

SOD-123 Surface Mount Schottky Barrier Rectifier

Features

- $V_R=100V$
- $I_{F(AV)}=0.15A$
- Power Dissipation of 500mW
- High Current Capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Applications

For use in low voltage high frequency circuit signals.

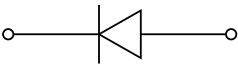
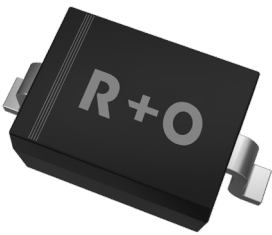
Mechanical Data

- Case: SOD-123  
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

Function Diagram

Reverse Voltage  
100 V  
Forward Current  
0.15 Ampere

SOD-123



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

| PARAMETER                                                            | SYMBOL           | UNIT  | VALUE    |
|----------------------------------------------------------------------|------------------|-------|----------|
| Maximum repetitive peak reverse voltage                              | $V_{RRM}$        | V     | 100      |
| Maximum RMS voltage                                                  | $V_{RMS}$        | V     | 70       |
| Maximum DC blocking voltage                                          | $V_{DC}$         | V     | 100      |
| Maximum Average Forward Rectified Current                            | $I_{F(AV)}$      | mA    | 150      |
| Repetitive peak forward current                                      | $I_{FRM}$        | mA    | 350      |
| Non-repetitive Peak Forward Surge Current<br>@t=8.3ms Half-sine wave | $I_{FSM}$        | mA    | 750      |
| Power Dissipation                                                    | $P_D$            | mW    | 500      |
| Junction temperature                                                 | $T_j$            | °C    | 125      |
| Storage temperature range                                            | $T_{STG}$        | °C    | -55-+150 |
| Typical thermal resistance                                           | $R_{\theta J-A}$ | °C /W | 200      |

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

| PARAMETER                     | TEST CONDITIONS                      | SYMBOL | UNIT          | Min | Type | Max  |
|-------------------------------|--------------------------------------|--------|---------------|-----|------|------|
| Maximum forward voltage       | $I_F = 0.1\text{mA}$                 | $V_F$  | mV            | —   | —    | 250  |
|                               | $I_F = 10\text{mA}$                  |        |               | —   | —    | 450  |
|                               | $I_F = 250\text{mA}$                 |        |               | —   | —    | 1000 |
| Maximum reverse current       | $V_R = 1.5\text{V}$                  | $I_R$  | $\mu\text{A}$ | —   | —    | 0.3  |
|                               | $V_R = 10\text{V}$                   |        |               | —   | —    | 0.5  |
|                               | $V_R = 50\text{V}$                   |        |               | —   | —    | 1.0  |
|                               | $V_R = 75\text{V}$                   |        |               | —   | —    | 2.0  |
| Capacitance between terminals | $V_R = 0\text{V}, f = 1\text{MHz}$   | $C_T$  | pF            | —   | 20   | —    |
|                               | $V_R = 1.0\text{V}, f = 1\text{MHz}$ |        |               | —   | 12   | —    |

