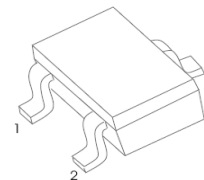
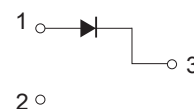


## SWITCHING DIODE

## FEATURES

- Fast Switching Speed
- For General Purpose Switching Applications
- High Conductance

## MARKING:



SOT-523

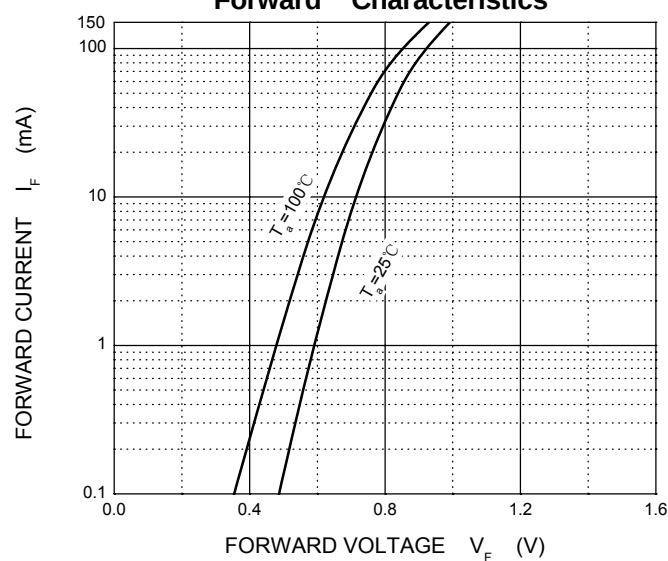
## Maximum Ratings and Electrical Characteristics, Single Diode @Ta=25°C

| Parameter                                          | Symbol          | Limit    | Unit |
|----------------------------------------------------|-----------------|----------|------|
| Non-Repetitive Peak Reverse Voltage                | $V_{RM}$        | 100      | V    |
| Peak Repetitive Peak Reverse Voltage               | $V_{RRM}$       | 75       | V    |
| Working Peak Reverse Voltage                       | $V_{RWM}$       |          |      |
| DC Blocking Voltage                                | $V_R$           |          |      |
| RMS Reverse Voltage                                | $V_{R(RMS)}$    | 53       | V    |
| Forward Continuous Current                         | $I_{FM}$        | 300      | mA   |
| Average Rectified Output Current                   | $I_O$           | 150      | mA   |
| Non-Repetitive Peak Forward Surge Current @t=8.3ms | $I_{FSM}$       | 2.0      | A    |
| Power Dissipation                                  | $P_d$           | 200      | mW   |
| Thermal Resistance Junction to Ambient             | $R_{\theta JA}$ | 625      | °C/W |
| Operation Junction and Storage Temperature Range   | $T_J, T_{STG}$  | -55~+150 | °C   |

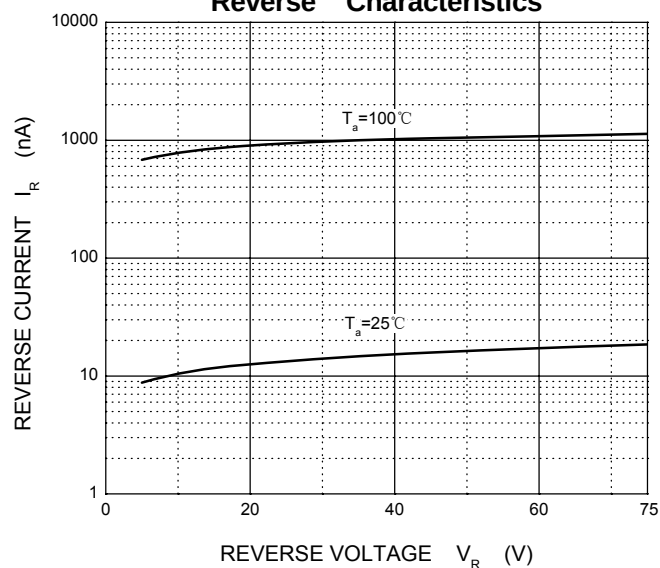
## Electrical Ratings @Ta=25°C

| Parameter                     | Symbol     | Min | Typ | Max   | Unit    | Conditions                                               |
|-------------------------------|------------|-----|-----|-------|---------|----------------------------------------------------------|
| Reverse breakdown voltage     | $V_{(BR)}$ | 75  |     |       | V       | $I_R=1\mu A$                                             |
| Forward voltage               | $V_{F1}$   |     |     | 0.715 | V       | $I_F=1mA$                                                |
|                               | $V_{F2}$   |     |     | 0.855 | V       | $I_F=10mA$                                               |
|                               | $V_{F3}$   |     |     | 1.0   | V       | $I_F=50mA$                                               |
|                               | $V_{F4}$   |     |     | 1.25  | V       | $I_F=150mA$                                              |
| Reverse current               | $I_{R1}$   |     |     | 1     | $\mu A$ | $V_R=75V$                                                |
|                               | $I_{R2}$   |     |     | 25    | nA      | $V_R=20V$                                                |
| Capacitance between terminals | $C_T$      |     |     | 2     | pF      | $V_R=0V, f=1MHz$                                         |
| Reverse recovery time         | $t_{rr}$   |     |     | 4     | ns      | $I_F=I_R=10mA$<br>$I_{rr}=0.1 \times I_R, R_L=100\Omega$ |

