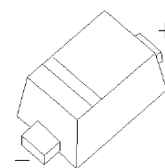


## Features

- Low reverse current
- Fast switching speed



SOD-523



Schematic Diagram

## Absolute Maximum Ratings

(T<sub>A</sub>=25°C unless otherwise noted)

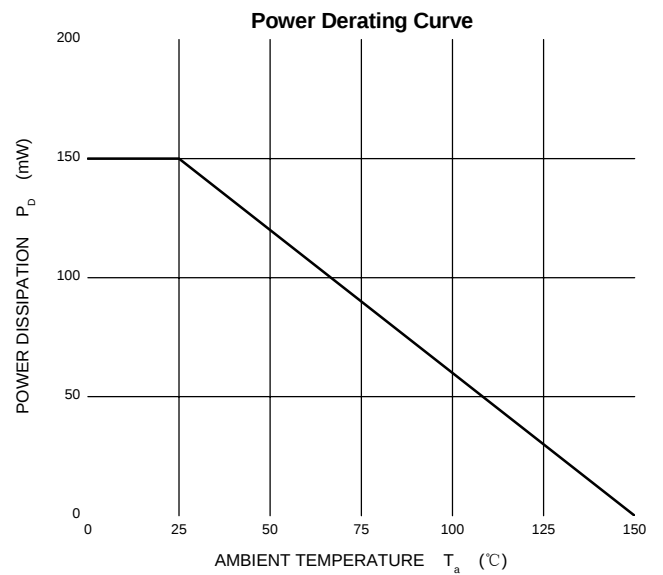
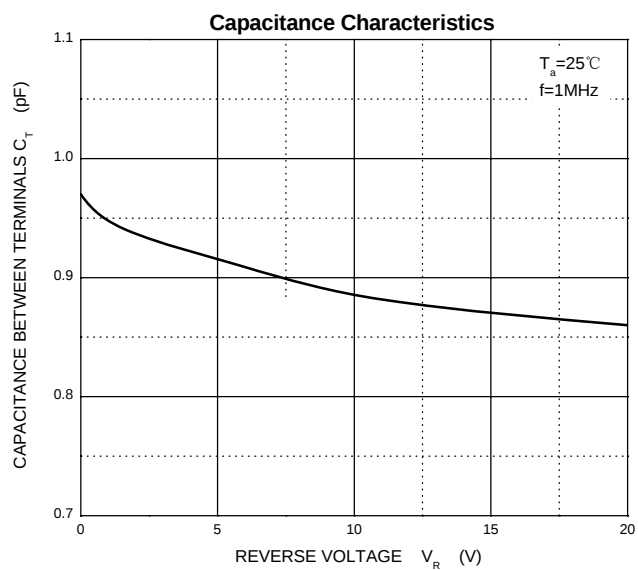
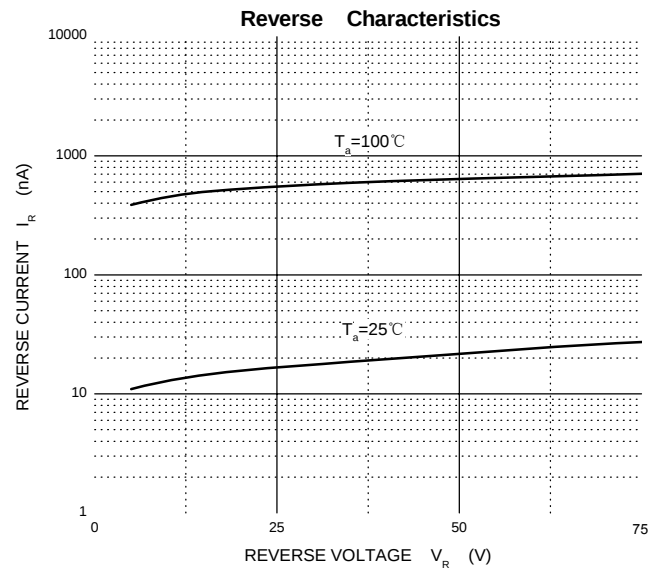
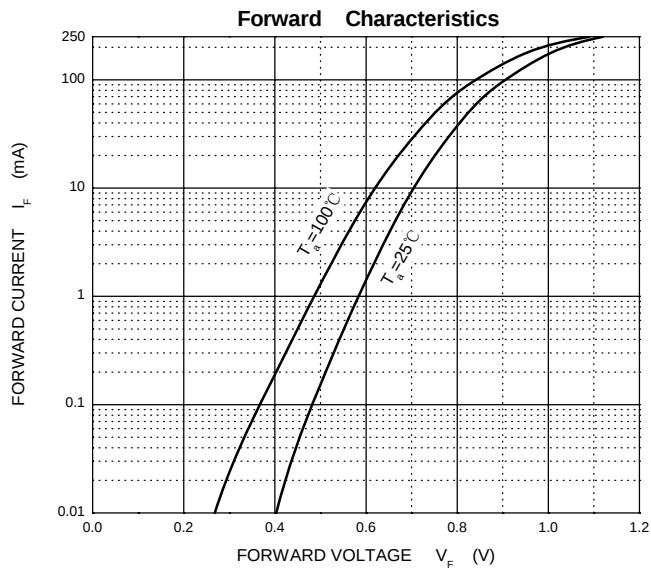
| Parameter                                          | Symbol              | Rating      | Unit |
|----------------------------------------------------|---------------------|-------------|------|
| Non-Repetitive Peak Reverse Voltage                | V <sub>RM</sub>     | 100         | V    |
| Peak Repetitive Reverse Voltage                    | V <sub>RRM</sub>    | 75          | V    |
| Working Peak Reverse Voltage                       | V <sub>RWM</sub>    | 75          | V    |
| RMS Reverse Voltage                                | V <sub>R(RMS)</sub> | 53          | V    |
| Average Rectified Output Current                   | I <sub>O</sub>      | 250         | mA   |
| Non-Repetitive Peak Forward Surge Current @t=8.3ms | I <sub>FSM</sub>    | 2           | A    |
| Power Dissipation                                  | P <sub>D</sub>      | 150         | mW   |
| Thermal Resistance from Junction to Ambient        | R <sub>ΘJA</sub>    | 833         | °C/W |
| Junction Temperature                               | T <sub>J</sub>      | -55 to +150 | °C   |
| Storage Temperature                                | T <sub>STG</sub>    | -55 to +150 | °C   |

