

### Features

- Low turn-on voltage
- High breakdown voltage
- Guarding for overvoltage protection

SOD-323



1.Cathode  2.Anode

Marking Code : S9

### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

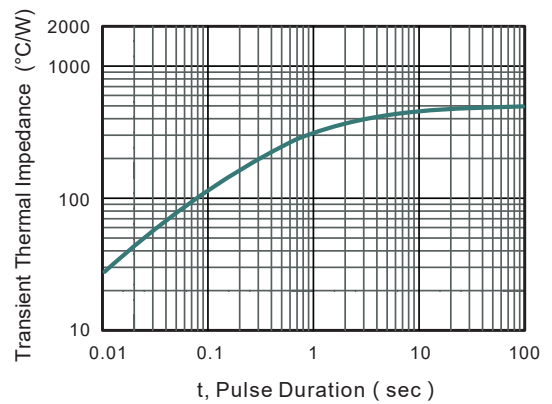
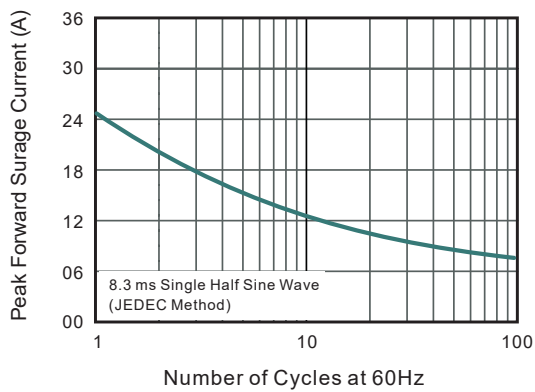
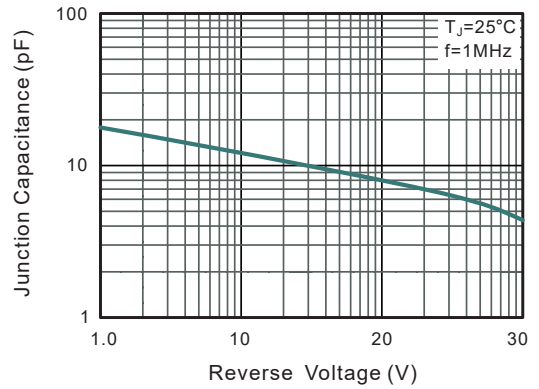
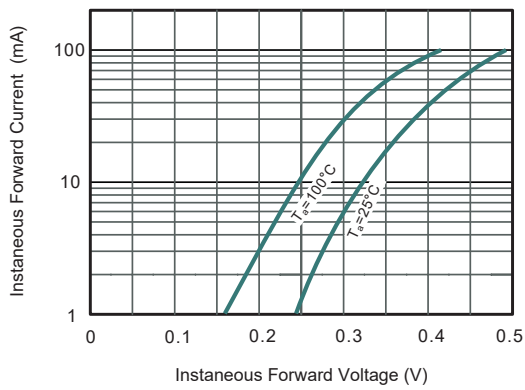
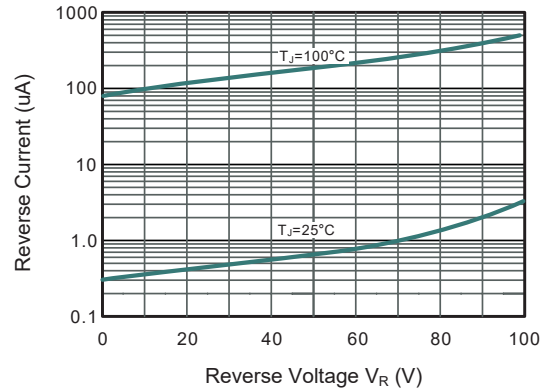
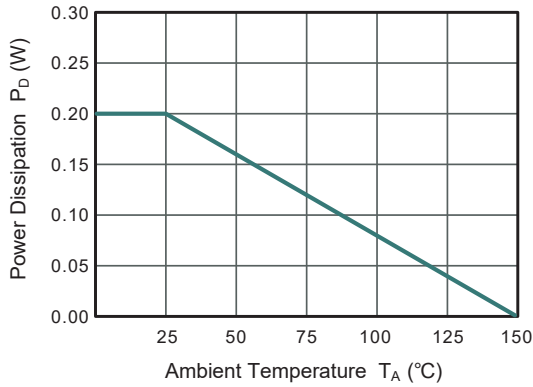
| Parameter   | Symbols         | BAT46WS              | Units   |
|---|-----------------|----------------------|---------|
| Maximum Repetitive Peak Reverse Voltage   | $V_{RRM}$       | 100                  | V       |
| Working Peak Reverse Voltage  | $V_{RWM}$       | 100                  | V       |
| Continuous Forward Current  | $I_F$           | 150                  | mA      |
| Repetitive Peak Forward Current <sup>Note1</sup><br>at $t_p < 1.0s$ , Duty Cycle $< 50\%$                                       | $I_{FRM}$       | 350                  | mA      |
| Peak Forward Surge Current 8.3 ms Single<br>Half Sine Wave Superimposed on Rated Load   | $I_{FSM}$       | 25                   | A       |
| Maximum Instantaneous Forward Voltage <sup>Note2</sup><br>at $I_F=10$ mA<br>at $I_F=250$ mA                                     | $V_F$           | 0.45<br>1.0          | V       |
| Reverse Breakdown Voltage <sup>Note2</sup><br>at $I_R=100$ uA   | $V_{(BR)}$      | 100                  | V       |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage<br>at $V_R=1.5$ V<br>at $V_R=10$ V<br>at $V_R=50$ V<br>at $V_R=75$ V | $I_R$           | 0.3<br>0.5<br>1<br>2 | $\mu A$ |
| Diodes Capacitance<br>at $V_R=0, f=1MHz$<br>at $V_R=1V, f=1MHz$   | $C_T$           | 20<br>12             | pF      |
| Maximum Power Dissipation   | $P_D$           | 200                  | mW      |
| Typical Thermal Resistance  | $R_{\theta JA}$ | 500                  | °C/W    |
| Junction Temperature  | $T_J$           | 150                  | °C      |
| Storage Temperature Range   | $T_{STG}$       | -55 to +150          | °C      |

