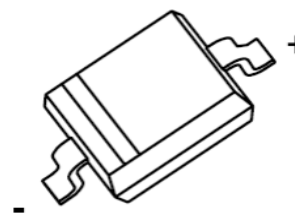


#### FEATURES

- High breakdown voltage
- Low turn-on voltage
- Guard ring construction for transient protection

#### MARKING: S9



**SOD-323**

#### Maximum Ratings @T<sub>a</sub>=25°C

| Parameter                                                                          | Symbol           | Limit    | Unit |
|------------------------------------------------------------------------------------|------------------|----------|------|
| Peak repetitive peak reverse voltage                                               | V <sub>RRM</sub> | 100      | V    |
| Working peak reverse voltage                                                       | V <sub>RWM</sub> |          |      |
| Forward continuous current                                                         | I <sub>F</sub>   | 150      | mA   |
| Repetitive peak forward current (Note 1) @ t <sub>p</sub> < 1.0s, Duty Cycle < 50% | I <sub>FRM</sub> | 350      | mA   |
| Non-repetitive Peak Forward surge current @ t = 8.3ms                              | I <sub>FSM</sub> | 750      | mA   |
| Power dissipation                                                                  | P <sub>D</sub>   | 500      | mW   |
| Thermal resistance junction to ambient air                                         | R <sub>θJA</sub> | 200      | °C/W |
| Junction temperature                                                               | T <sub>j</sub>   | 125      | °C   |
| Storage temperature                                                                | T <sub>STG</sub> | -55~+150 | °C   |

#### ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)

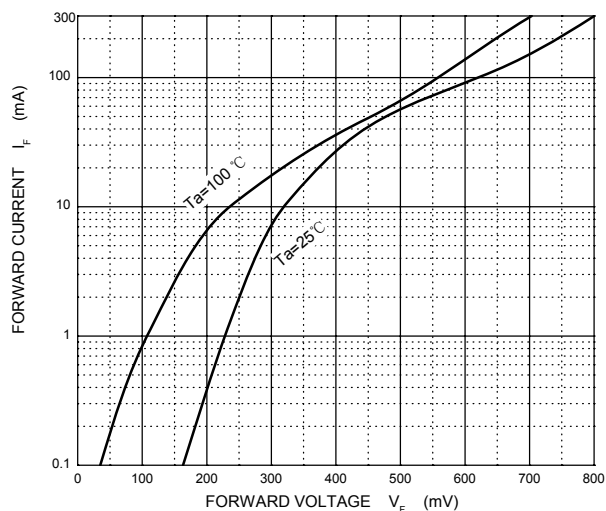
| Parameter                         | Symbol         | Test Conditions            | Min | Typ | Max  | Unit |
|-----------------------------------|----------------|----------------------------|-----|-----|------|------|
| Reverse breakdown voltage(Note 2) | V <sub>R</sub> | I <sub>R</sub> = 100μA     | 100 |     |      | V    |
| Reverse voltage leakage current   | I <sub>R</sub> | V <sub>R1</sub> =1.5V      |     |     | 0.3  | μA   |
|                                   |                | V <sub>R2</sub> =10V       |     |     | 0.5  |      |
|                                   |                | V <sub>R3</sub> =50V       |     |     | 1    |      |
|                                   |                | V <sub>R4</sub> =75V       |     |     | 2    |      |
| Forward voltage(Note 2)           | V <sub>F</sub> | I <sub>F1</sub> =0.1mA     |     |     | 0.30 | V    |
|                                   |                | I <sub>F2</sub> =10mA      |     |     | 0.45 |      |
|                                   |                | I <sub>F3</sub> =250mA     |     |     | 1    |      |
| Diode capacitance                 | C <sub>T</sub> | V <sub>R</sub> =0, f=1MHz  |     | 20  |      | pF   |
|                                   |                | V <sub>R</sub> =1V, f=1MHz |     | 12  |      |      |

Notes: 1. Part mounted on FR-4 board with recommended pad layout.

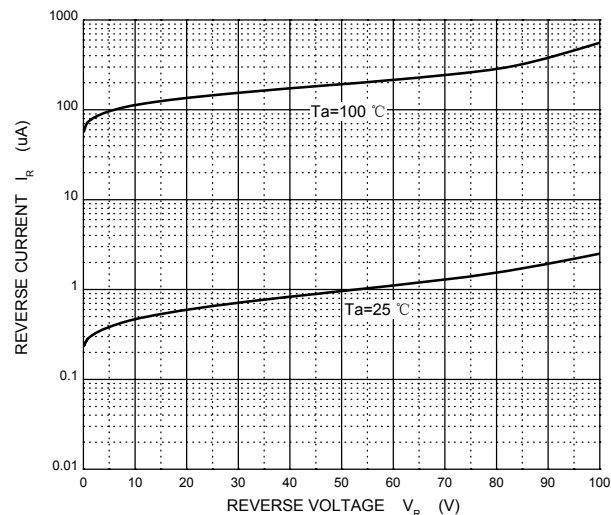
2. Short duration pulse test used to minimize self-heating effect.

