SuperDiode – 250mW SOD-323 Plastic-Encapsulate Schottky Barrier Diode

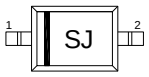
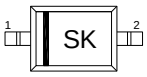
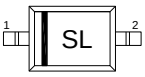
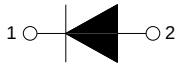
## 1. Features

- High current capability
- Power dissipation of 250mW
- Low forward voltage drop

## 2. Mechanical Data

- SOD-323 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Epoxy:94V-0

## 3. Marking and Circuit

| B5817WS | B5818WS | B5819WS | Circuit |
|---|---|---|---|
|   |   |   |   |

## 4. Specification

### Absolute Maximum Rating & Thermal Characteristics

Ratings at 25 ˚C ambient temperature unless otherwise specified.

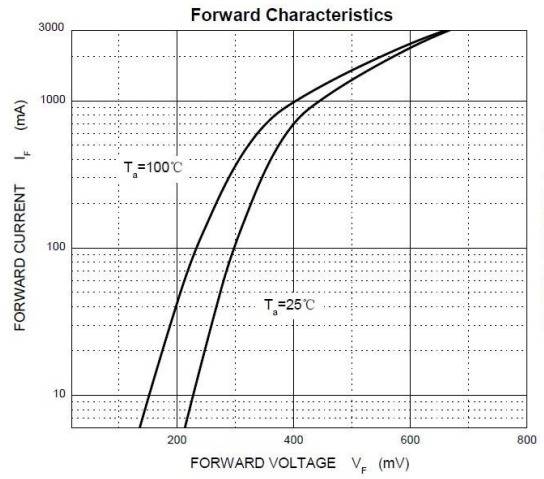
| Parameters | Symbol | Value | | | Unit |
|---|---|---|---|---|---|
| | | B5817WS | B5818WS | B5819WS | |
| Peak repetitive reverse voltage | $V_{RRM}$ | 20 | 30 | 40 | V |
| Maximum RMS voltage | $V_{RMS}$ | 14 | 21 | 28 | V |
| Maximum DC blocking voltage | $V_{DC}$ | 20 | 30 | 40 | V |
| Power dissipation | $P_D$ | 250 | | | mW |
| Operating junction temperature | $T_J$ | 125 | | | ˚C |
| Storage temperature range | $T_S$ | -50~150 | | | ˚C |
| Thermal resistance from junction to ambient | $R_{\theta JA}$ | 400 | | | ˚C/W |
| Peak forward surge current 8.3 ms single half sine-wave | $I_{FSM}$ | 9 | | | A |
| Maximum average forward rectified current | $I_{FM}$ | 1.0 | | | A |

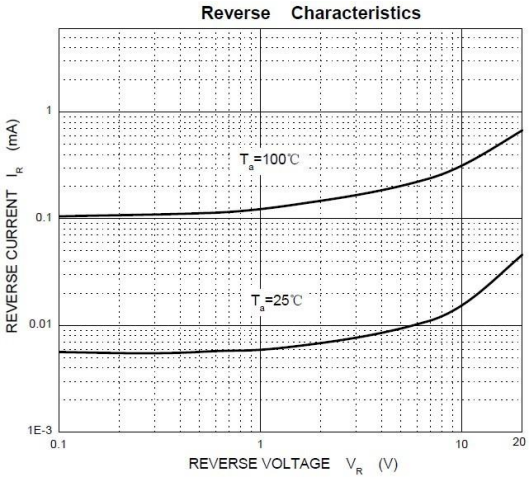
Valid provided that electrodes are kept at ambient temperature

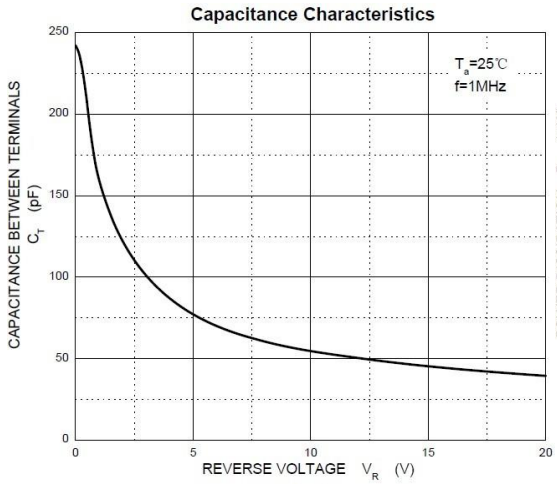
## Electrical Characteristics (At TA = 25℃ unless otherwise specified)

