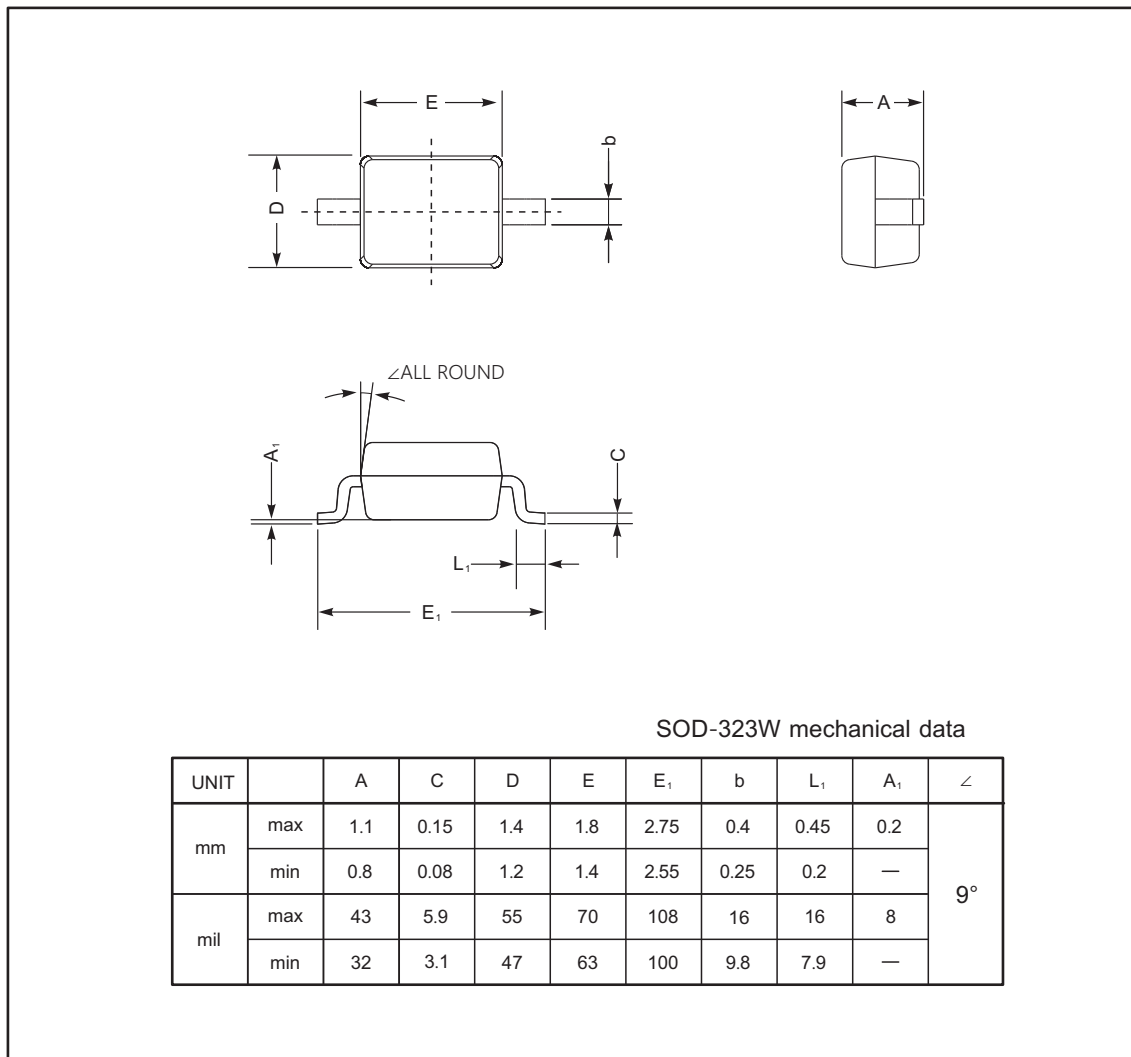




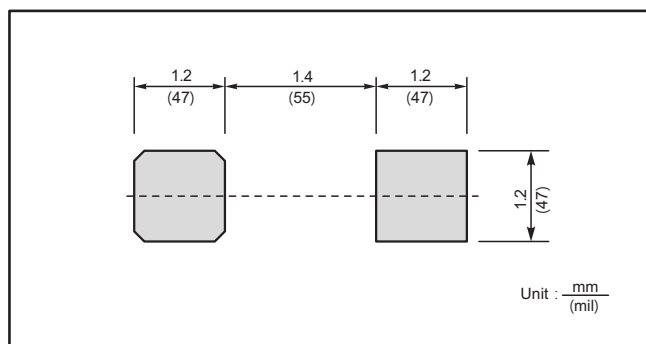
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-323W



The recommended mounting pad size



Marking

| Type number | Marking code |
|-------------|--------------|
| ESDBLC5V0D3 | 5L |



文件履历表

| 序号 | 制/修订日期 | 生效日期 | 版次 | 修订内容 | 变更原因 | 制/修订人 | 备注 |
|----|-------------|-------------|----------|------|------|-------|----|
| 01 | 2022. 4. 19 | 2022. 4. 19 | Rev 1. 1 | 初版制定 | / | 王政杰 | |
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