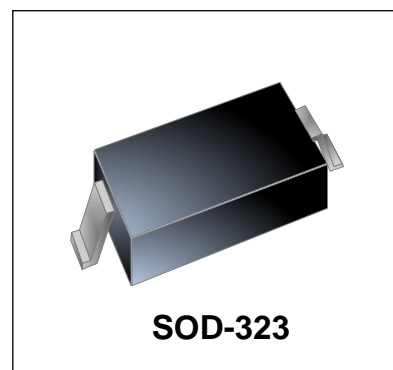


Features

- 500 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- Protects one I/O or power line
- Low Clamping Voltage
- Working Voltage: 12V
- Low Leakage Current
- Response Time is Typically $< 1\text{ ns}$



IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 12A (8/20 μs)

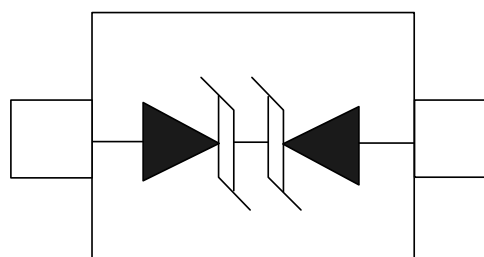
Mechanical Characteristics

- JEDEC SOD-323 package
- Molding compound flammability rating:
UL 94V-0
- Marking : Marking Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant

Applications

- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants (PDAs)

Schematic & PIN Configuration

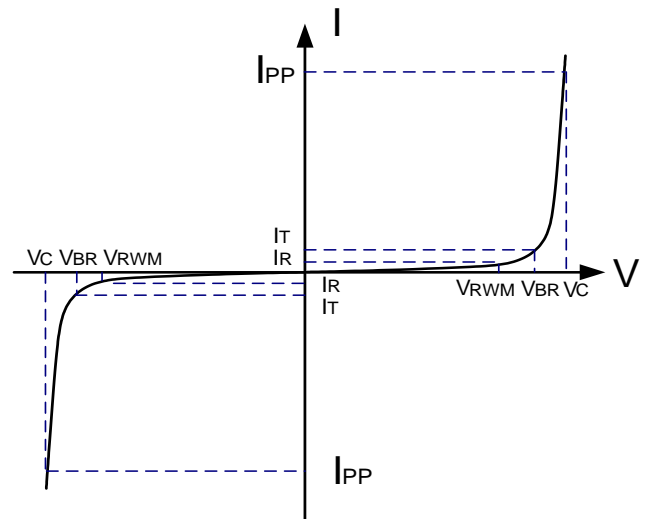


SOD-323 (Top View)

| Absolute Maximum Rating | | | |
|--|-----------|--------------|-------------|
| Rating | Symbol | Value | Units |
| Peak Pulse Power ($t_p=8/20\mu s$) | P_{PP} | 500 | W |
| Peak Pulse Current ($t_p=8/20\mu s$) | I_{PP} | 12 | A |
| Operating Temperature | T_J | -55 to + 125 | $^{\circ}C$ |
| Storage Temperature | T_{STG} | -55 to +150 | $^{\circ}C$ |

Electrical Parameters (T=25 $^{\circ}C$)

| Symbol | Parameter |
|-----------|-------------------------------------|
| I_{PP} | Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| V_{RWM} | Working Peak Reverse Voltage |
| I_R | Reverse Leakage Current @ V_{RWM} |
| V_{BR} | Breakdown Voltage @ I_T |
| I_T | Test Current |
| I_F | Forward Current |
| V_F | Forward Voltage @ I_F |



Electrical Characteristics

| DW12D-B-S | | | | | | |
|---------------------------|-----------|------------------------------|---------|---------|---------|---------|
| Parameter | Symbol | Conditions | Minimum | Typical | Maximum | Units |
| Reverse Stand-Off Voltage | V_{RWM} | | | | 12.0 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1mA$ | 13.3 | | | V |
| Reverse Leakage Current | I_R | $V_{RWM}=12V, T=25^{\circ}C$ | | | 1 | μA |
| Clamping Voltage | V_C | $I_{PP}=12A, t_p=8/20\mu s$ | | 33 | 35 | V |
| Junction Capacitance | C_j | $V_R=0V, f=1MHz$ | | 25 | | pF |

