# Schottky Barrier Diode
# B0540WS

## Features

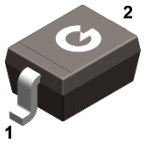
- High conductance
- Low forward voltage drop
- Guard ring construction for transient
- RoHS compliant with Halogen-free

HF

## Mechanical Data

- Case: SOD-323
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208




SOD-323

## Ordering Information

| Part Number | Package | Shipping Quantity | Marking Code |
|---|---|---|---|
| B0540WS | SOD-323 | 3000 pcs / Tape & Reel | SF |

## Maximum Ratings (@ $T_A$ = 25℃ unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Peak Repetitive Reverse Voltage | $V_{RRM}$ | 40 | V |
| Working Peak Reverse Voltage | $V_{RWM}$ | 40 | V |
| DC Reverse Voltage | $V_R$ | 40 | V |
| RMS Reverse Voltage | $V_{RMS}$ | 28 | V |
| Maximum Average Forward Output Current | $I_{F(AV)}$ | 0.5 | A |
| Peak Forward Surge Current (8.3ms single half sine-wave) | $I_{FSM}$ | 2 | A |

## Thermal Characteristics

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Power Dissipation ($T_A$ = 25°C) | $P_D$ | 235 | mW |
| Thermal Resistance Junction-to-Air | $R_{\theta JA}$ | 426 | °C/W |
| Operating Junction Temperature | $T_J$ | -55 ~ +125 | °C |
| Storage Temperature Range | $T_{STG}$ | -55 ~ +125 | °C |

## Electrical Characteristics (@ $T_A$ = 25°C unless otherwise specified)

| Parameter | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Reverse Breakdown Voltage | $V_{(BR)}$ | $I_R$ = 20μA | 40 | - | - | V |
| Forward Voltage | $V_F$ | $I_F$ = 0.5A, $T_J$ = 25°C | - | - | 0.51 | V |
| | | $I_F$ = 1A, $T_J$ = 25°C | - | - | 0.62 | V |
| Maximum Peak Reverse Current | $I_R$ | $V_R$ = 20V, $T_J$ = 25°C | - | - | 10 | μA |
| | | $V_R$ = 40V, $T_J$ = 25°C | - | - | 20 | μA |
| Diode capacitance | $C_J$ | $V_R$ = 0V, f = 1MHz | - | - | 170 | pF |

## Ratings and Characteristic Curves (@ $T_A$ = 25℃ unless otherwise specified)

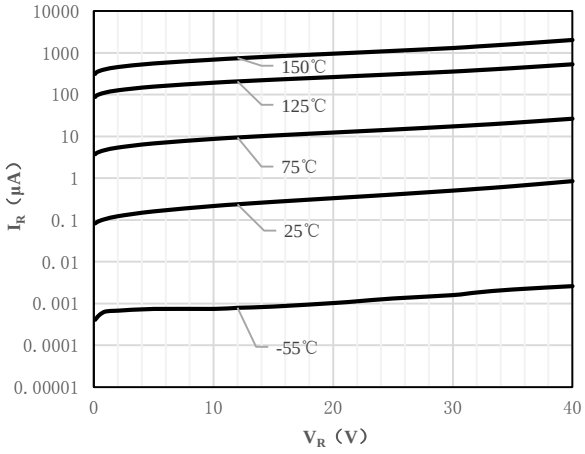



Fig 1 Typical Reverse Characteristic

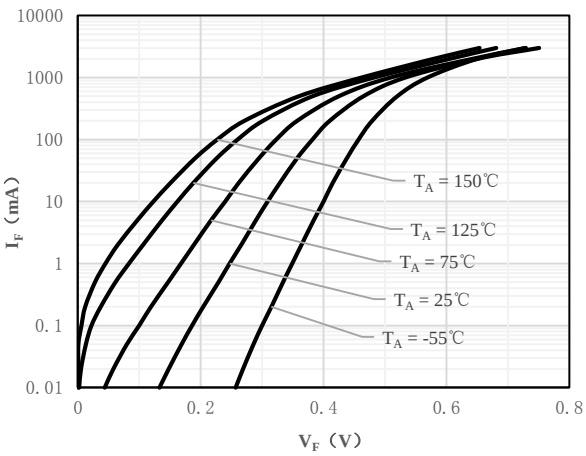



Fig 2 Typical Forward Characteristics

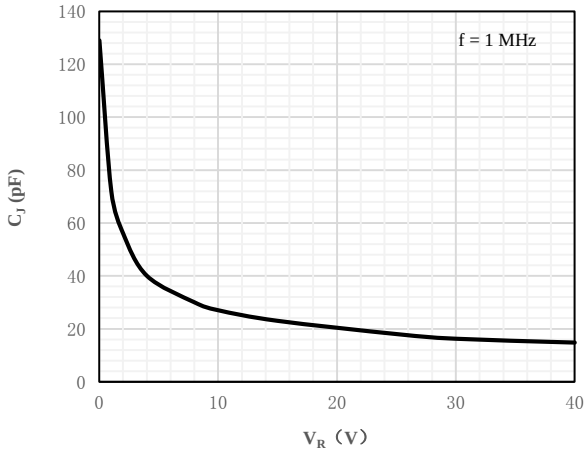



Fig 3 Capacitance vs. Reverse Voltage

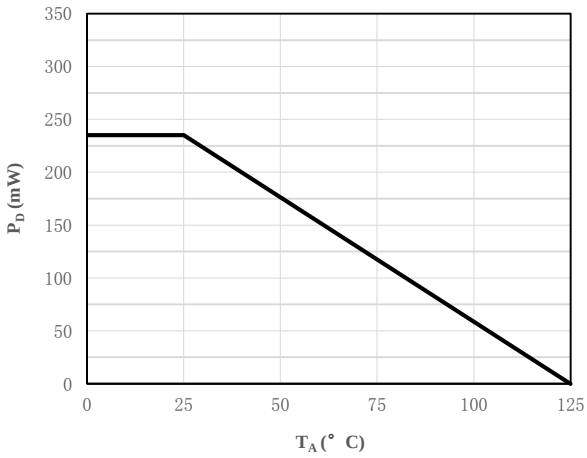
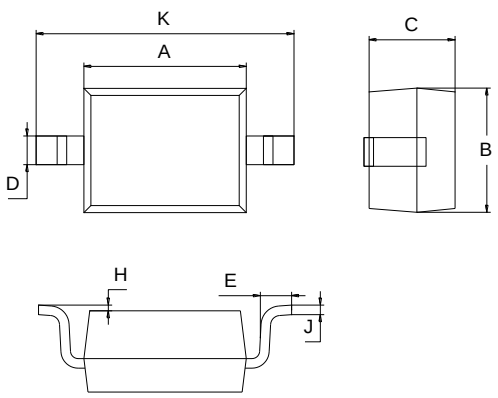



Fig 4 Power Derating Curve

## Package Outline Dimensions (Unit: mm)




| SOD-323 | | |
|---|---|---|
| **Dimension** | **Min.** | **Max.** |
| A | 1.60 | 1.80 |
| B | 1.20 | 1.40 |
| C | 0.80 | 0.90 |
| D | 0.25 | 0.35 |
| E | 0.22 | 0.42 |
| H | 0.02 | 0.10 |
| J | 0.05 | 0.15 |
| K | 2.55 | 2.75 |

## Mounting Pad Layout (Unit: mm)

### SOD-323

