

## FEATURES

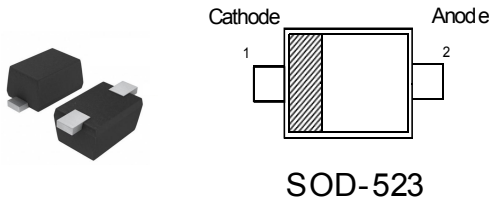
Low Forward Voltage

VOLTAGE RANGE

40.0 Volts

CURRENT

0.35Ampere



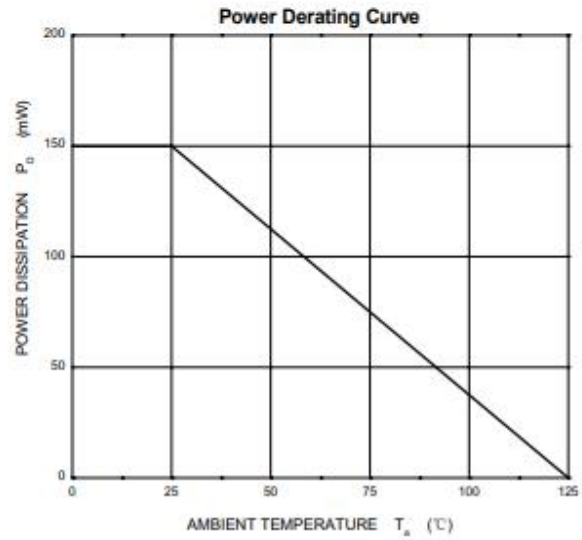
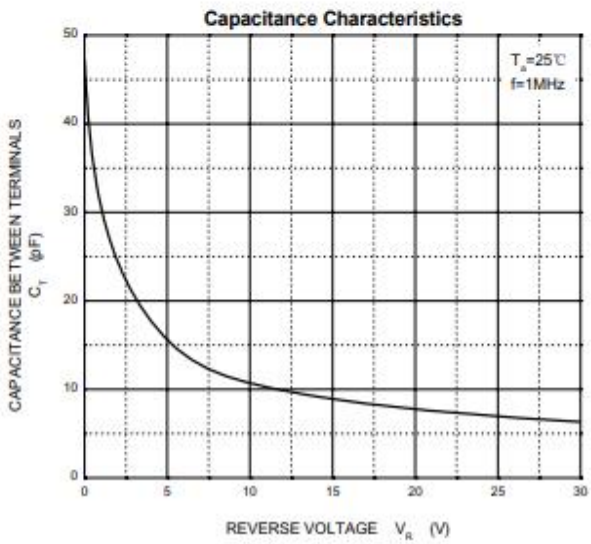
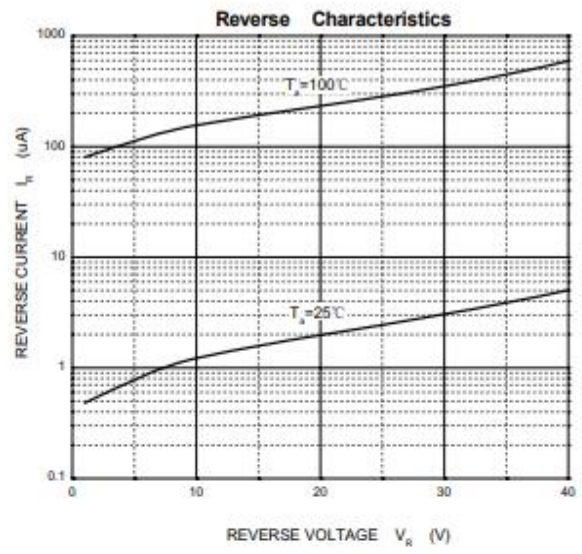
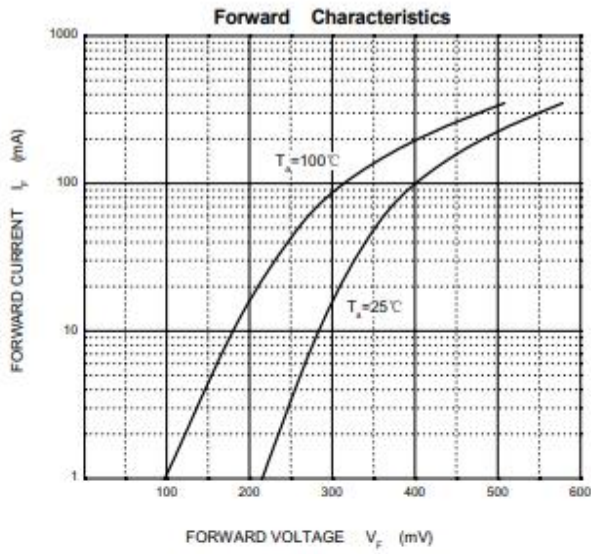
## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.  
Single phase half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| Parameter  | Symbol         | Value         | Unit |
|--|----------------|---------------|------|
| Peak Repetitive Reverse Voltage                        | $V_{RRM}$      | 40            | V    |
| Reverse Voltage  | $V_R$          | 40            | V    |
| Average Forward Rectified Current                      | $I_{F(AV)}$    | 350           | mA   |
| Non-Repetitive Peak Forward Surge Current at $t = 1$ s | $I_{FSM}$      | 2             | A    |
| Power Dissipation                                      | $P_{tot}$      | 200           | mW   |
| Operating and Storage Temperature Range                | $T_j, T_{stg}$ | - 65 to + 125 | °C   |

