



Features

- Small Body Outline Dimensions
- Protects one line
- Working Voltage: 5 V
- Low Leakage Current
- Response Time is Typically < 1 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) 14A (8/20 μs)



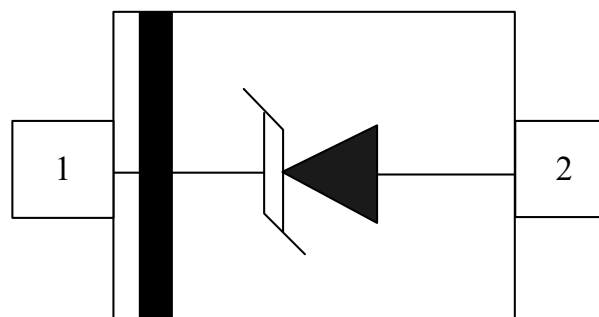
Mechanical Characteristics

- JEDEC SOD-523 package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant

Applications

- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- MP3 Players

Schematic & PIN Configuration

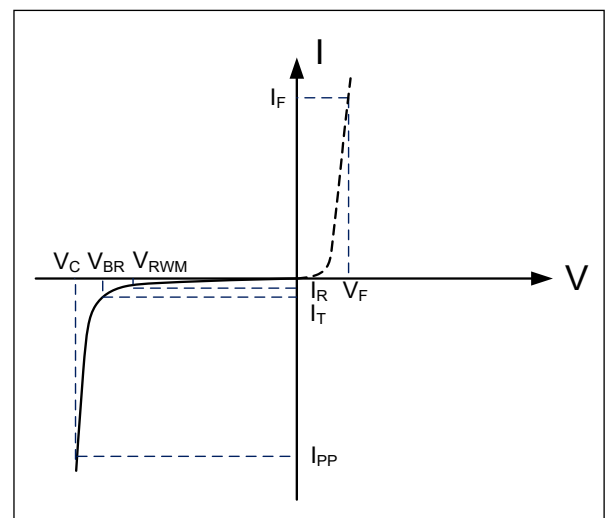


SOD-523 (Top View)

| Absolute Maximum Rating | | | |
|--|-----------|--------------|-------------|
| Rating | Symbol | Value | Units |
| Peak Pulse Power ($t_p = 8/20\mu s$) | P_{PP} | 250 | Watts |
| 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} | Reverse Stand-Off 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

| DW05D5BC-E | | | | | | |
|---------------------------|-----------|-----------------------------|---------|---------|---------|---------|
| 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 | $V_{RWM}=5V, T=25^{\circ}C$ | | | 1 | μA |
| Peak Pulse Current | I_{PP} | $t_p = 8/20\mu s$ | | | 14 | A |
| Clamping Voltage | V_C | $I_{PP}=1A, t_p=8/20\mu s$ | | | 9.5 | V |
| Clamping Voltage | V_C | $I_{PP}=14A, t_p=8/20\mu s$ | | 15 | 17 | V |
| Junction Capacitance | C_j | $V_R = 0V, f = 1MHz$ | | 90 | 100 | pF |

