

**WSB5507W**

Middle Power Schottky Barrier Diode

[Http://www.sh-willsemi.com](http://www.sh-willsemi.com)

**Features**

- 0.5 A Average rectified forward current
- Low forward voltage, low leakage current
- Small package SOD-323



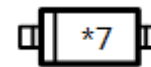
**SOD-323**

**Applications**

- Switching circuit
- Middle current rectification



**Circuit**



**Marking**

**Absolute maximum ratings**

| Parameter                                 | Symbol    | Value     | Unit |
|-------------------------------------------|-----------|-----------|------|
| Reverse voltage (repetitive peak)         | $V_{RRM}$ | 40        | V    |
| Reverse voltage (DC)                      | $V_R$     | 40        | V    |
| Average rectified forward current         | $I_O$     | 0.5       | A    |
| Peak forward surge current <sup>(1)</sup> | $I_{FSM}$ | 7         | A    |
| Junction temperature                      | $T_J$     | 125       | °C   |
| Operating temperature                     | $T_{opr}$ | -40 ~ 85  | °C   |
| Storage temperature                       | $T_{stg}$ | -55 ~ 150 | °C   |

**Electronics characteristics ( $T_A=25^{\circ}\text{C}$ )**

| Parameter                         | Symbol          | Condition                         | Min. | Typ. | Max. | Unit |
|-----------------------------------|-----------------|-----------------------------------|------|------|------|------|
| Forward voltage <sup>(2)</sup>    | $V_F$           | $I_F=0.2\text{A}$                 | -    | 0.38 | 0.45 | V    |
|                                   |                 | $I_F=0.5\text{A}$                 | -    | 0.5  | 0.55 | V    |
| Reverse current                   | $I_R$           | $V_R=40\text{V}$                  | -    | 2    | 100  | uA   |
| Junction capacitance              | $C_J$           | $V_R=4\text{V}$ , $F=1\text{MHz}$ | -    | 27   |      | pF   |
| Thermal resistance <sup>(3)</sup> | $R_{\theta JL}$ | Junction to lead                  |      | 112  | 140  | K/W  |

**Order Informations**

| Device        | Package | Marking           | Shipping       |
|---------------|---------|-------------------|----------------|
| WSB5507W-2/TR | SOD-323 | *7 <sup>(4)</sup> | 3000/Reel&Tape |

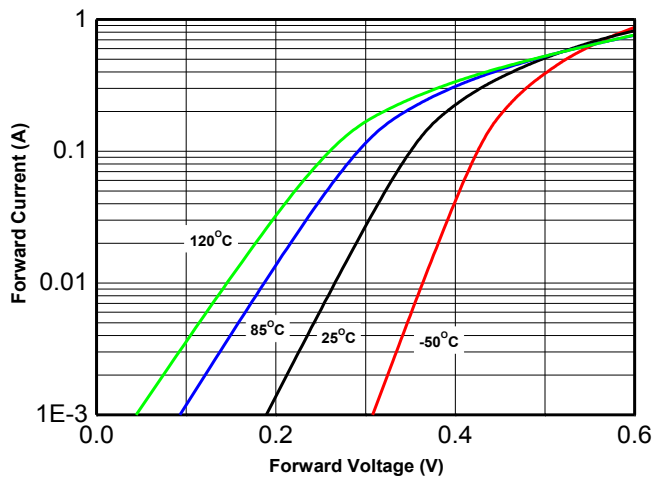
**Note 1** : Pulse Width=8.3ms, Single Pulse;

**Note 2** : Single Pulse test  $t_p=380\mu\text{s}$ ;

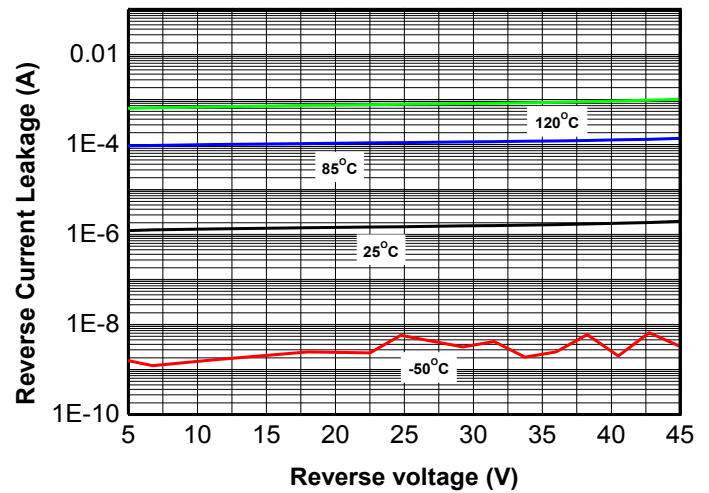
**Note 3** : Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