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

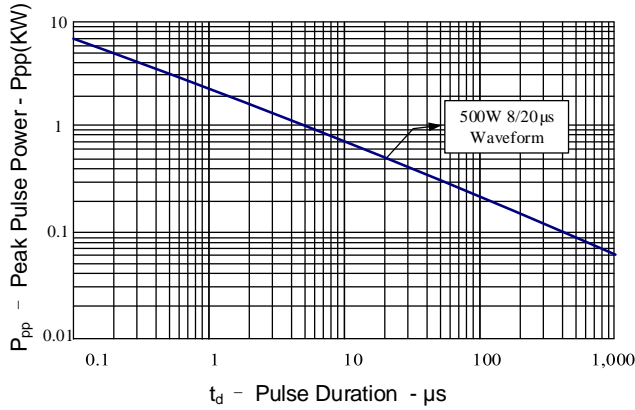


Figure 2: Power Derating Curve

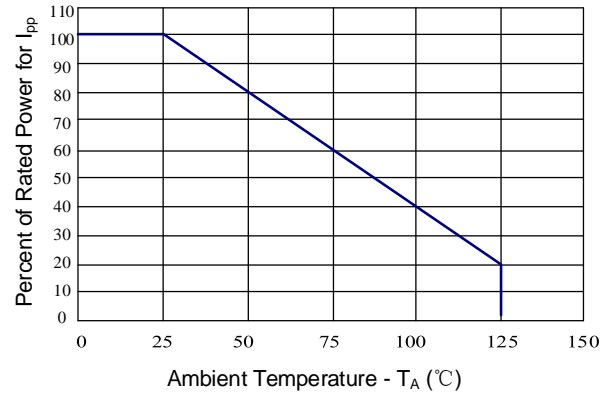


Figure 3: Clamping Voltage vs. Peak Pulse Current

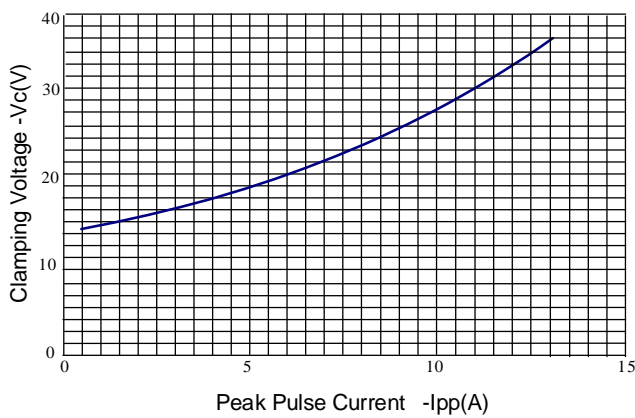


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