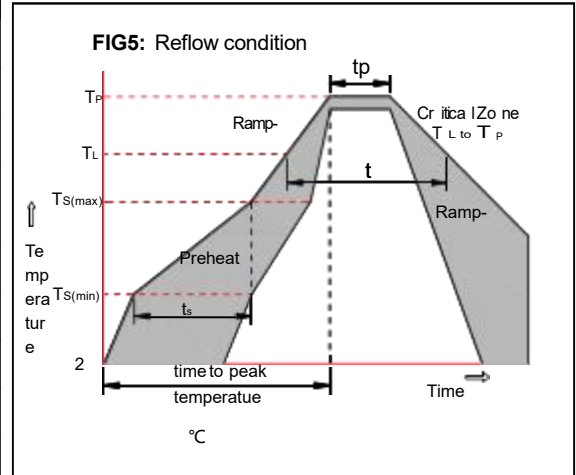
| Parameter   | Symbol      | Min. | Typ. | Max.        | Unit    |
|---|-------------|------|------|-------------|---------|
| Reverse Breakdown Voltage<br>at $I_R=10\mu A$                             | $V_{(BR)R}$ | 40   | -    | -           | V       |
| Reverse Leakage Current<br>at $V_R=30V$<br>at $V_R=20V$<br>at $V_R=10V$   | $I_R$       | -    | -    | 5           | $\mu A$ |
| Forward Voltage<br>at $I_F=20mA$<br>at $I_F=200mA$                        | $V_F$       | -    | -    | 0.37<br>0.6 | V       |
| Total Capacitance<br>at $V_R=0V, f=1MHz$                                  | $C_T$       | -    | 50   | -           | pF      |
| Reverse Recovery Time<br>at $I_F=I_R=200mA, I_{rr}=0.1I_R, R_L=100\Omega$ | $t_{rr}$    | -    | 10   | -           | ns      |

