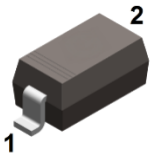
# B5818WH B5819WH Series

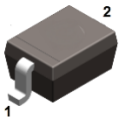
## Small Signal Schottky Barrier Diode

## Features

- High reliability
- Small surface mounting type
- Low reverse current and low forward voltage




SOD-123



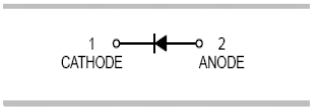

SOD-323

## Typical Applications

- For general purpose applications

## Mechanical Data

- Case: SOD-123, SOD-323
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Tin plated leads, solderable per MIL-STD-202, Method 208




## Ordering Information

| Part Number | Package | Shipping | Marking Code |
|---|---|---|---|
| B5818WH | SOD-123 | 3000 pcs / Tape & Reel | SKH |
| B5818WSH | SOD-323 | 3000 pcs / Tape & Reel | SKH |
| B5819WH | SOD-123 | 3000 pcs / Tape & Reel | SLH |
| B5819WSH | SOD-323 | 3000 pcs / Tape & Reel | SLH |

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

| Parameter | Symbol | B5818W(S)H | B5819W(S)H | Units |
|---|---|---|---|---|
| Peak Repetitive Reverse Voltage | $V_{RRM}$ | 30 | 40 | V |
| RMS Reverse Voltage | $V_{RMS}$ | 21 | 28 | V |
| Maximum Average Forward Output Current | $I_{F(AV)}$ | 1 | | A |
| Peak Forward Surge Current,8.3ms Single Half-sine-wave | $I_{FSM}$ | 10 | | A |

## Thermal Characteristics

| Parameter | Symbol | B5818WH/B5819WH | B5818WSH/B5819WSH | Units |
|---|---|---|---|---|
| Power Dissipation | $P_D$ | 500 | 250 | mW |
| Typical Thermal Resistance per leg | $R_{\Theta JA}$* | 250 | 500 | °C /W |
| Typical Thermal Resistance per leg | $R_{\Theta JL}$ | 162 | 323 | °C /W |
| Typical Thermal Resistance per leg | $R_{\Theta JC}$ | 138 | 276 | °C /W |
| Operating Junction Temperature Range | $T_J$ | -55 to +150 | | °C |
| Storage Temperature Range | $T_{STG}$ | -55 to +150 | | °C |
| * Part mounted on FR-4 board with recommended pad layout | | | | |

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## Small Signal Schottky Barrier Diode

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

| Parameter | Symbol | Test conditions | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| Reverse Breakdown Voltage | $V_{(BR)R}$ | $I_R$ = 1mA B5818W(S)H | 30 | - | - | V |
| | | $I_R$ = 1mA B5819W(S)H | 40 | - | - | V |
| Forward Voltage | $V_F$* | $I_F$ = 1A B5818W(S)H | - | - | 0.55 | V |
| | | $I_F$ = 1A B5819W(S)H | - | - | 0.60 | |
| | | $I_F$ = 3A B5818W(S)H | - | - | 0.875 | |
| | | $I_F$ = 3A B5819W(S)H | - | - | 0.90 | |
| Maximum Peak Reverse Current | $I_R$** | $V_R$ = 30V B5818W(S)H<br>$V_R$ = 40V B5819W(S)H | - | - | 1 | mA |
| Capacitance Between Terminals | $C_T$ | $V_R$ = 4V, f = 1MHz | - | 39 | 120 | pF |

