

## SCHOTTKY BARRIER RECTIFIERS

### FEATURES

- Metal silicon junction, majority carrier conduction
- Guarding for overvoltage protection
- Low power loss, high efficiency
- High current capability
- low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

### PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |



Top View

Simplified outline SOD-323 and symbol

### MECHANICAL DATA

- Case: SOD-323
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 5.48mg / 0.00019oz

### Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

| Parameter  | Symbols         | B5817WS      | B5818WS       | B5819WS    | Units         |
|--|-----------------|--------------|---------------|------------|---------------|
| Maximum Repetitive Peak 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             |
| Maximum Average Forward Rectified Current  | $I_{F(AV)}$     | 1            |               |            | A             |
| Power dissipation  | $P_D$           | 250          |               |            | mW            |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load (JEDEC method)                | $I_{FSM}$       | 9            |               |            | A             |
| Maximum Instantaneous Forward Voltage<br>at 1 A<br>at 3 A  | $V_F$           | 0.45<br>0.75 | 0.55<br>0.875 | 0.6<br>0.9 | V             |
| Maximum Instantaneous Reverse Current at Rated DC Reverse Voltage<br>$T_j = 25^{\circ}C$<br>$T_j = 100^{\circ}C$ | $I_R$           | 1<br>10      |               |            | mA            |
| Thermal Resistance, Junction to Ambient Air (NOTE 1)   | $R_{\theta JA}$ | 400          |               |            | $^{\circ}C/W$ |
| Typical Junction Capacitance $V_R=4V, f=1MHz$  | $C_j$           | 120          |               |            | pF            |
| Storage and Operating Junction Temperature Range   | $T_j, T_{stg}$  | -55 ~ +125   |               |            | $^{\circ}C$   |

Fig.1 Power Derating Curve

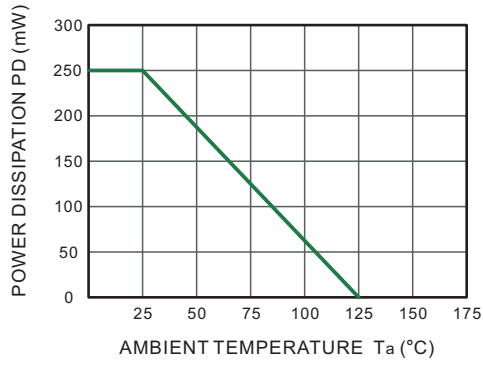


Fig.2 Typical Reverse Characteristics

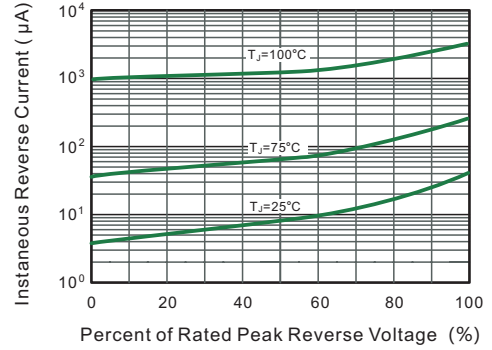


Fig.3 TYPICAL FORWARD VOLTAGE

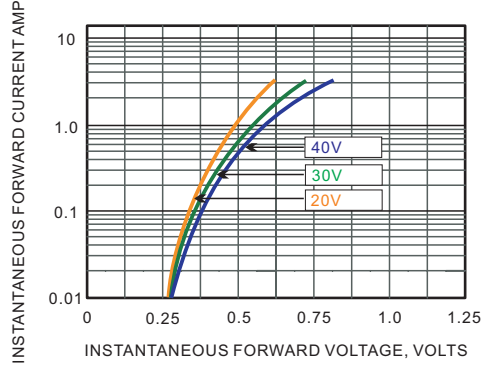
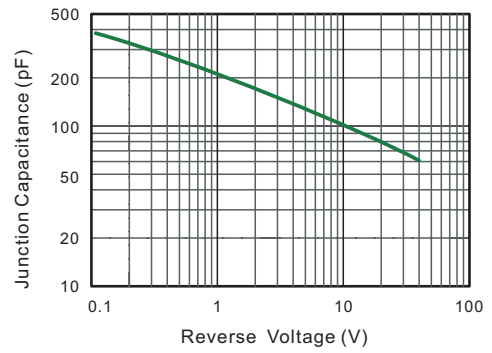


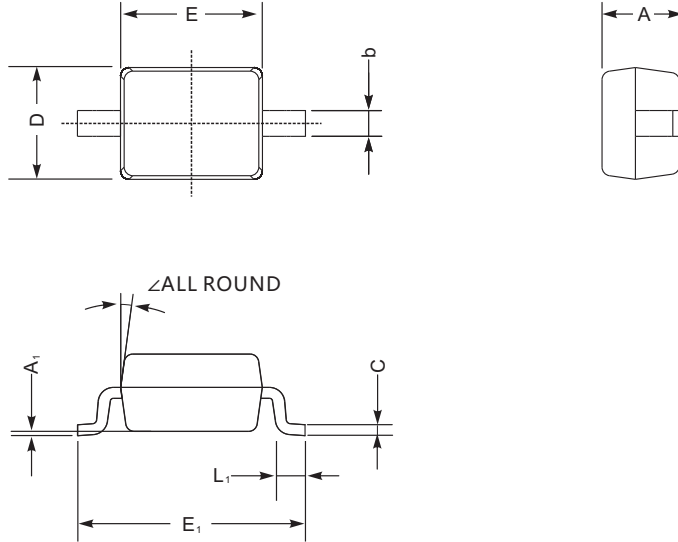
Fig.4 Typical Junction Capacitance



**PACKAGE OUTLINE**

Plastic surface mounted package; 2 leads

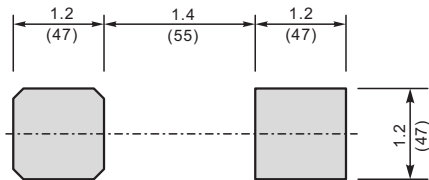
**SOD-323**



SOD-323 mechanical data

| UNIT |     | A   | C    | D   | E   | E <sub>1</sub> | b    | L <sub>1</sub> | A <sub>1</sub> | ∠  |
|------|-----|-----|------|-----|-----|----------------|------|----------------|----------------|----|
| mm   | max | 1.1 | 0.15 | 1.4 | 1.8 | 2.75           | 0.4  | 0.45           | 0.2            | 9° |
|      | min | 0.8 | 0.08 | 1.2 | 1.4 | 2.55           | 0.25 | 0.2            | —              |    |
| mil  | max | 43  | 5.9  | 55  | 70  | 108            | 16   | 16             | 8              |    |
|      | min | 32  | 3.1  | 47  | 55  | 100            | 9.8  | 7.9            | —              |    |

**The recommended mounting pad size**



Unit:  $\frac{\text{mm}}{\text{mil}}$