

**SOD-323**

**MARKING:S51**
**FEATURES**

- | Small surface mounting type
- | High speed
- | High reliability with high surge current handing capability

**Maximum Ratings and Electrical Characteristics, Single Diode @T<sub>A</sub>=25°C**

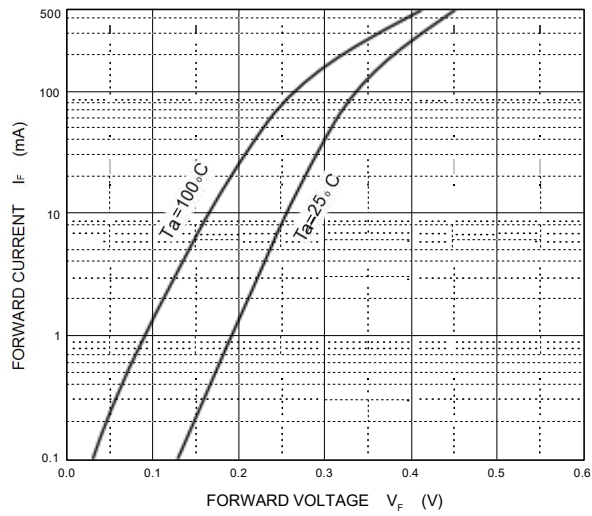
| Parameter                              | Symbol          | Limit      | Unit |
|----------------------------------------|-----------------|------------|------|
| Peak reverse voltage                   | $V_{RM}$        | 25         | V    |
| DC reverse voltage                     | $V_R$           | 20         | V    |
| Average rectified output current       | $I_O$           | 300        | mA   |
| Peak forward current                   | $I_{FM}$        | 700        | mA   |
| Power dissipation                      | $P_D$           | 200        | mW   |
| Thermal resistance junction to ambient | $R_{\theta JA}$ | 500        | °C/W |
| Operating Junction Temperature Range   | $T_J$           | -40 ~ +125 | °C   |
| Storage Temperature Range              | $T_{stg}$       | -55 ~ +150 | °C   |

**Electrical Ratings @T<sub>A</sub>=25°C**

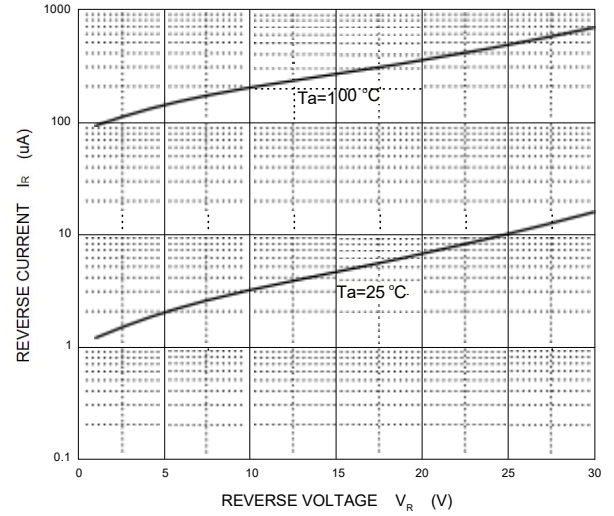
| Parameter                     | Symbol   | Min | Typ  | Max  | Unit | Conditions       |
|-------------------------------|----------|-----|------|------|------|------------------|
| Forward voltage               | $V_{F1}$ |     | 0.16 |      | V    | $I_F=1mA$        |
|                               | $V_{F2}$ |     | 0.22 |      | V    | $I_F=10mA$       |
|                               | $V_{F3}$ |     | 0.38 | 0.45 | V    | $I_F=300mA$      |
| Reverse current               | $I_R$    |     |      | 50   | μA   | $V_R=20V$        |
| Capacitance between terminals | $C_T$    |     | 46   |      | pF   | $V_R=0V, f=1MHZ$ |