#### Note:

1. Part mounted on FR-4 board with recommended pad layout.
2. Short duration pulse test used to minimize self-heating effect.



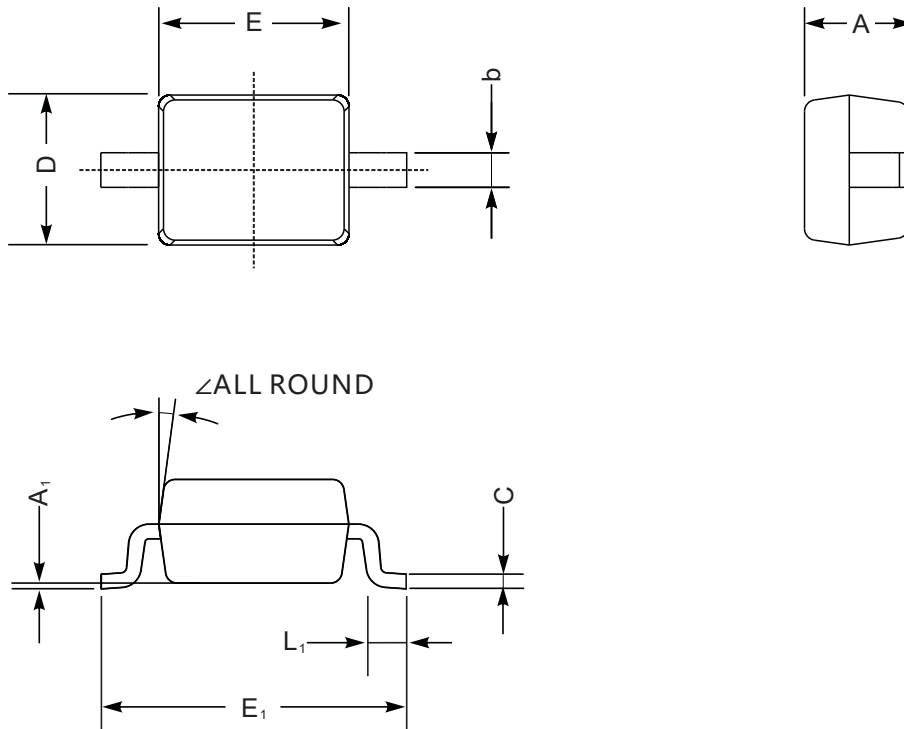
### Typical Characteristic Curves



### Package Outline

SOD-323

Dimensions in mm



| 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  | 63  | 100            | 9.8  | 7.9            | —              |    |