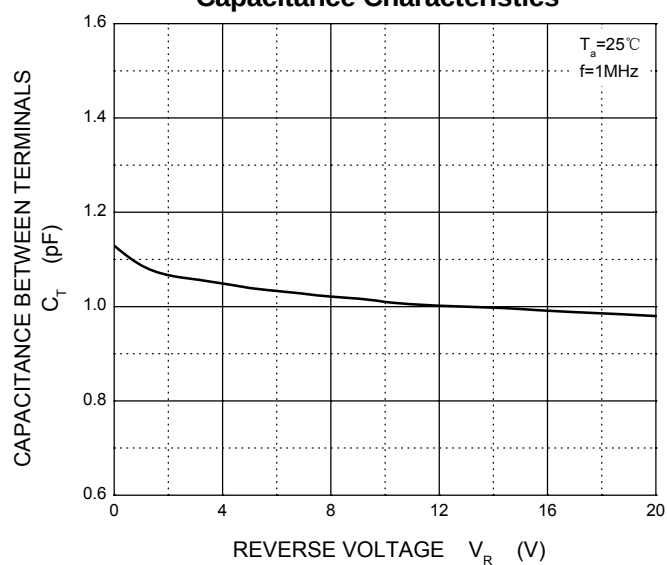
### Forward Characteristics



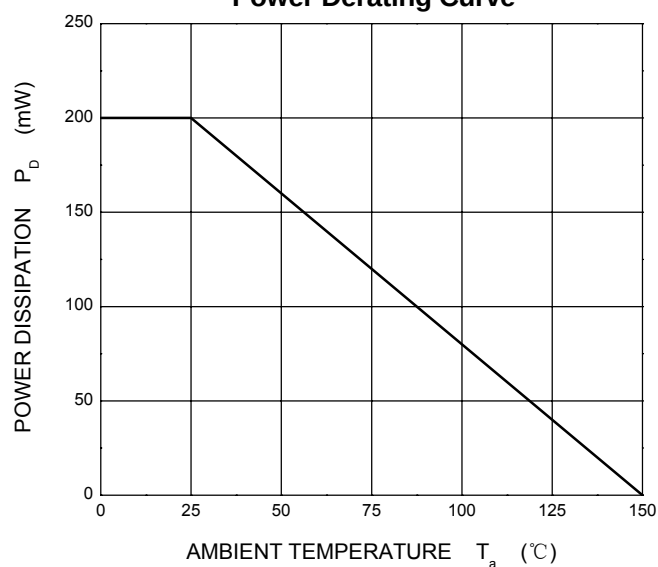
### Reverse Characteristics



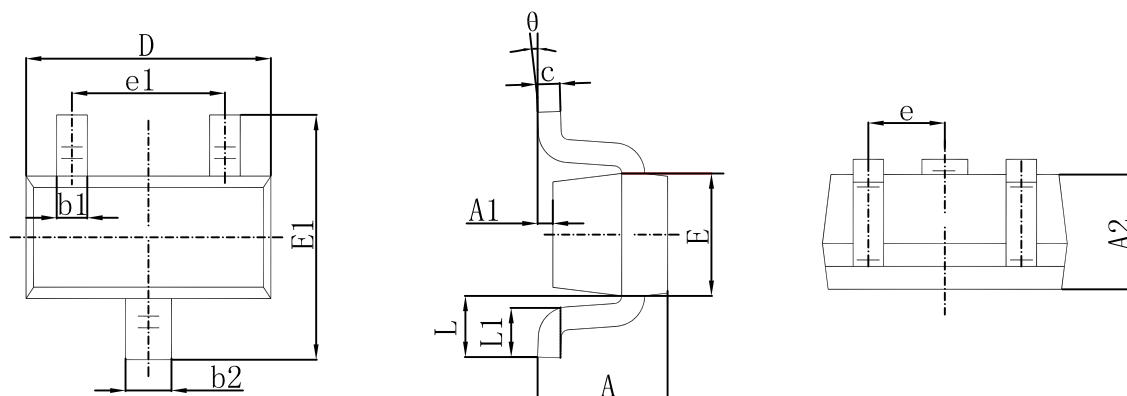
### Capacitance Characteristics



### Power Derating Curve

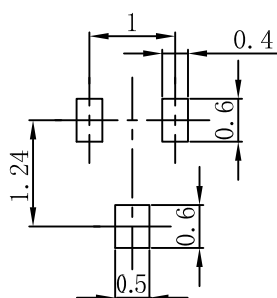


### SOT-523 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min.                      | Max.  | Min.                 | Max.  |
| A      | 0.700                     | 0.900 | 0.028                | 0.035 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.700                     | 0.800 | 0.028                | 0.031 |
| b1     | 0.150                     | 0.250 | 0.006                | 0.010 |
| b2     | 0.250                     | 0.350 | 0.010                | 0.014 |
| c      | 0.100                     | 0.200 | 0.004                | 0.008 |
| D      | 1.500                     | 1.700 | 0.059                | 0.067 |
| E      | 0.700                     | 0.900 | 0.028                | 0.035 |
| E1     | 1.450                     | 1.750 | 0.057                | 0.069 |
| e      | 0.500 TYP.                |       | 0.020 TYP.           |       |
| e1     | 0.900                     | 1.100 | 0.035                | 0.043 |
| L      | 0.400 REF.                |       | 0.016 REF.           |       |
| L1     | 0.260                     | 0.460 | 0.010                | 0.018 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |

### SOT-523 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.