## Typical Characteristics

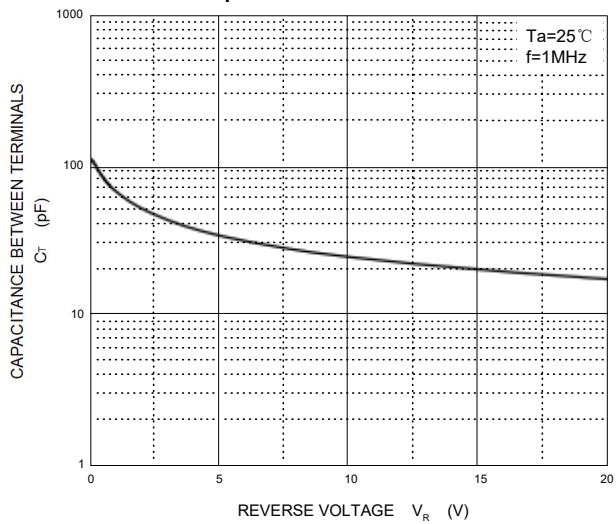
**Forward Characteristics**



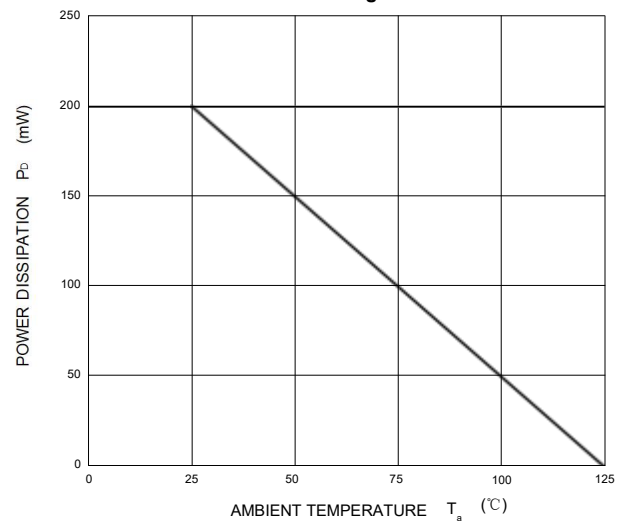
**Reverse Characteristics**

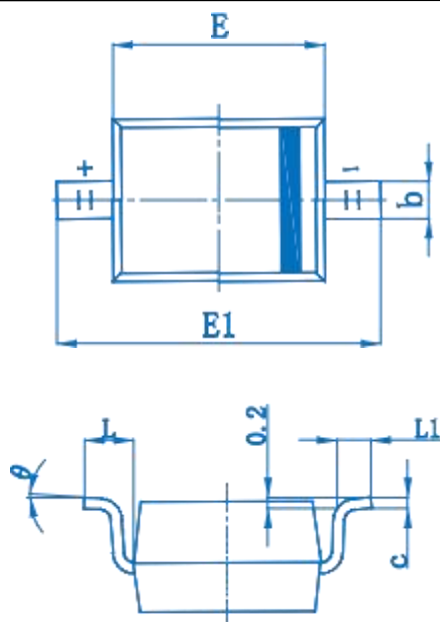


**Capacitance Characteristics**

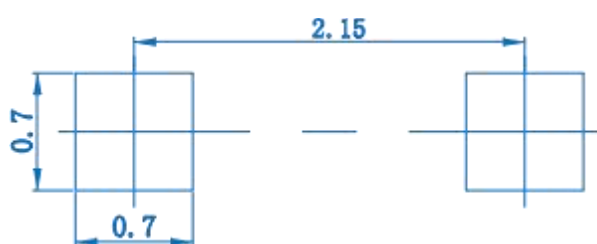


**Power Derating Curve**



**SOD-323 Package Outline Dimensions**


| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      |                           | 1.100 |                      | 0.043 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.800                     | 1.000 | 0.031                | 0.039 |
| b      | 0.250                     | 0.350 | 0.010                | 0.014 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 1.200                     | 1.400 | 0.047                | 0.055 |
| E      | 1.600                     | 1.800 | 0.063                | 0.071 |
| E1     | 2.500                     | 2.750 | 0.098                | 0.108 |
| L      | 0.475 REF                 |       | 0.019 REF            |       |
| L1     | 0.250                     | 0.400 | 0.010                | 0.016 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |

**SOD-323 Suggested Pad Layout**

**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.