## Electrical Characteristics

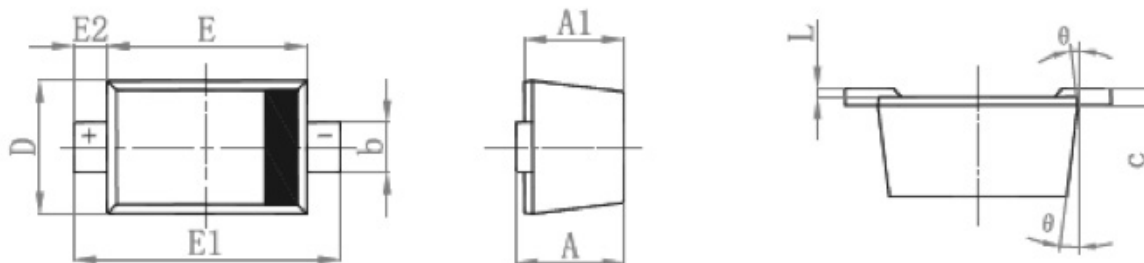
(T<sub>A</sub>=25°C unless otherwise noted)

| Parameter             | Symbol            | Test Condition                                                                                     | Min | Typ. | Max   | Unit |
|-----------------------|-------------------|----------------------------------------------------------------------------------------------------|-----|------|-------|------|
| Reverse Voltage       | V <sub>(BR)</sub> | I <sub>R</sub> =100μA                                                                              | 75  | --   | --    | V    |
| Reverse Current       | I <sub>R</sub>    | V <sub>R</sub> =25V                                                                                | --  | --   | 30    | nA   |
|                       |                   | V <sub>R</sub> =75V                                                                                | --  | --   | 1     | μA   |
| Forward Voltage       | V <sub>F</sub>    | I <sub>F</sub> =1mA                                                                                | --  | --   | 0.715 | V    |
|                       |                   | I <sub>F</sub> =10mA                                                                               | --  | --   | 0.855 | V    |
|                       |                   | I <sub>F</sub> =50mA                                                                               | --  | --   | 1     | V    |
|                       |                   | I <sub>F</sub> =150mA                                                                              | --  | --   | 1.25  | V    |
| Total Capacity        | C <sub>tot</sub>  | V <sub>R</sub> =0V, f=1MHz                                                                         | --  | --   | 1     | pF   |
| Reverse Recovery Time | t <sub>rr</sub>   | I <sub>F</sub> =I <sub>R</sub> =10mA,<br>I <sub>R</sub> =0.1*I <sub>R</sub> , R <sub>L</sub> =100Ω | --  | --   | 4     | nS   |

### Typical Characteristic Curves

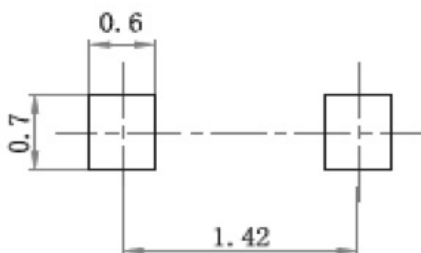


## Package Outline Dimensions SOD-523



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 0.510                     | 0.770 | 0.020                | 0.031 |
| A1     | 0.500                     | 0.700 | 0.020                | 0.028 |
| b      | 0.250                     | 0.350 | 0.010                | 0.014 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 0.750                     | 0.850 | 0.030                | 0.033 |
| E      | 1.100                     | 1.300 | 0.043                | 0.051 |
| E1     | 1.500                     | 1.700 | 0.059                | 0.067 |
| E2     | 0.200 REF                 |       | 0.008 REF            |       |
| L      | 0.010                     | 0.070 | 0.001                | 0.003 |
| θ      | 7° REF                    |       | 7° REF               |       |

## Recommended Pad Layout



Note:

1. Controlling dimension: in millimeters
2. General tolerance: 0.05mm
3. The pad layout is for reference purpose only