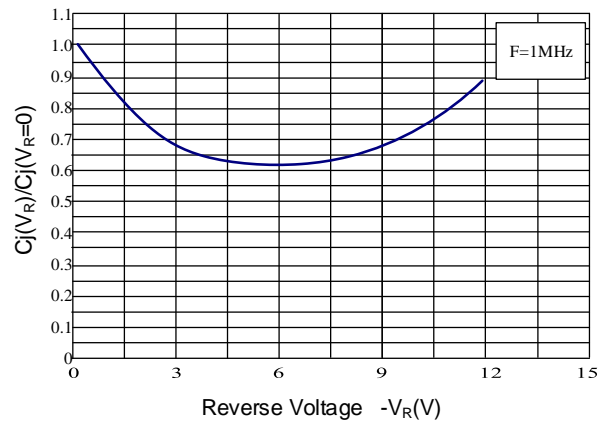
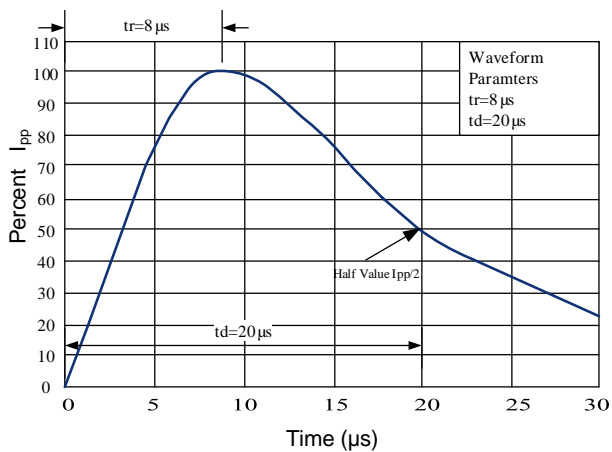
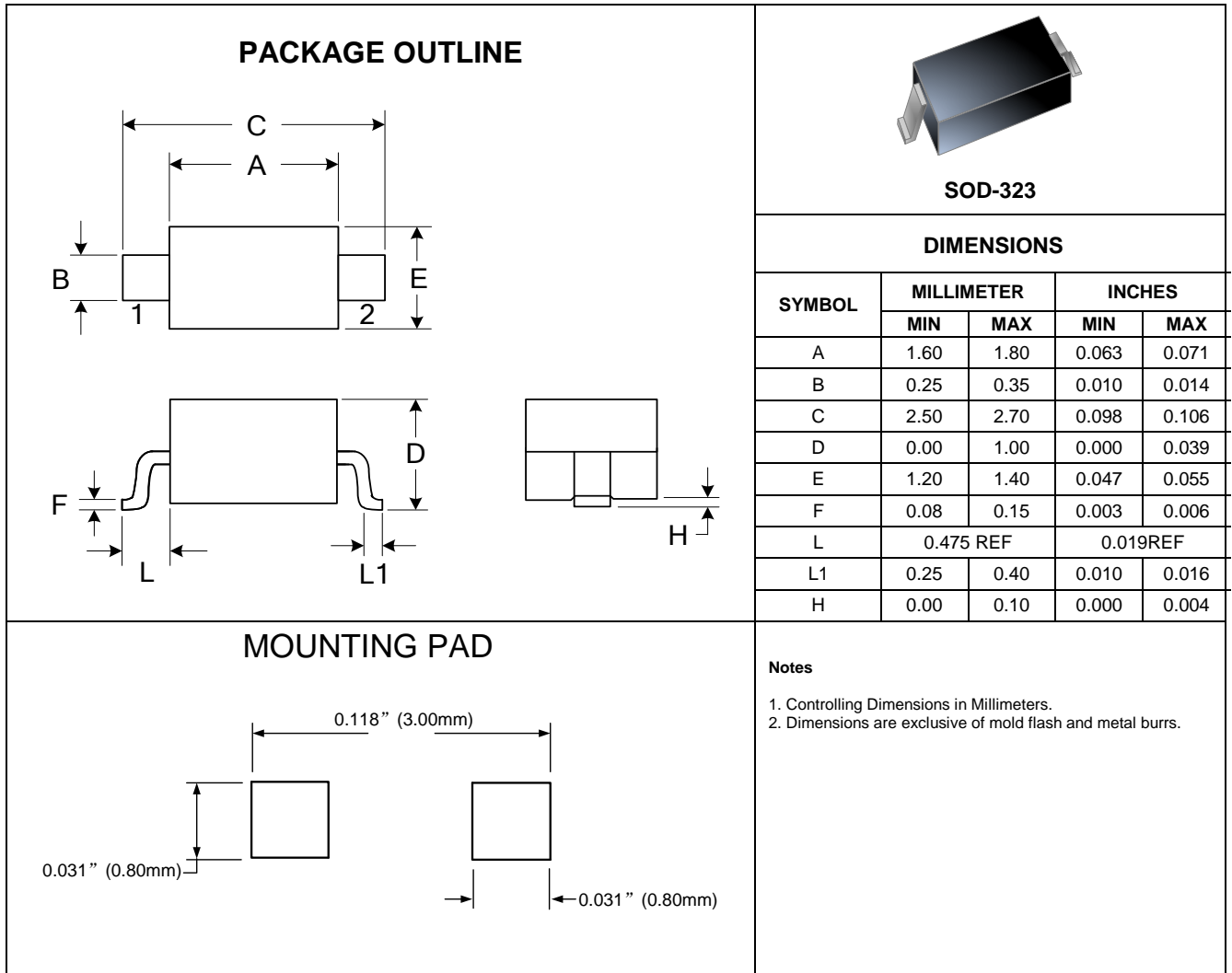


Figure 5: Pulse Waveform



Outline Drawing – SOD-323



Marking Codes

| | |
|--------------|-----------|
| Part Number | DW12D-B-S |
| Marking Code | 12B |

Package Information

Qty: 3k/Reel