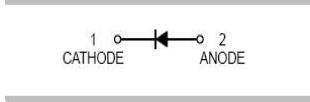


|   |  |
|---|--|
| <p><b>Features</b></p> <ul style="list-style-type: none"> <li>● Low reverse current and low forward voltage</li> <li>● High reliability</li> <li>● Small surface mounting type</li> </ul> <p><b>Typical Applications</b></p> <ul style="list-style-type: none"> <li>● For general purpose applications</li> </ul> <p><b>Mechanical Data</b></p> <ul style="list-style-type: none"> <li>● Case: SOD-123,SOD-323</li> <li>● Molding compound, UL flammability classification rating 94V-0</li> <li>● Terminals: Tin plated leads, solderable per MIL-STD-202, Method 208</li> </ul> | <p>SOD-123                      SOD323</p>  |
|---|--|

### Ordering Information

| Part Number | Package | Shipping              | Marking Code |
|-------------|---------|-----------------------|--------------|
| B5818W      | SOD-123 | 3000pcs / Tape & Reel | SK           |
| B5818WS     | SOD-323 | 3000pcs / Tape & Reel | SK           |
| B5819W      | SOD-123 | 3000pcs / Tape & Reel | SL           |
| B5819WS     | SOD-323 | 3000pcs / Tape & Reel | SL           |

### Maximum Ratings (@T<sub>A</sub>=25°C unless otherwise specified)

| Parameter   | Symbol             | B5818W(S) | B5819W(S) | Units |
|---|--------------------|-----------|-----------|-------|
| Peak Repetitive Reverse Voltage                         | V <sub>RRM</sub>   | 30        | 40        | V     |
| RMS Reverse Voltage                                     | V <sub>RMS</sub>   | 21        | 28        | V     |
| Maximum Average Forward Output Current                  | I <sub>F(AV)</sub> | 1         |           | A     |
| Peak Forward Surge Current, 8.3ms Single Half-sine-wave | I <sub>FSM</sub>   | 10        |           | A     |

### Thermal Characteristics

| Parameter                            | Symbol             | B5818W/B5819W | B5818WS/B5819WS | Units  |
|--------------------------------------|--------------------|---------------|-----------------|--------|
| Power Dissipation                    | P <sub>D</sub>     | 500           | 250             | mW     |
| Typical Thermal Resistance per leg   | R <sub>θJA</sub> * | 200           | 400             | °C / W |
| Operating Junction Temperature Range | T <sub>J</sub>     | 125           |                 | °C     |
| Storage Temperature Range            | T <sub>STG</sub>   | -55 to +150   |                 | °C     |

\* Part mounted on FR-4 board with recommended pad layout

**Electrical Characteristics** (@ $T_A=25^\circ\text{C}$  unless otherwise specified)

| Parameter                     | Symbol     | Test conditions                      |                        | Min. | Typ. | Max.  | Units |
|-------------------------------|------------|--------------------------------------|------------------------|------|------|-------|-------|
| Forward Voltage               | $V_F^*$    | $I_F=1\text{A}$                      | B5818W(S)              | -    | -    | 0.55  | V     |
|                               |            | $I_F=1\text{A}$                      | B5819W(S)              |      |      | 0.60  |       |
|                               |            | $I_F=3\text{A}$                      | B5818W(S)              |      |      | 0.875 |       |
|                               |            | $I_F=3\text{A}$                      | B5819W(S)              | -    | -    | 0.90  |       |
| Maximum Peak Reverse Current  | $I_R^{**}$ | $V_R=30\text{V}$<br>$V_R=40\text{V}$ | B5818W(S)<br>B5819W(S) | -    | -    | 1     | mA    |
| Capacitance Between Terminals | $C_T$      | $V_R=4\text{V}, f=1\text{MHz}$       |                        | -    | 39   | 120   | pF    |

\*Pulse width  $\leq 380\ \mu\text{s}$ , Duty cycle  $< 2\%$   
 \*\*pulse test,  $t_p \leq 5\text{ms}$

