

## Features

- Low Forward Voltage Drop
- Surface Mount Package Ideally Suited For Automatic Insertion



SOD-523 top view



Schematic diagram



Marking and pin assignment



Pb-Free



Halogen-Free

## Maximum Ratings( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol          | Parameter                                                    | Value     | Unit                 |
|-----------------|--------------------------------------------------------------|-----------|----------------------|
| $V_R$           | DC Blocking Voltage                                          | 20        | V                    |
| $V_{RRM}$       | Working Peak Reverse Voltage                                 |           |                      |
| $V_{RWM}$       | DC Blocking Voltage                                          |           |                      |
| $I_{FM}$        | Forward Continuous Current                                   | 1.0       | A                    |
| $V_{R(RMS)}$    | RMS Reverse Voltage                                          | 14        | V                    |
| $I_{FSM}$       | Non-Repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$ | 4         | A                    |
| $P_D$           | Power Dissipation                                            | 150       | mW                   |
| $R_{\theta JA}$ | Thermal Resistance Junction to Ambient                       | 667       | $^{\circ}\text{C/W}$ |
| $T_J$           | Operating Junction Temperature Range                         | -40~ +125 | $^{\circ}\text{C}$   |
| $T_{STG}$       | Operating and Storage Temperature Range                      | -55~ +150 | $^{\circ}\text{C}$   |

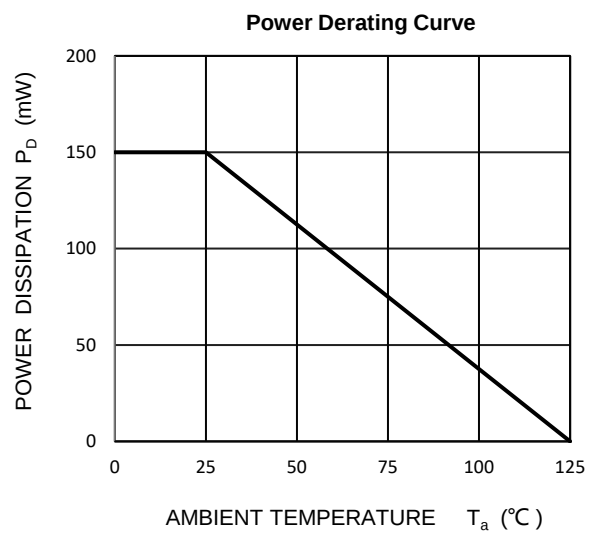
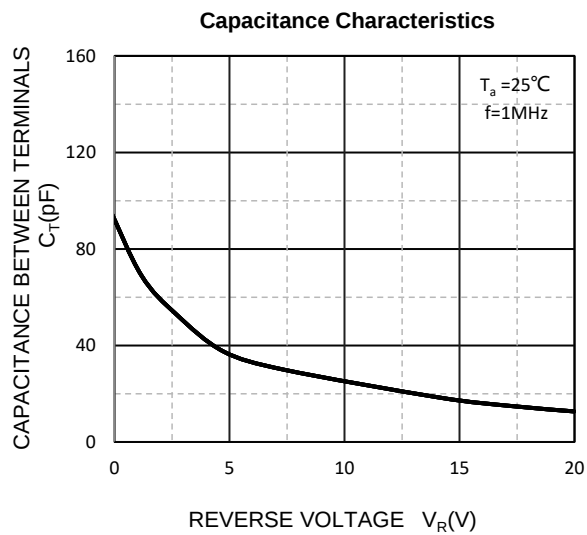
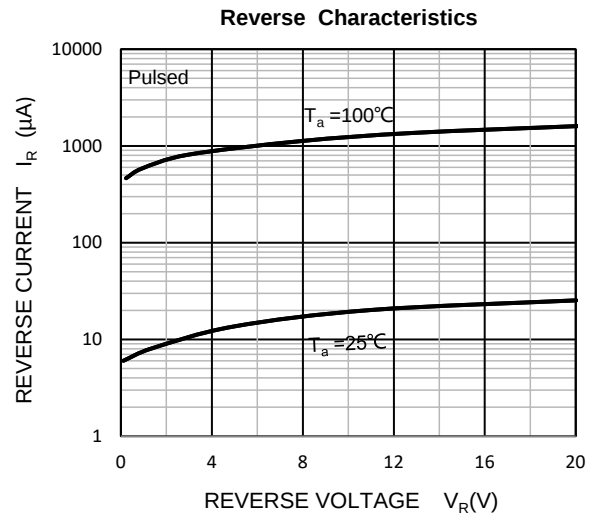
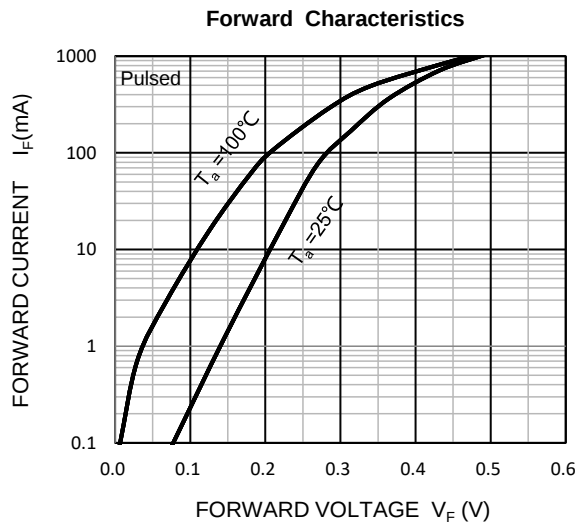
## ELECTRICAL CHARACTERISTICS( $T_a=25^{\circ}\text{C}$ unless otherwise specified)

