

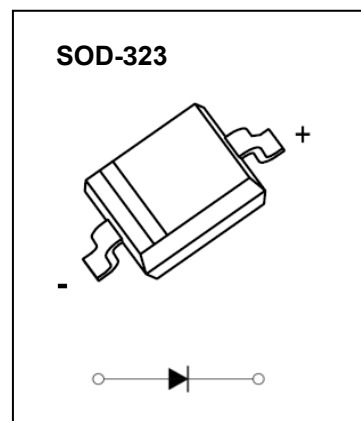


## SCHOTTKY BARRIER DIODE

## FEATURES

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

MARKING: S9

Maximum Ratings @ $T_a=25^{\circ}\text{C}$ 

| Parameter                                                                            | Symbol          | Limit           | Unit                 |
|--------------------------------------------------------------------------------------|-----------------|-----------------|----------------------|
| Peak repetitive peak reverse voltage                                                 | $V_{RRM}$       | 100             | V                    |
| Working peak reverse voltage                                                         | $V_{RWM}$       |                 |                      |
| Forward continuous current                                                           | $I_F$           | 150             | mA                   |
| Repetitive peak forward current (Note 1) @ $t_p < 1.0\text{s}$ , Duty Cycle $< 50\%$ | $I_{FRM}$       | 350             | mA                   |
| Non-repetitive Peak Forward surge current @ $t = 8.3\text{ms}$                       | $I_{FSM}$       | 750             | mA                   |
| Power dissipation                                                                    | $P_D$           | 200             | mW                   |
| Thermal resistance junction to ambient air                                           | $R_{\theta JA}$ | 500             | $^{\circ}\text{C/W}$ |
| Operating Junction Temperature Range                                                 | $T_j$           | $-40 \sim +125$ | $^{\circ}\text{C}$   |
| Storage Temperature Range                                                            | $T_{STG}$       | $-55 \sim +150$ | $^{\circ}\text{C}$   |

ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$  unless otherwise specified)

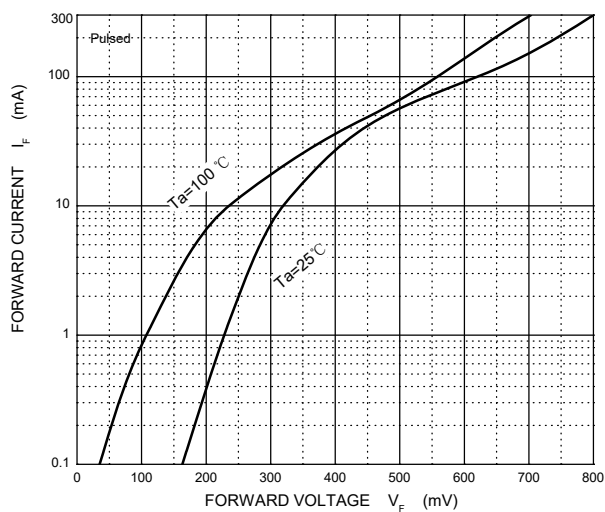
| Parameter                                     | Symbol                            | Test Conditions                   | Min | Typ | Max  | Unit          |
|-----------------------------------------------|-----------------------------------|-----------------------------------|-----|-----|------|---------------|
| Reverse breakdown voltage (Note 2、3)          | $V_R$                             | $I_R = 100\mu\text{A}$            | 100 |     |      | V             |
| Reverse voltage leakage current<br>(Note 2、3) | $I_R$                             | $V_{R1}=1.5\text{V}$              |     |     | 0.3  | $\mu\text{A}$ |
|                                               |                                   | $V_{R2}=10\text{V}$               |     |     | 0.5  |               |
|                                               |                                   | $V_{R3}=50\text{V}$               |     |     | 1    |               |
|                                               |                                   | $V_{R4}=75\text{V}$               |     |     | 2    |               |
|                                               | $I_R$<br>$T_j=60^{\circ}\text{C}$ | $V_{R1}=1.5\text{V}$              |     |     | 12   | $\mu\text{A}$ |
|                                               |                                   | $V_{R2}=10\text{V}$               |     |     | 20   |               |
|                                               |                                   | $V_{R3}=50\text{V}$               |     |     | 44   |               |
|                                               |                                   | $V_{R4}=75\text{V}$               |     |     | 80   |               |
| Forward voltage (Note 2、3)                    | $V_F$                             | $I_{F1}=0.1\text{mA}$             |     |     | 0.25 | V             |
|                                               |                                   | $I_{F2}=10\text{mA}$              |     |     | 0.45 |               |
|                                               |                                   | $I_{F3}=250\text{mA}$             |     |     | 1    |               |
| Diode capacitance                             | $C_T$                             | $V_R=0$ , $f=1\text{MHz}$         |     | 20  |      | pF            |
|                                               |                                   | $V_R=1\text{V}$ , $f=1\text{MHz}$ |     | 12  |      |               |

Notes: 1. Part mounted on FR-4 board with recommended pad layout.  
 2. Short duration pulse test used to minimize self-heating effect.  
 3. pulsed  $t_p \leq 300\mu\text{s}$ ;  $\delta \leq 0.02$ .