### Typical Characteristics

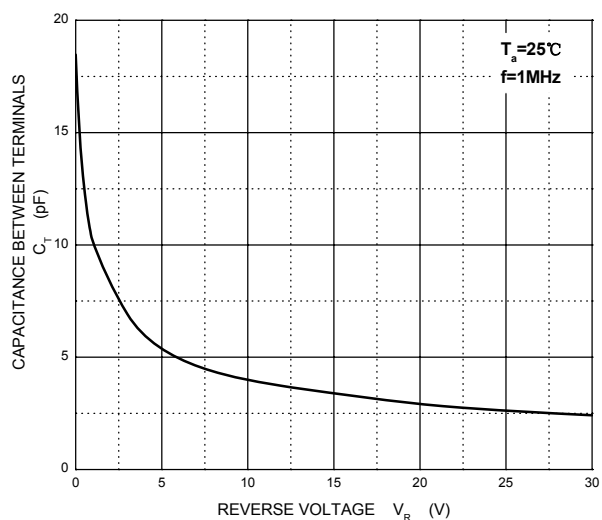
**Forward Characteristics**



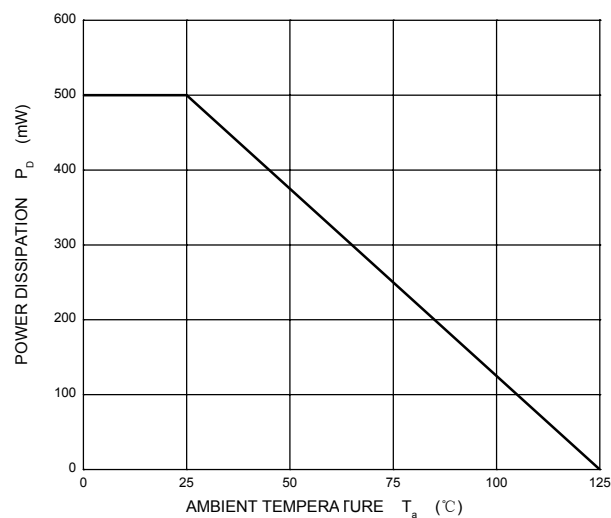
**Reverse Characteristics**



**Capacitance Characteristics**



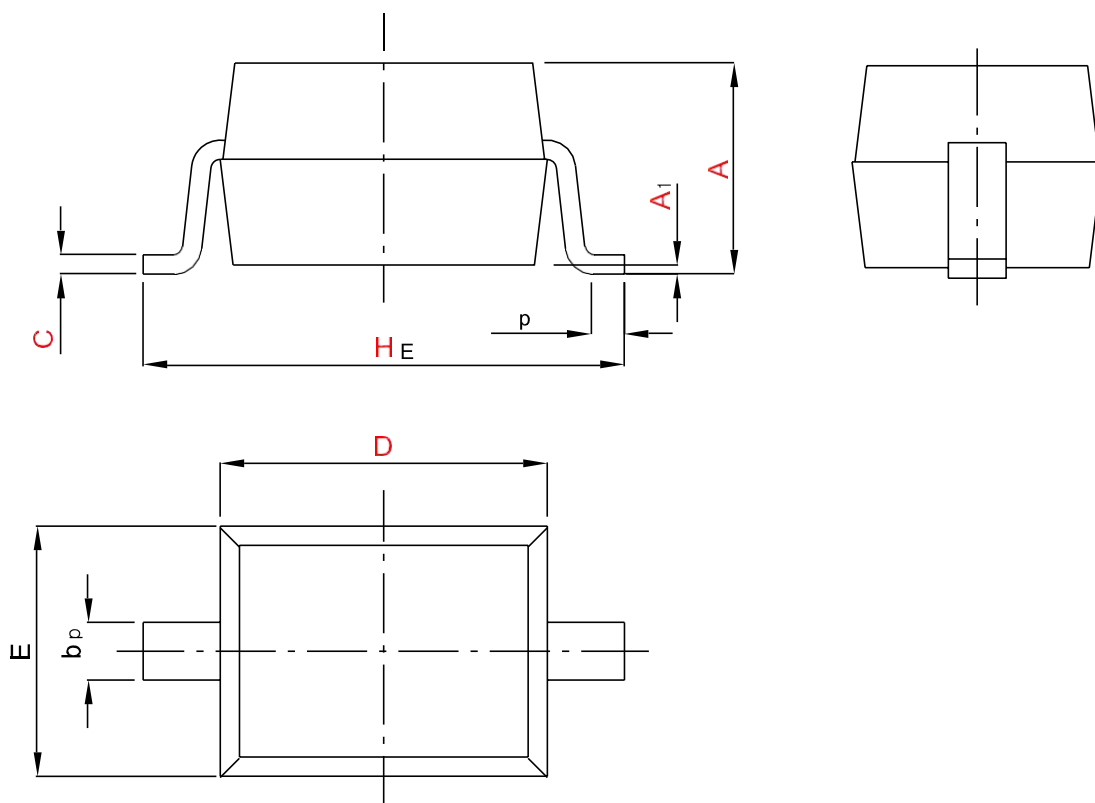
**Power Derating Curve**



### PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD323



| UNIT | A            | bp           | C            | D            | E            | HE           | A1           | Lp           |
|------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| mm   | 1.20<br>0.90 | 0.40<br>0.25 | 0.15<br>0.10 | 1.80<br>1.60 | 1.35<br>1.15 | 2.80<br>2.30 | 0.10<br>0.01 | 0.50<br>0.20 |

