

## SOD-323 Plastic-Encapsulate ESD Protection Diodes

### Features

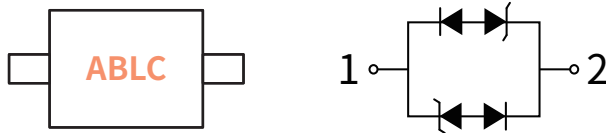
- Low leakage current
- SOD-323 surface mount package
- IEC 61000-4-2 (ESD Air):  $\pm 30\text{kV}$
- IEC 61000-4-2 (ESD Contact):  $\pm 30\text{kV}$
- IEC 61000-4-5 (Lightning 8/20 $\mu\text{s}$ ): 20A

### Applications

- LED Lighting Modules
- RS232/RS485
- CAN and LIN Bus
- Portable Instrumentation
- General Purpose I/O
- Automotive application

### Reference News

**Reverse Working Voltage**  
12V Max.  
**Small capacitance**  
1.5pF(Max.)

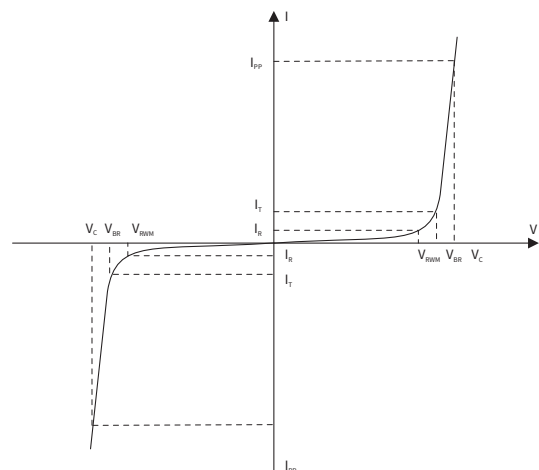


### Maximum Ratings (Ta=25°C Unless otherwise specified)

| SYMBOL           | PARAMETER                           | CONDITIONS                      | VALUE       | UNIT |
|------------------|-------------------------------------|---------------------------------|-------------|------|
| V <sub>ESD</sub> | Electrostatic Discharge Voltage     | ESD per IEC 61000-4-2( Air )    | $\pm 30$    | KV   |
|                  |                                     | ESD per IEC 61000-4-2( Contact) | $\pm 30$    | KV   |
| P <sub>PP</sub>  | Peak Pulse Power                    | tp = 8/20 $\mu\text{s}$         | 640         | W    |
| I <sub>PP</sub>  | Rated Peak Pulse Current            | tp = 8/20 $\mu\text{s}$         | 20          | A    |
| T <sub>J</sub>   | Operating JunctionTemperature Range | —                               | -55 to +125 | °C   |
| T <sub>STG</sub> | Operating JunctionTemperature Range | —                               | -55 to +150 | °C   |