*Pulse width ≤380 us, Duty cycle < 2%

**pulse test ， tp≤5ms

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

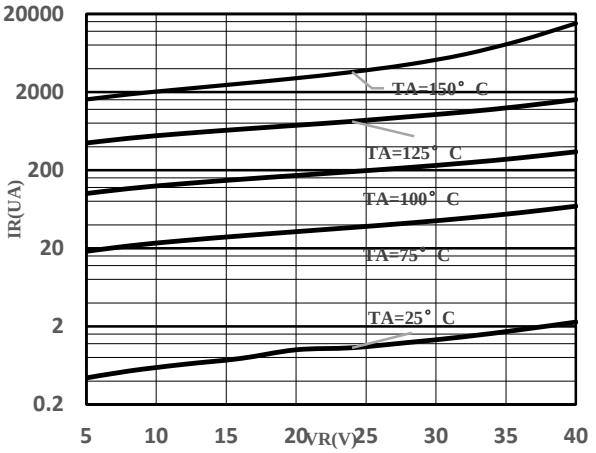



Fig.1- Typical Reverse Characteristic

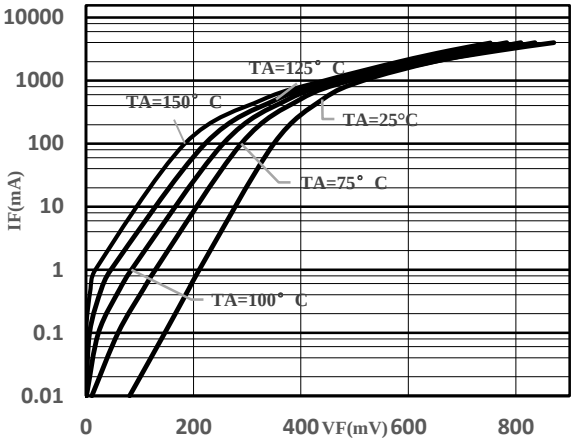



Fig.2- Typical Forward Characteristics

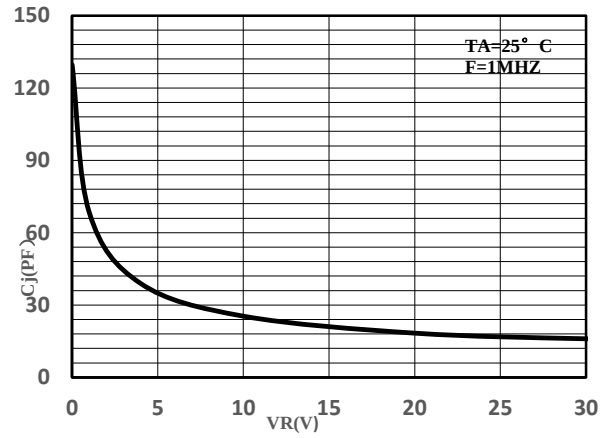



Fig.3-Capacitance Characteristics

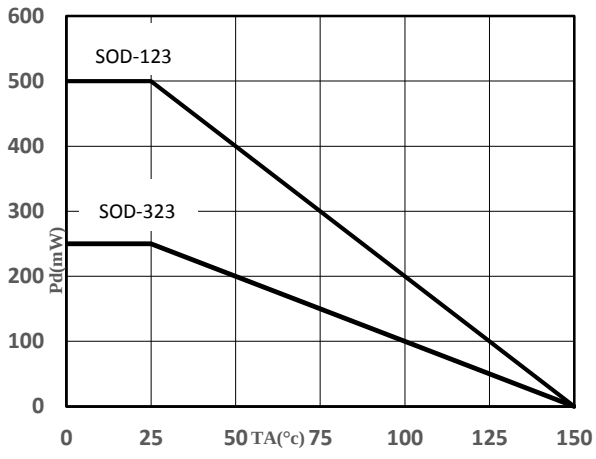
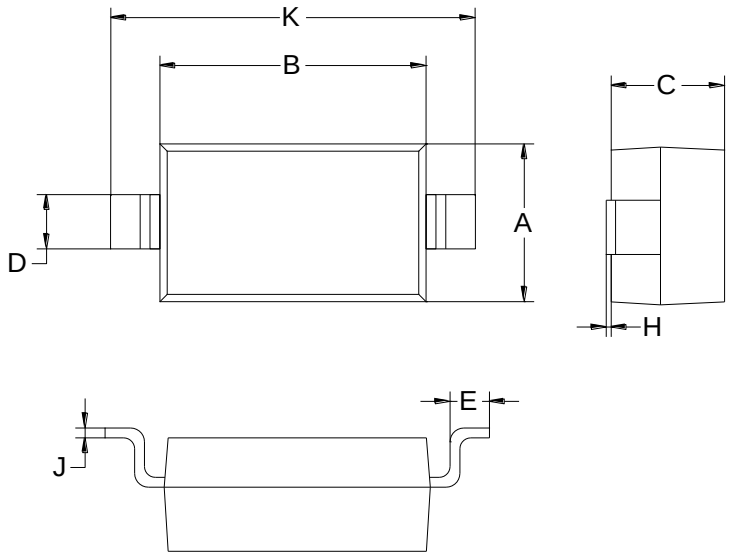



Fig.4-Derating Curve

## Package Outline Dimensions (unit: mm)

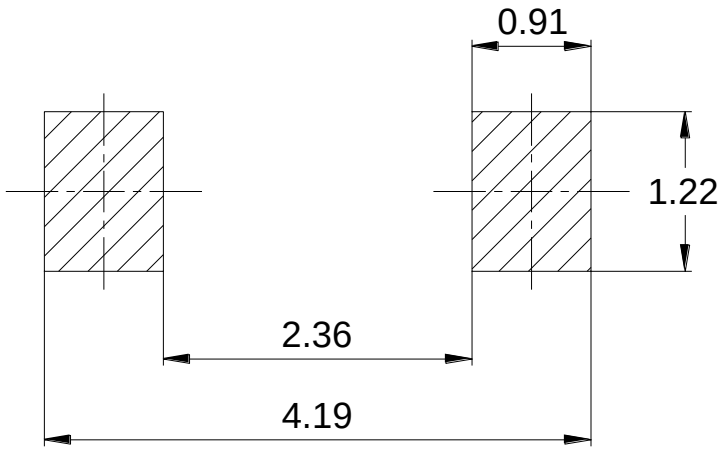
**SOD-123**




| SOD-123 | | |
|---|---|---|
| Dim | Min | Max |
| A | 1.45 | 1.75 |
| B | 2.55 | 2.85 |
| C | 1.00 | 1.30 |
| D | 0.50 | 0.60 |
| E | 0.25 | 0.45 |
| H | 0.02 | 0.10 |
| J | 0.05 | 0.15 |
| K | 3.55 | 3.85 |

## Mounting Pad Layout (unit: mm)

**SOD-123**



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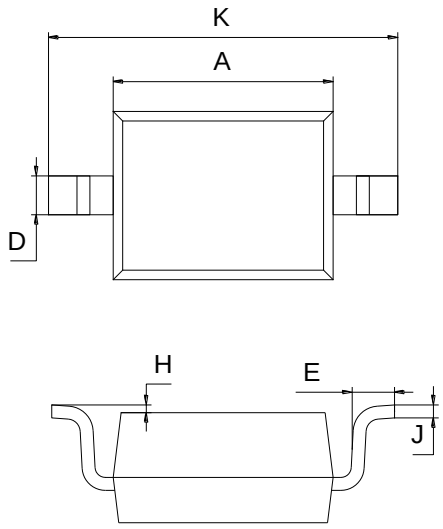
**Small Signal Schottky Barrier Diode**

## SOD-323




| SOD-323 | | |
|---|---|---|
| Dim | 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 |

## SOD-323