**Note 4** : \* = Month code (A~Z); 7 = Device code;

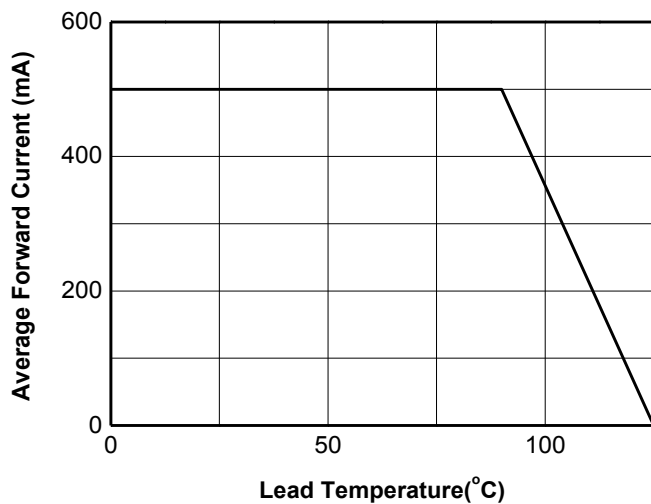
Typical characteristics (Ta=25°C, unless otherwise noted)



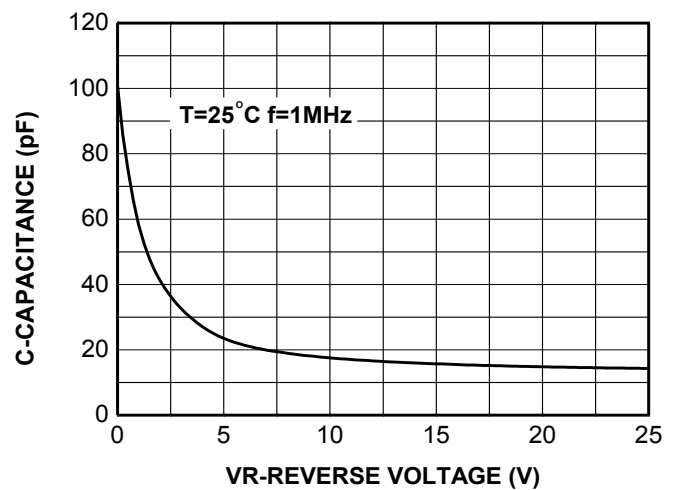
**Fig.1 Forward voltage vs. Forward current**



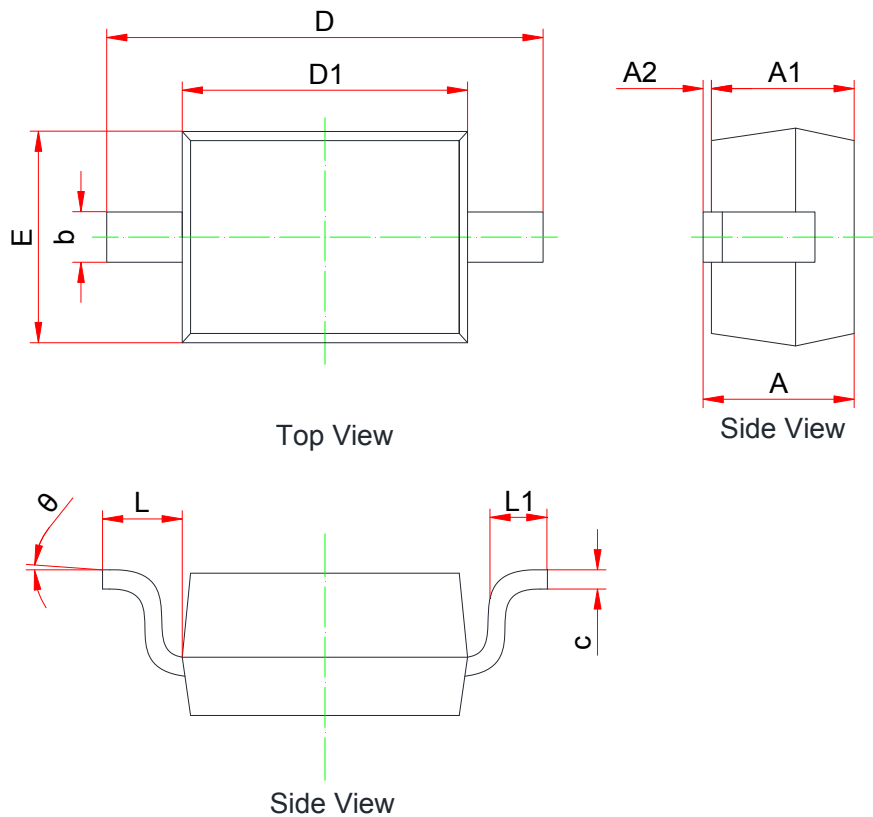
**Fig.2 Reverse current vs. Reverse voltage**