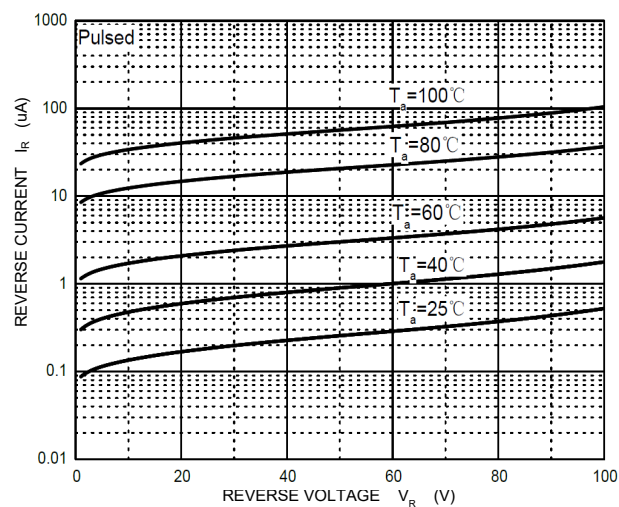


## Typical Characteristics

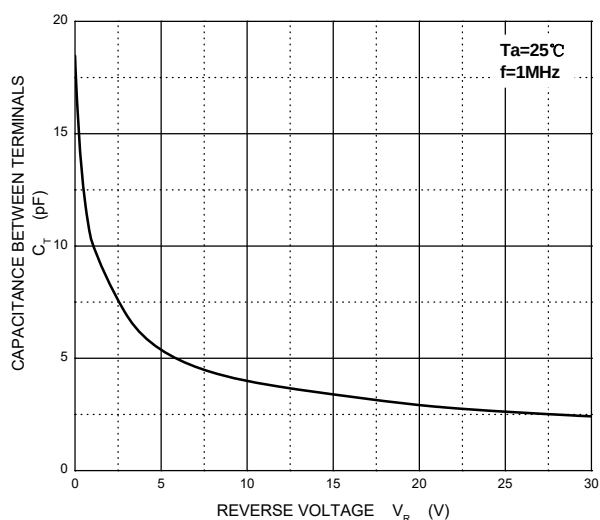
### Forward Characteristics



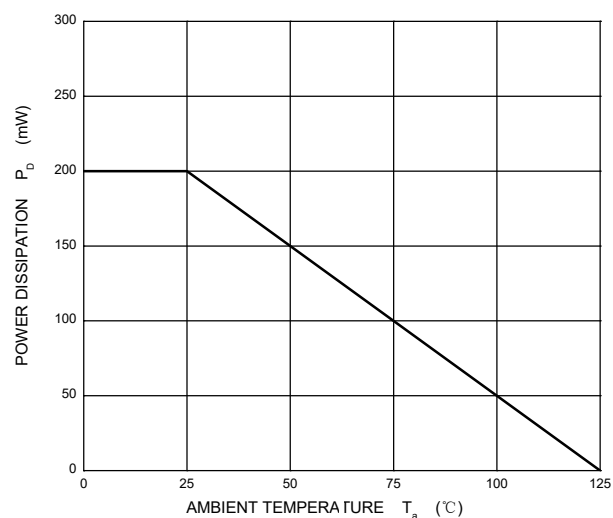
### Reverse Characteristics



### Capacitance Characteristics

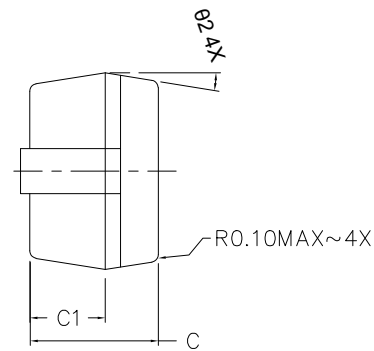
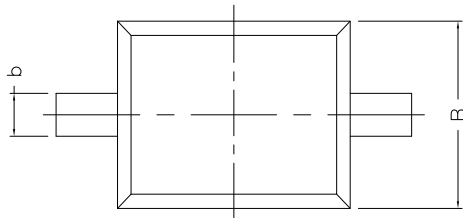
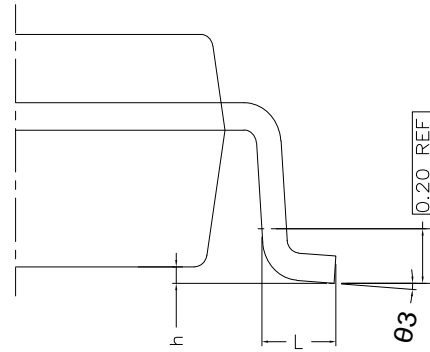
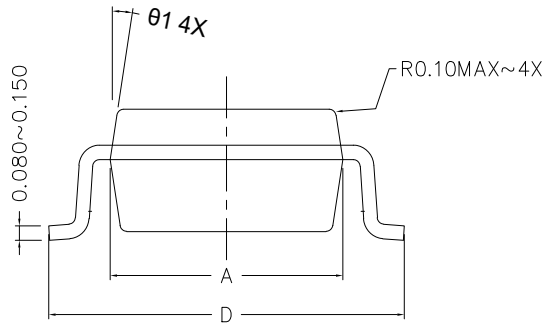


### Power Derating Curve





## SOD-323 Package Outline Dimensions (Units: mm)



| COMMON DIMENSIONS<br>(UNITS OF MEASURE IS mm) |         |        |       |
|-----------------------------------------------|---------|--------|-------|
|                                               | MIN     | NORMAL | MAX   |
| A                                             | 1.600   | 1.700  | 1.800 |
| B                                             | 1.200   | 1.300  | 1.400 |
| C                                             | 0.750   | 0.850  | 0.950 |
| C1                                            | 0.450   | 0.500  | 0.550 |
| D                                             | 2.450   | 2.600  | 2.750 |
| L                                             | 0.200   | 0.300  | 0.400 |
| b                                             | 0.200   | 0.300  | 0.400 |
| h                                             | 0.010   | 0.050  | 0.100 |
| 01                                            | 9° TYPE |        |       |
| 02                                            | 9° TYPE |        |       |
| 03                                            | 0° ~ 8° |        |       |