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

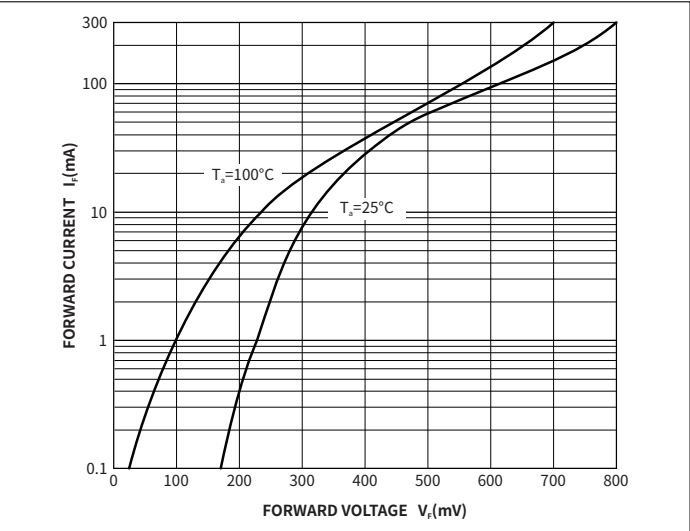


Fig.1 Typical Instantaneous Forward Characteristics

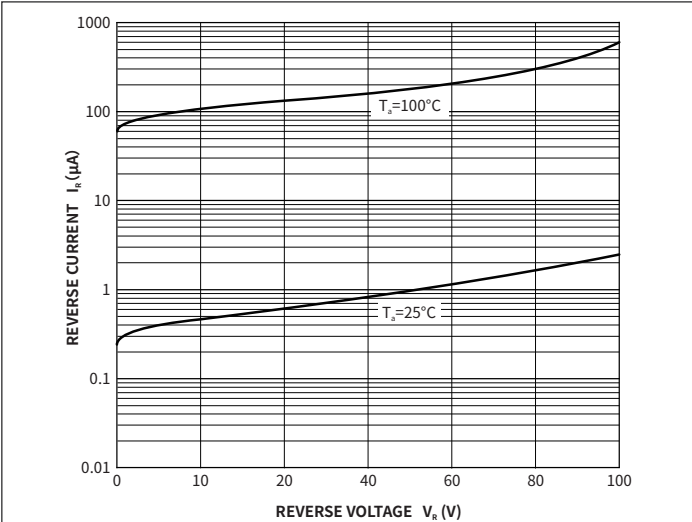


Fig.2 Typical Reverse Characteristics

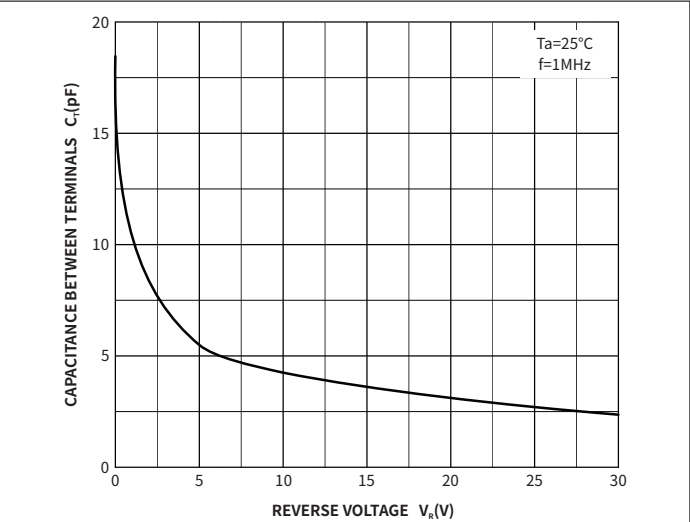


Fig.3 Typical Junction Capacitance

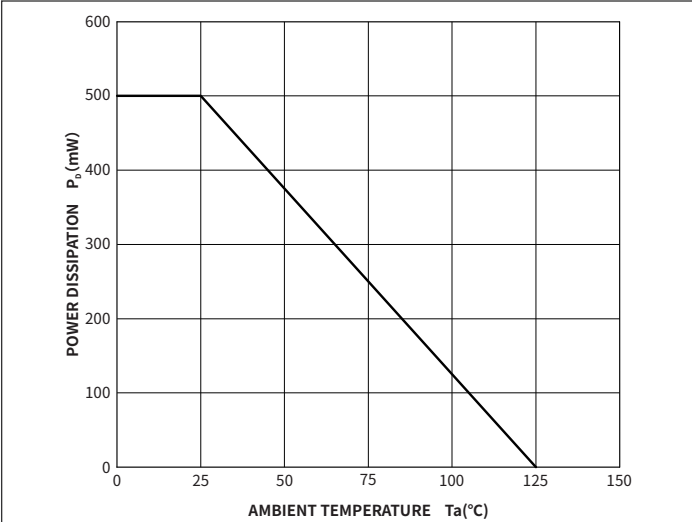


Fig.4 Power Derating Curve

# BAT46W

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

## ● Ordering Information

| PACKAGE | PACKAGE CODE | UNIT WEIGHT(g) | REEL(pcs) | BOX(pcs) | CARTON(pcs) | DELIVERY MODE |
|---------|--------------|----------------|-----------|----------|-------------|---------------|
| SOD-123 | R1           | 0.012          | 3000      | 45000    | 180000      | 7"            |

## ● Package Outline Dimensions (SOD-123)

| Symbol | Dimensions  |      |        |       |
|--------|-------------|------|--------|-------|
|        | Millimeters |      | Inches |       |
|        | Min.        | Max. | Min.   | Max.  |
| A      | 3.55        | 3.85 | 0.140  | 0.152 |
| B      | 2.55        | 2.85 | 0.100  | 0.112 |
| C      | 1.40        | 1.80 | 0.055  | 0.071 |
| D      | 0.95        | 1.35 | 0.140  | 0.152 |
| E      | 0.51        | 0.71 | 0.037  | 0.053 |
| F      | -           | 0.15 | -      | 0.006 |
| G      | 0.15        | 0.45 | 0.006  | 0.008 |
| H      | 0.08        | 0.25 | 0.003  | 0.010 |
| θ      | -           | 8°   | -      | 8°    |

| Symbol | Dimensions  |      |        |       |
|--------|-------------|------|--------|-------|
|        | Millimeters |      | Inches |       |
|        | Min.        | Max. | Min.   | Max.  |
| J      | 0.91        | -    | 0.036  | -     |
| K      | -           | 2.36 | -      | 0.092 |
| M      | 1.22        | -    | 0.048  | -     |