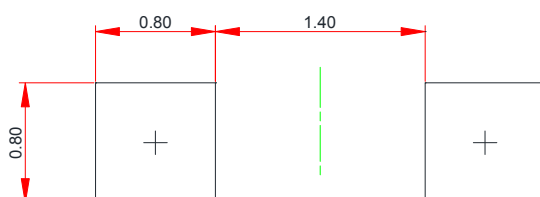
**Fig.3 Forward Current Derating**



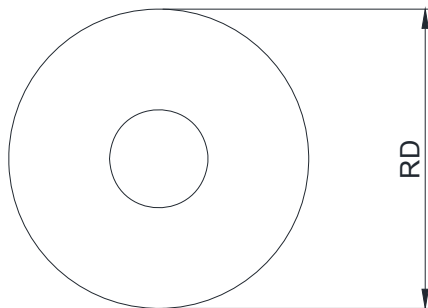
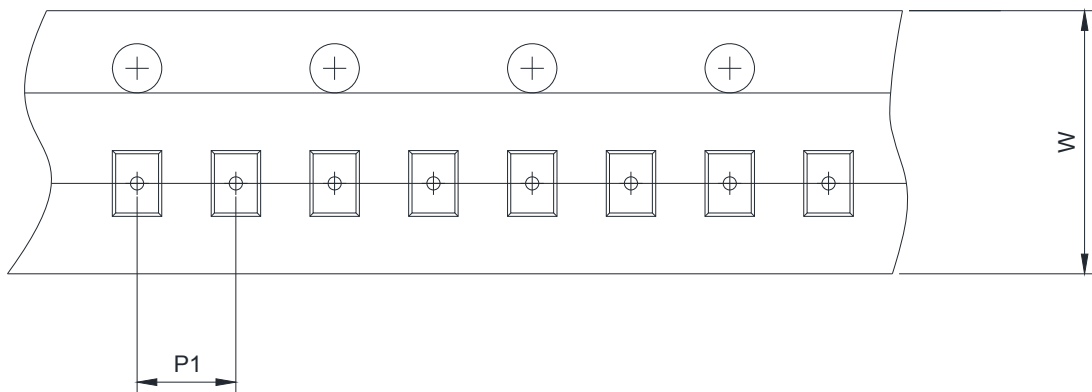
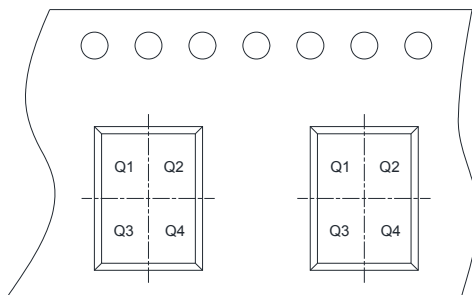
**Fig.4 Junction capacitance vs. Reverse voltage**

**Package outline dimensions**
**SOD-323**


| Symbol   | Dimensions in Millimeters |      |      |
|----------|---------------------------|------|------|
|          | Min.                      | Typ. | Max. |
| A        | -                         | -    | 1.10 |
| A1       | 0.85Ref                   |      |      |
| A2       | 0.00                      | -    | 0.10 |
| b        | 0.25                      | -    | 0.40 |
| c        | 0.08                      | -    | 0.18 |
| D1       | 1.60                      | 1.70 | 1.80 |
| D        | 2.30                      | 2.55 | 2.80 |
| E        | 1.15                      | -    | 1.40 |
| L        | 0.48Ref.                  |      |      |
| L1       | 0.10                      | -    | 0.50 |
| $\theta$ | 0°                        | -    | 8°   |

**Recommended land pattern (Unit: mm)**

**Notes:**

This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met.

**TAPE AND REEL INFORMATION**
**Reel Dimensions**

**Tape Dimensions**

**Quadrant Assignments For PIN1 Orientation In Tape**


  
 User Direction of Feed

|      |                                         |                                           |                                                                                                |
|------|-----------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------|
| RD   | Reel Dimension                          | <input checked="" type="checkbox"/> 7inch | <input type="checkbox"/> 13inch                                                                |
| W    | Overall width of the carrier tape       | <input checked="" type="checkbox"/> 8mm   | <input type="checkbox"/> 12mm <input type="checkbox"/> 16mm                                    |
| P1   | Pitch between successive cavity centers | <input type="checkbox"/> 2mm              | <input checked="" type="checkbox"/> 4mm <input type="checkbox"/> 8mm                           |
| Pin1 | Pin1 Quadrant                           | <input checked="" type="checkbox"/> Q1    | <input checked="" type="checkbox"/> Q2 <input type="checkbox"/> Q3 <input type="checkbox"/> Q4 |