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

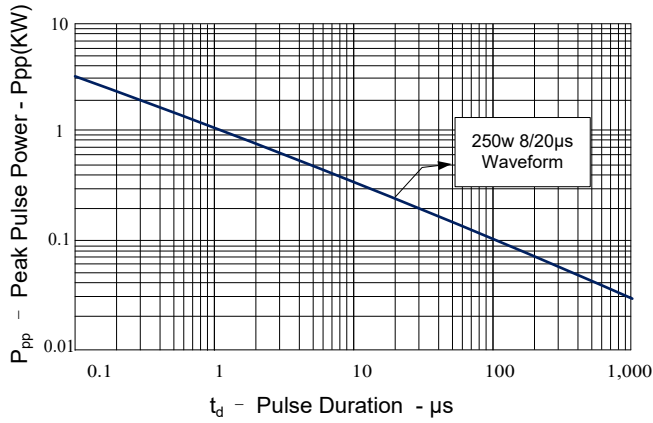


Figure 2: Power Derating Curve

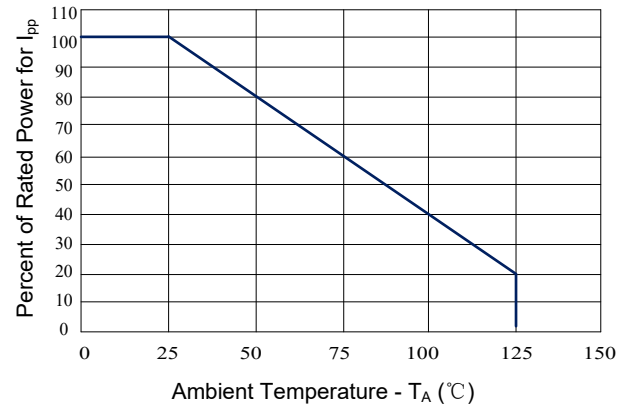


Figure 3: Clamping Voltage vs. Peak Pulse Current

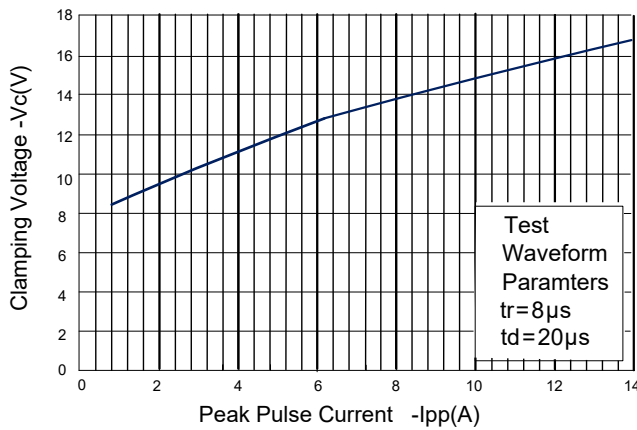


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

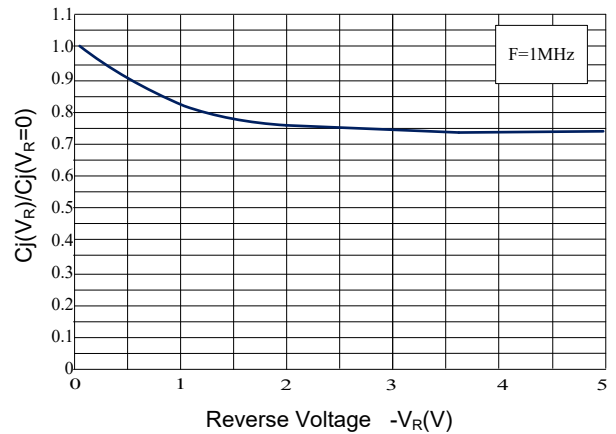


Figure 5: Pulse Waveform

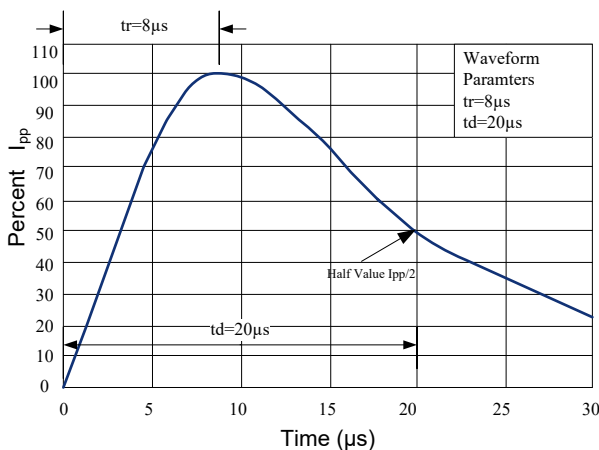
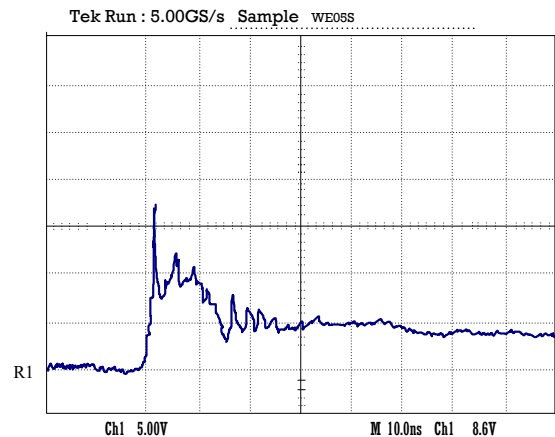
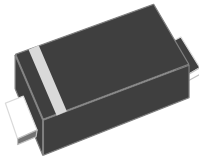
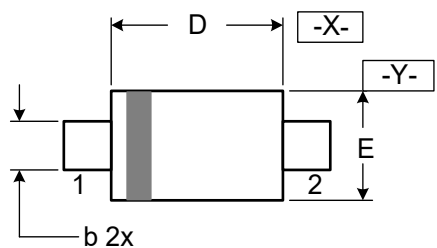
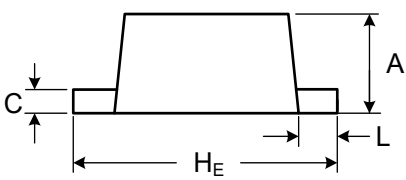
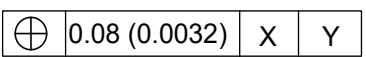
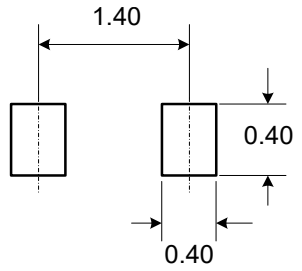