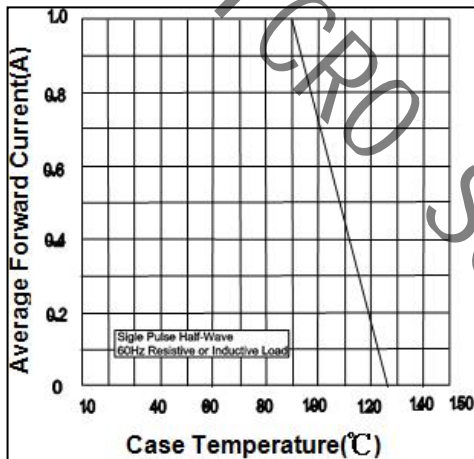
**Ratings and Characteristic Curves** ( $T_A=25^\circ\text{C}$  unless otherwise noted)


Fig.1 Forward Current Derating Curve

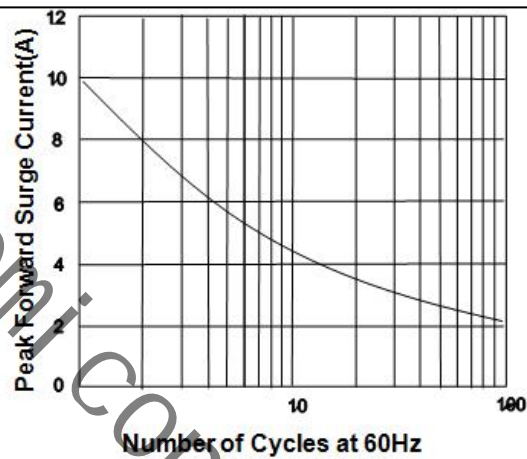


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

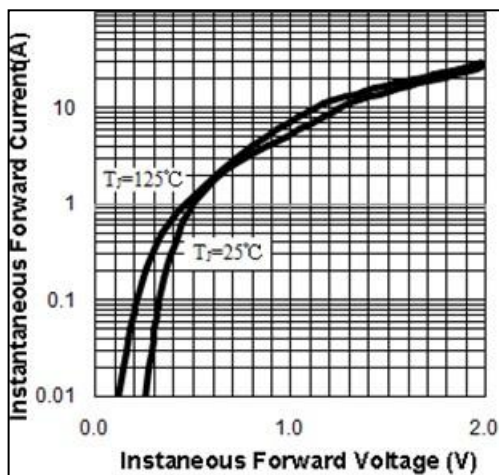


Fig.3 Typical Instantaneous Forward Characteristics

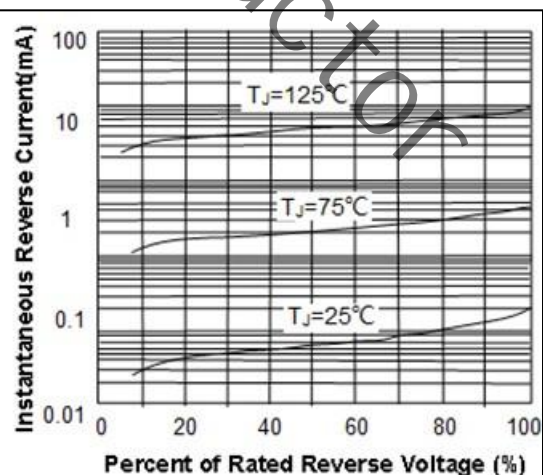
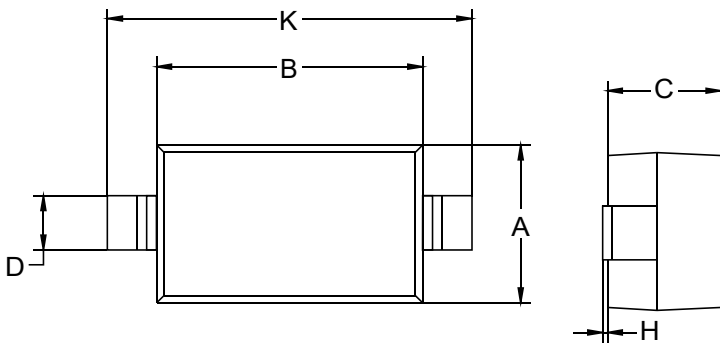
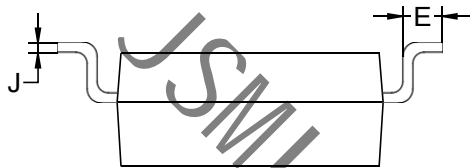
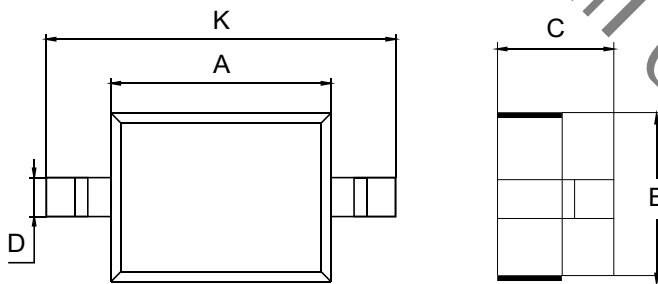