| Symbol     | Parameter                         | Condition                      | Min | Typ | Max   | Unit          |
|------------|-----------------------------------|--------------------------------|-----|-----|-------|---------------|
| $V_{(BR)}$ | Minimum reverse breakdown voltage | $I_R=250\mu\text{A}$           | 20  | --  | --    | V             |
| $I_R$      | Reverse current                   | $V_R=10\text{V}$               | --  | --  | 80    | $\mu\text{A}$ |
|            |                                   | $V_R=20\text{V}$               | --  | --  | 100   | $\mu\text{A}$ |
| $V_F$      | Forward voltage                   | $I_F=10\text{mA}$              | --  | --  | 0.230 | V             |
|            |                                   | $I_F=100\text{mA}$             | --  | --  | 0.305 |               |
|            |                                   | $I_F=1\text{A}$                | --  | --  | 0.500 |               |
| $C_T$      | Capacitance between terminals     | $V_R=0\text{V}, f=1\text{MHz}$ | --  | --  | 120   | pF            |

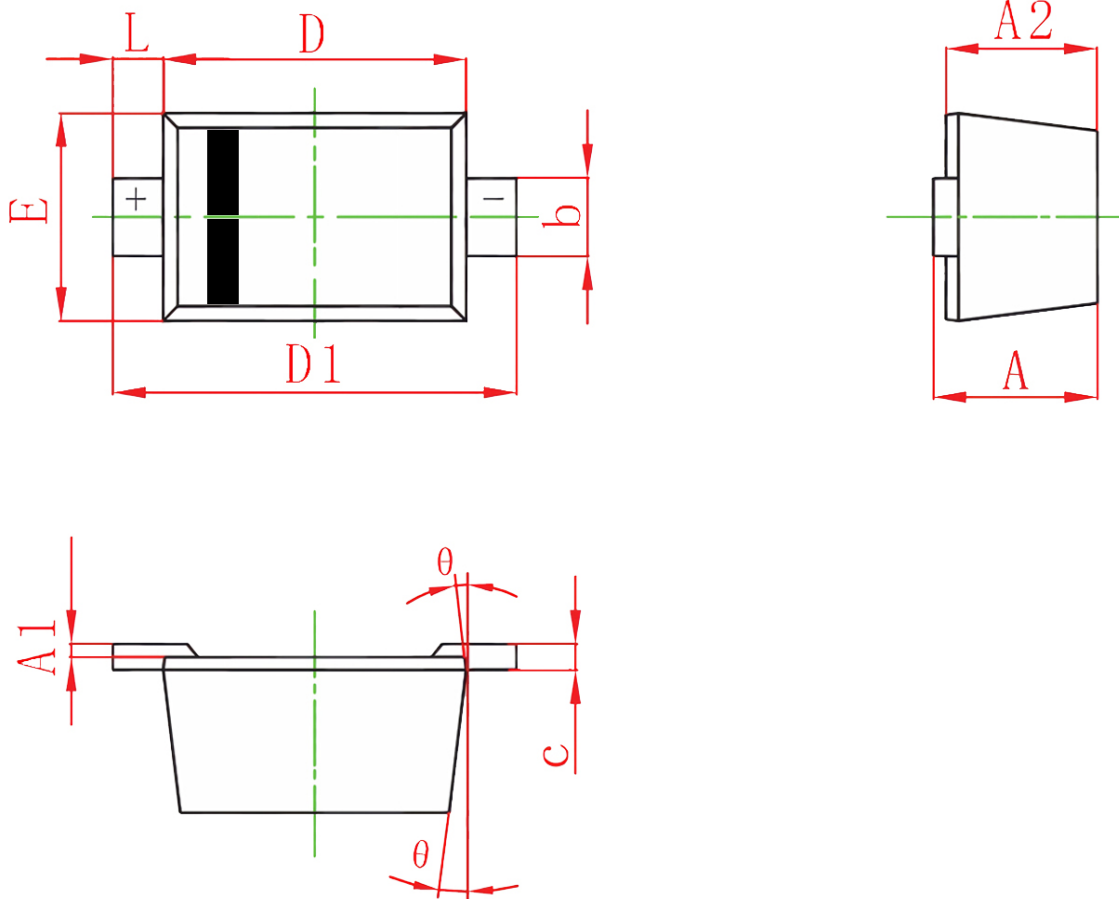
## Ordering Information (Example)

| Type   | Package | Marking | Minimum Package(pcs) | Inner Box Quantity(pcs) | Outer Carton Quantity(pcs) | Delivery Mode |
|--------|---------|---------|----------------------|-------------------------|----------------------------|---------------|
| B1020X | SOD-523 | L6      | 3,000                | 45,000                  | 180,000                    | 7" reel       |

## Typical Operating Characteristics



SOD-523 Package information



| Symbol   | Dimensions in Millimeters(mm) |       | Dimensions In Inches |       |
|----------|-------------------------------|-------|----------------------|-------|
|          | Min                           | Max   | Min                  | Max   |
| A        | 0.510                         | 0.770 | 0.020                | 0.030 |
| A1       | 0.010                         | 0.070 | 0.000                | 0.003 |
| A2       | 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        | 1.100                         | 1.300 | 0.043                | 0.051 |
| D1       | 1.500                         | 1.700 | 0.059                | 0.067 |
| E        | 0.750                         | 0.850 | 0.030                | 0.033 |
| L        | 0.200 REF                     |       | 0.008 REF            |       |
| $\theta$ | 7°REF                         |       | 7°REF                |       |