### Electrical Parameter

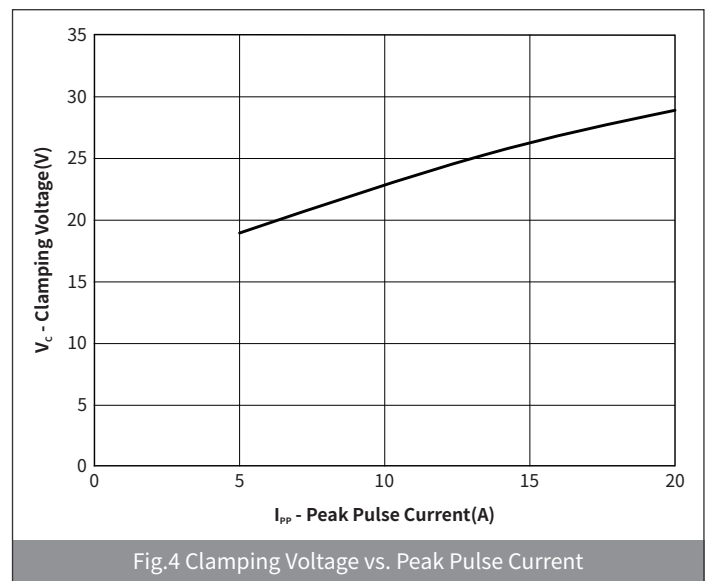
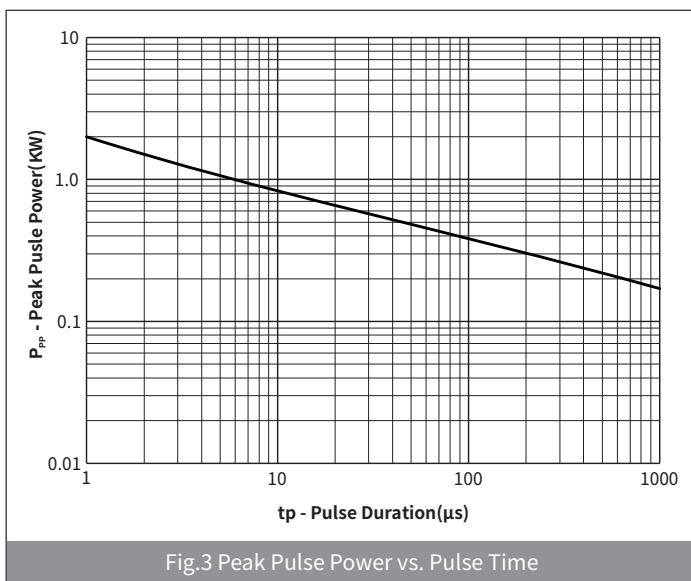
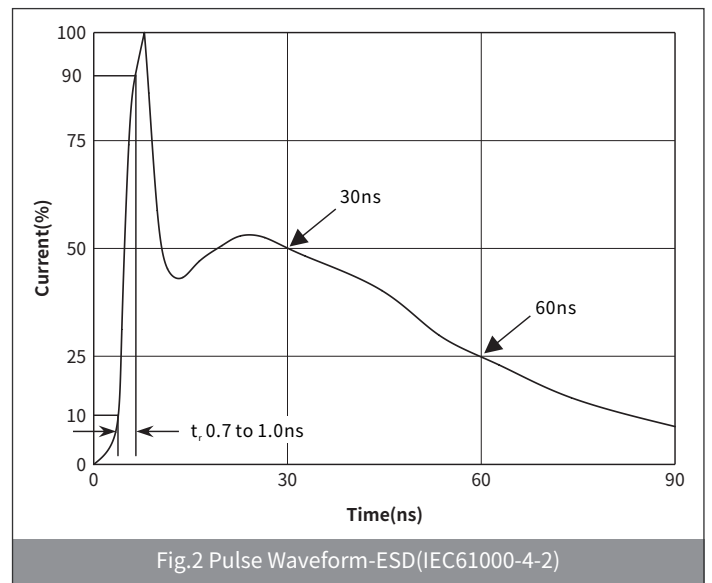
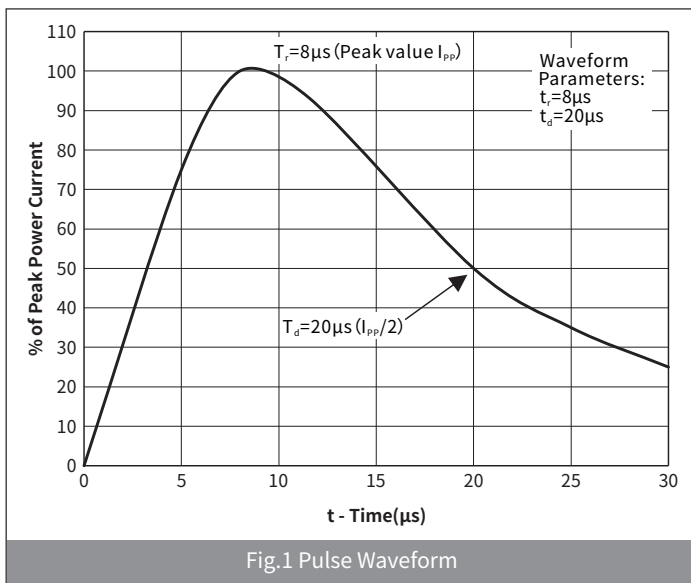
| SYMBOL           | PARAMETER  |
|------------------|--|
| V <sub>C</sub>   | Clamping Voltage @ I <sub>PP</sub>               |
| V <sub>BR</sub>  | Breakdown Voltage @ I <sub>T</sub>               |
| I <sub>PP</sub>  | Peak Pulse Current                               |
| I <sub>T</sub>   | Test Current                                     |
| I <sub>R</sub>   | Reverse Leakage Current @ VRWM                   |
| V <sub>RWM</sub> | Peak Reverse Working Voltage                     |
| P <sub>PP</sub>  | Peak Pulse Power Dissipation                     |
| C <sub>J</sub>   | Junction Capacitance @ V <sub>R</sub> =0V,f=1MHz |
| I <sub>F</sub>   | Forward Current                                  |
| V <sub>F</sub>   | Forward Voltage @I <sub>F</sub>                  |



## Electrical Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER                    | SYMBOL    | CONDITION                                | Min  | Typ | Max  | UNIT          |
|------------------------------|-----------|--|------|-----|------|---------------|
| Peak Reverse Working Voltage | $V_{RWM}$ | $T_a=25^\circ\text{C}$                   | —    | —   | 12   | V             |
| Breakdown Voltage            | $V_{BR}$  | $I_R=1\text{mA}, T_a=25^\circ\text{C}$   | 13.3 | —   | 16.5 | V             |
| Reverse Leakage Current      | $I_R$     | $V_R=12\text{V}, T_a=25^\circ\text{C}$   | —    | —   | 1.0  | $\mu\text{A}$ |
| Clamping Voltage             | $V_C$     | $I_{PP}=5\text{A}, t_p=8/20\mu\text{s}$  | —    | —   | 20   | V             |
|                              |           | $I_{PP}=15\text{A}, t_p=8/20\mu\text{s}$ | —    | —   | 28   |               |
|                              |           | $I_{PP}=20\text{A}, t_p=8/20\mu\text{s}$ | —    | —   | 32   |               |
| Junction Capacitance         | $C_J$     | $V_R=0\text{V}, f=1\text{MHz}$           | —    | —   | 1.5  | pF            |

## Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



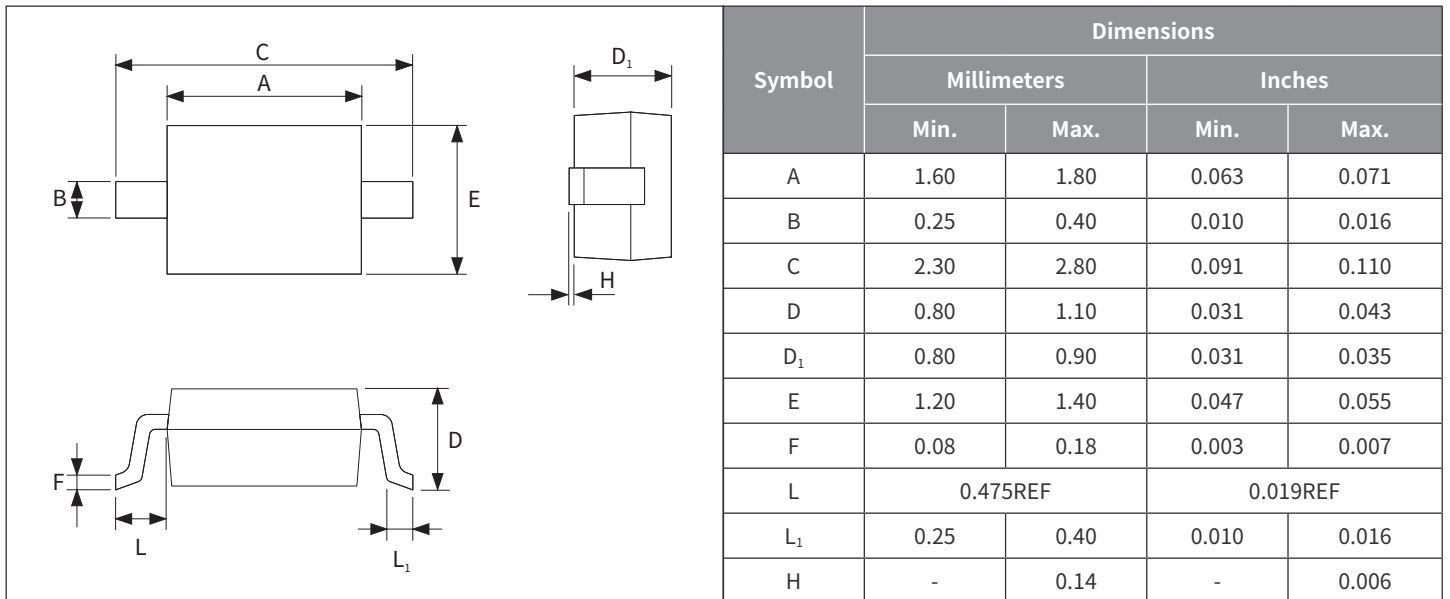
## Ordering Information

| PREFERED P/N | PACKAGE | SIZE(mm)       | DELIVERY MODE | MPQ(PCS) |
|--------------|---------|----------------|---------------|----------|
| H12VSD3B     | SOD-323 | 2.55×1.30×0.95 | 7" REEL       | 3000     |

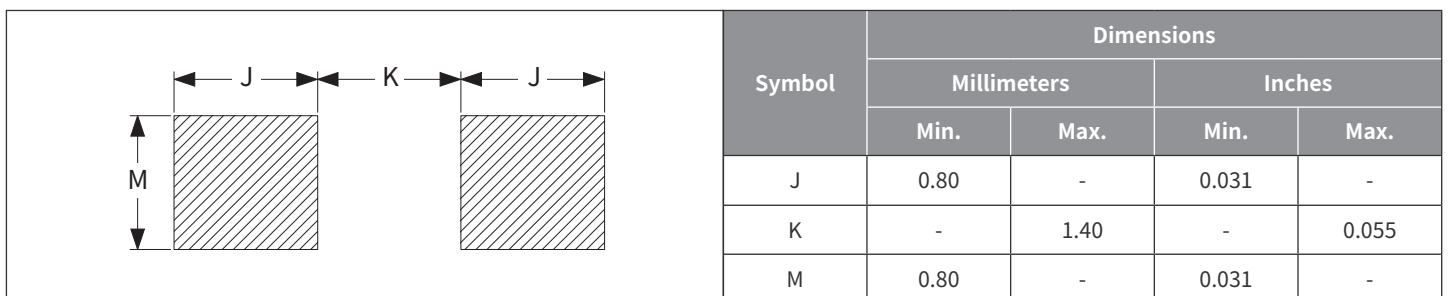
## Recommended Soldering Conditions



## Package Outline Dimensions (SOD-323)



## Suggested Pad Layout



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