RATING AND CHARACTERISTIC CURVES



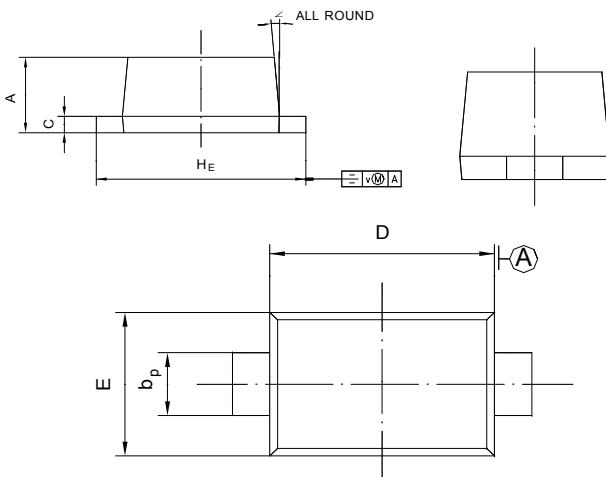
Soldering parameters

| Reflow Condition  |                                   | Pb-Free assembly<br>(see as below) |
|---|-----------------------------------|------------------------------------|
| Pre Heat  | -Temperature Min ( $T_{s(min)}$ ) | +150°C                             |
|   | -Temperature Max( $T_{s(max)}$ )  | +200°C                             |
|   | -Time (Min to Max) (ts)           | 60-180 secs.                       |
| Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak) |                                   | 3°C/sec. Max                       |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                    |                                   | 3°C/sec. Max                       |
| Reflow  | -Temperature( $T_L$ )(Liquid us)  | +217°C                             |
|   | -Temperature( $t_L$ )             | 60-150 secs.                       |
| Peak Temp ( $T_P$ )                                     |                                   | +260(+0/-5)°C                      |
| Time within 5°C of actual Peak Temp ( $t_p$ )           |                                   | 30 secs. Max                       |
| Ramp-down Rate  |                                   | 6°C/sec. Max                       |
| Time 25°C to Peak Temp ( $T_P$ )                        |                                   | 8 min. Max                         |
| Do not exceed   |                                   | +260°C                             |

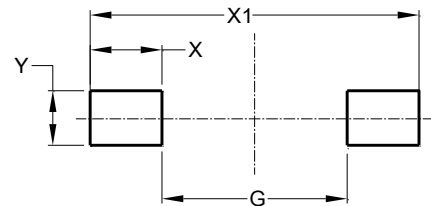


Package Dimensions & Suggested Pad Layout

SOD523



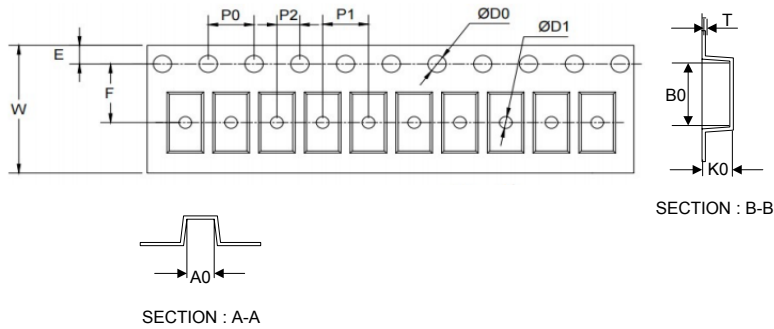
| UNIT | A            | $b_P$        | C            | D            | E            | $H_E$        | V   | ∠  |
|------|--------------|--------------|--------------|--------------|--------------|--------------|-----|----|
| mm   | 0.70<br>0.50 | 0.40<br>0.20 | 0.14<br>0.05 | 1.30<br>1.10 | 0.90<br>0.75 | 1.70<br>1.50 | 0.1 | 5° |



| Dimensions | Value (in mm) |
|------------|---------------|
| G          | 0.85          |
| X          | 0.70          |
| X1         | 2.25          |
| Y          | 0.80          |

Tape & reel specification

Tape



| Symbol            | Dimension (mm) |
|-------------------|----------------|
| P0                | 4.00±0.20      |
| P1                | 2.00±0.20      |
| P2                | 2.00±0.20      |
| D0                | 1.55±0.20      |
| D1                | 0.50±0.20      |
| E                 | 1.55±0.25      |
| F                 | 3.60±0.20      |
| W                 | 8.00±0.20      |
| A0                | 1.30±0.20      |
| B0                | 2.35±0.20      |
| K0                | 0.95±0.20      |
| T                 | 0.20±0.20      |
| D2                | 177.0±5.0      |
| D3                | 55Min.         |
| D4                | R24.6±2.0      |
| G                 | R82.0±2.0      |
| I                 | 13.0±2.0       |
| W1                | 10.20±3.0      |
| Quantity: 3000PCS |                |

7" Reel