Figure 6: ESD Clamping(8kV Contact per IEC 61000-4-2)





Outline Drawing – SOD-523

| PACKAGE OUTLINE | |  SOD-523 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------|---|--------|------------|--|--------|--|-----|-----|-----|-----|---|------|------|-------|-------|---|------|------|-------|-------|---|------|------|--------|--------|---|------|------|-------|-------|---|------|------|-------|-------|----------------|------|------|-------|-------|---|------|------|-------|-------|
|  | | DIMENSIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | <table border="1"> <thead> <tr> <th rowspan="2">SYMBOL</th> <th colspan="2">MILLIMETER</th> <th colspan="2">INCHES</th> </tr> <tr> <th>MIN</th> <th>MAX</th> <th>MIN</th> <th>MAX</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>0.50</td> <td>0.70</td> <td>0.020</td> <td>0.028</td> </tr> <tr> <td>b</td> <td>0.25</td> <td>0.35</td> <td>0.010</td> <td>0.014</td> </tr> <tr> <td>C</td> <td>0.07</td> <td>0.20</td> <td>0.0028</td> <td>0.0079</td> </tr> <tr> <td>D</td> <td>1.10</td> <td>1.30</td> <td>0.043</td> <td>0.051</td> </tr> <tr> <td>E</td> <td>0.70</td> <td>0.90</td> <td>0.028</td> <td>0.035</td> </tr> <tr> <td>H_E</td> <td>1.50</td> <td>1.70</td> <td>0.059</td> <td>0.067</td> </tr> <tr> <td>L</td> <td>0.15</td> <td>0.25</td> <td>0.006</td> <td>0.010</td> </tr> </tbody> </table> | SYMBOL | MILLIMETER | | INCHES | | MIN | MAX | MIN | MAX | A | 0.50 | 0.70 | 0.020 | 0.028 | b | 0.25 | 0.35 | 0.010 | 0.014 | C | 0.07 | 0.20 | 0.0028 | 0.0079 | D | 1.10 | 1.30 | 0.043 | 0.051 | E | 0.70 | 0.90 | 0.028 | 0.035 | H _E | 1.50 | 1.70 | 0.059 | 0.067 | L | 0.15 | 0.25 | 0.006 | 0.010 |
| SYMBOL | MILLIMETER | | | INCHES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | MIN | MAX | MIN | MAX | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| b | 0.25 | 0.35 | 0.010 | 0.014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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|  <p>DIMENSIONS: MILLIMETERS</p> | | Notes 1. Controlling Dimensions in Millimeters. 2. Dimensions are exclusive of mold flash and metal burrs. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Marking Codes

| | |
|--------------|---|
| Part Number | DW05D5BC-E |
| Marking Code |  |

Package Information

Qty: 5k/Reel