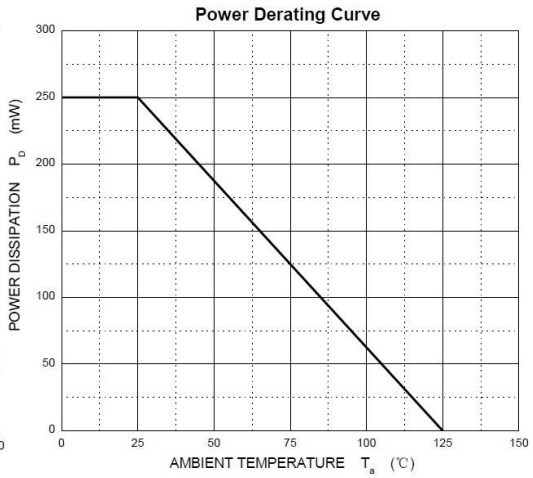
| Parameters | Symbol | Test conditions | B5817WS | B5818WS | B5819WS | Unit |
|---|---|---|---|---|---|---|
| Maximum forward voltage | $V_F$ | $I_F$ = 1.0A | 0.450 | 0.550 | 0.600 | V |
| | | $I_F$ = 3.0A | 0.750 | 0.875 | 0.900 | |
| Maximum reverse breakdown voltage | $V_R$ | $I_R$=1mA | 20 | 30 | 40 | V |
| Maximum reverse current | $I_R$ | $V_R$=20V | 1.0 | | | mA |
| | | $V_R$ =30V | | | | |
| | | $V_R$ =40V | | | | |
| Junction Capacitance | $C_j$ | VR = 4V, f = 1MHz | 120 | | | pF |

## 5. Typical Characteristic

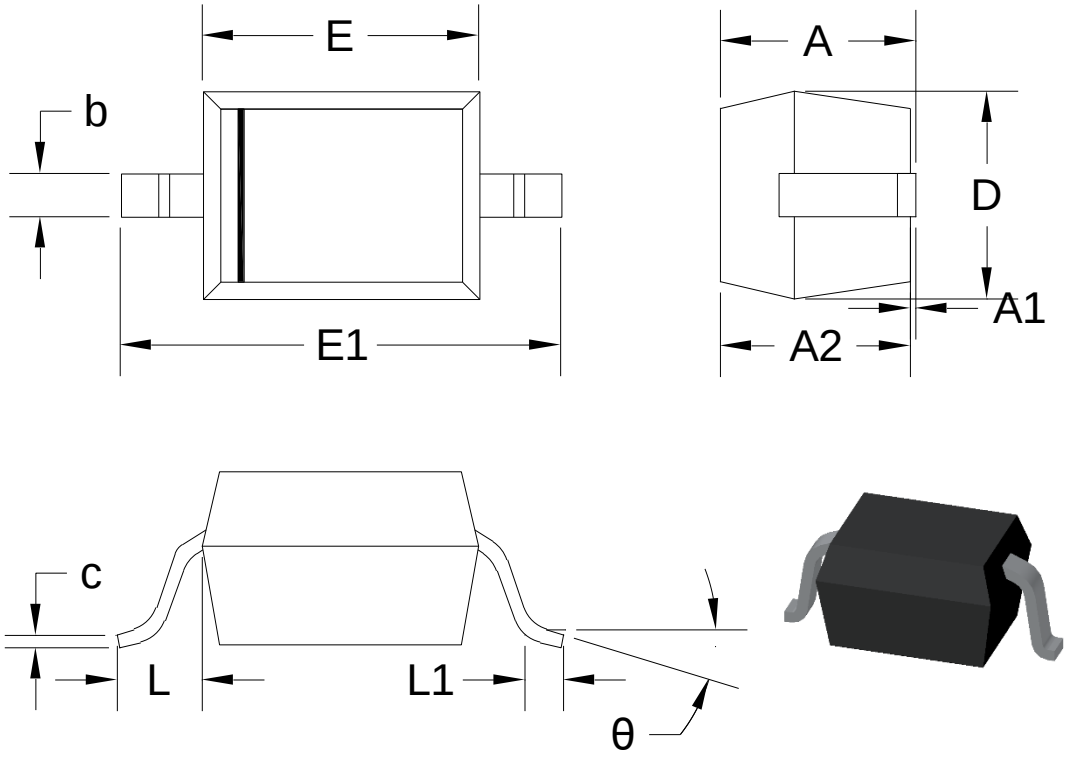


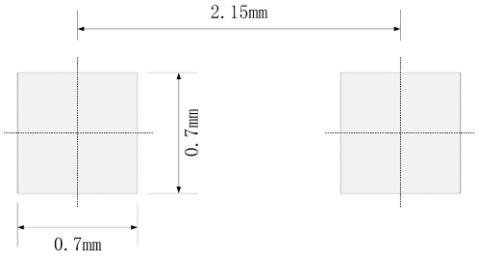



## 6. Dimension and Patterns (SOD-323)




Units: mm

| Symbol | Min. | Max. | Symbol | Min. | Max. |
|---|---|---|---|---|---|
| A | | 1.000 | E | 1.600 | 1.800 |
| A1 | 0.000 | 0.100 | E1 | 2.550 | 2.750 |
| A2 | 0.800 | 0.900 | L | 0.475REF | |
| b | 0.250 | 0.350 | L1 | 0.250 | 0.400 |
| c | 0.080 | 0.150 | θ | 0° | 8° |
| D | 1.200 | 1.400 | | | |




Note:

1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference only
4. Unit: mm

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