# SOD-523 Surface Mount Schottky Barrier Rectifier

## Features

- $V_R$=30V
- $I_{F(AV)}$=0.2A
- Power Dissipation of 150mW
- High Current Capability
- Low Forward Voltage Drop
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

**Reverse Voltage**
30 V
**Forward Current**
0.2 Ampere

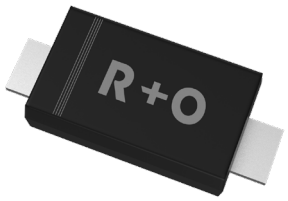
## Applications

For use in low voltage high frequency circuit signals.

## Mechanical Data

- Case: SOD-523
  Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026
- Polarity: Cathode line denotes the cathode end

**SOD-523**




## Function Diagram


## Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | VALUE |
|---|---|---|---|
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | V | 30 |
| Maximum RMS Voltage | $V_{RMS}$ | V | 21 |
| Maximum DC blocking voltage | $V_{DC}$ | V | 30 |
| Maximum average forward rectified current | $I_{F(AV)}$ | A | 0.2 |
| Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave | $I_{FSM}$ | A | 1.0 |
| Power Dissipation | $P_D$ | mW | 150 |
| Junction Temperature | $T_j$ | °C | 125 |
| Storage temperature range | $T_{STG}$ | °C | -55 ~+150 |
| Typical thermal resistance | $R_{\theta JA}$ | °C /W | 667 |

## Electrical Characteristics (Ta=25°C Unless otherwise noted)

| PARAMETER | TEST CONDITIONS | SYMBOL | UNIT | Min | Type | Max |
|---|---|---|---|---|---|---|
| Maximum forward voltage | $I_F$=200mA | $V_F$ | V | — | — | 0.6 |
| Maximum reverse current | $V_R$=10V | $I_R$ | μA | — | — | 1.0 |

## Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

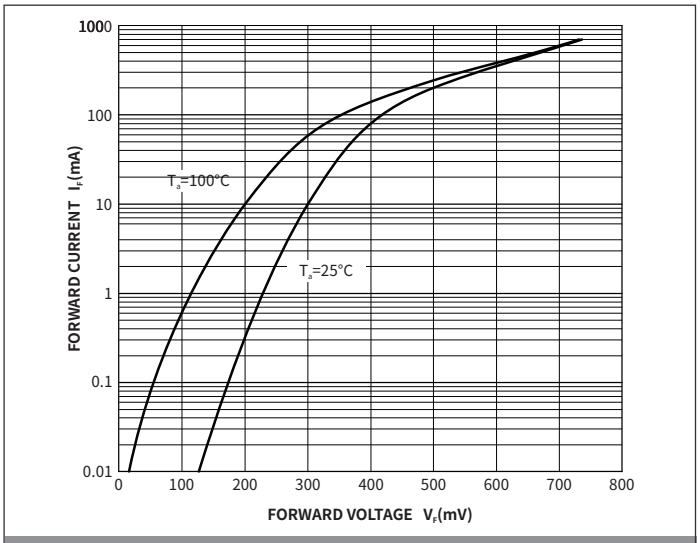



Fig.1 Typical Instaneous Forward Characteristics

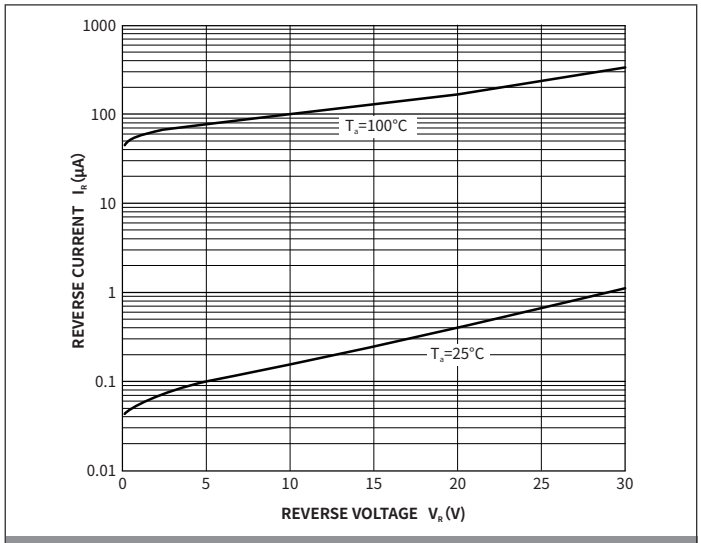



Fig.2 Typical Reverse Characteristics

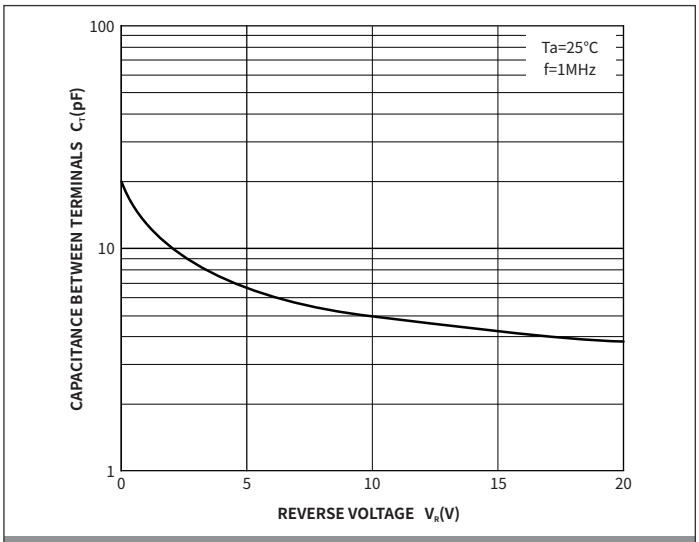



Fig.3 Typical Junction Capacitance

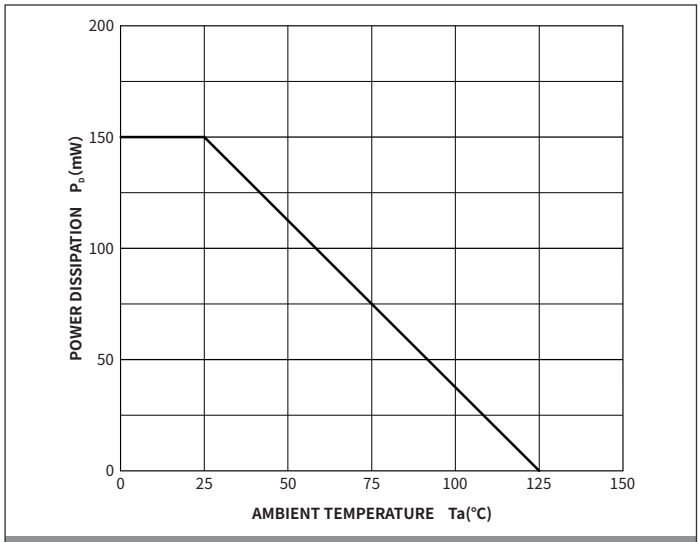
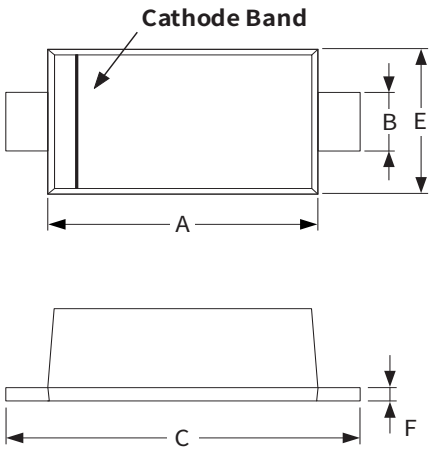



Fig.4 Power Derating Curve

## Ordering Information

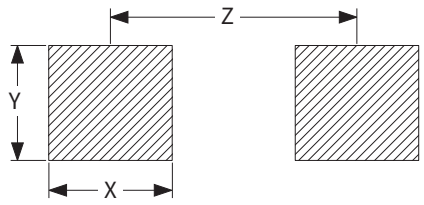
| PACKAGE | PACKAGE CODE | UNIT WEIGHT(g) | REEL(pcs) | BOX(pcs) | CARTON(pcs) | DELIVERY MODE |
|---|---|---|---|---|---|---|
| SOD-523 | R1 | 0.002 | 3000 | 45000 | 180000 | 7" |

## Package Outline Dimensions (SOD-523)




| Symbol | Dimensions | | | |
|---|---|---|---|---|
| | Millimeters | | Inches | |
| | Min | Max | Min | Max |
| A | 1.10 | 1.30 | 0.043 | 0.051 |
| B | 0.25 | 0.35 | 0.010 | 0.014 |
| C | 1.50 | 1.70 | 0.059 | 0.067 |
| D | 0.50 | 0.70 | 0.020 | 0.027 |
| E | 0.70 | 0.90 | 0.027 | 0.035 |
| F | 0.05 | 0.20 | 0.002 | 0.008 |

## Suggested Pad Layout




| Symbol | Dimensions | | | |
|---|---|---|---|---|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| X | 0.55 | 0.65 | 0.022 | 0.026 |
| Y | 0.65 | 0.75 | 0.026 | 0.029 |
| Z | 1.37 | 1.47 | 0.054 | 0.058 |