Fig.4 Typical Reverse Characteristics

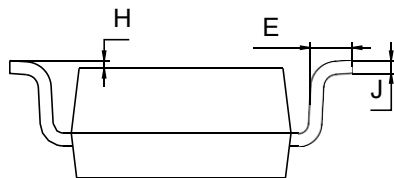
**Package Outline Dimensions** (unit: mm)

**SOD-123**


| SOD-123 |      |      |
|---------|------|------|
| Dim     | Min  | Max  |
| A       | 1.45 | 1.75 |
| B       | 2.55 | 2.85 |
| C       | 1.00 | 1.30 |
| D       | 0.50 | 0.60 |
| E       | 0.25 | 0.45 |
| H       | 0.02 | 0.10 |
| J       | 0.05 | 0.15 |
| K       | 3.55 | 3.85 |

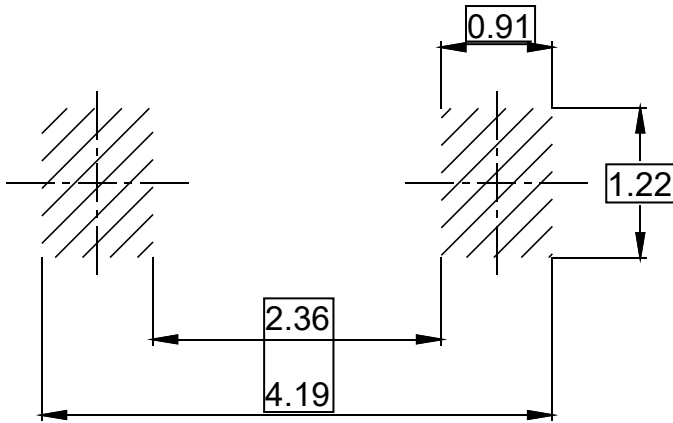

**SOD-323**


| SOD-323 |      |      |
|---------|------|------|
| Dim     | Min  | Max  |
| A       | 1.60 | 1.80 |
| B       | 1.20 | 1.40 |
| C       | 0.80 | 0.90 |
| D       | 0.25 | 0.35 |
| E       | 0.22 | 0.42 |
| H       | 0.02 | 0.10 |
| J       | 0.05 | 0.15 |
| K       | 2.55 | 2.75 |

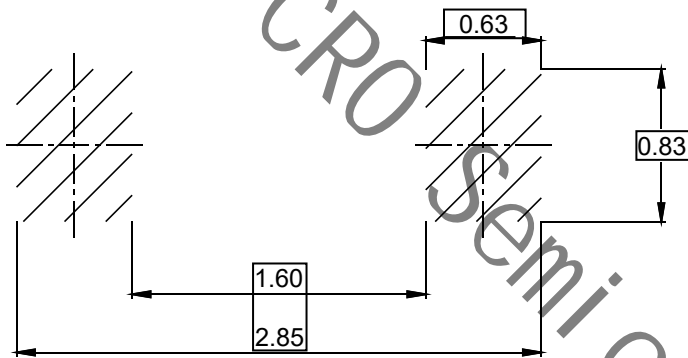


**Mounting Pad Layout** (unit: mm)

**SOD-123**



**SOD-323**



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