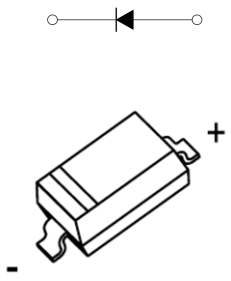
GOODWORK

# BAT46WS

SCHOTTKY BARRIER DIODE

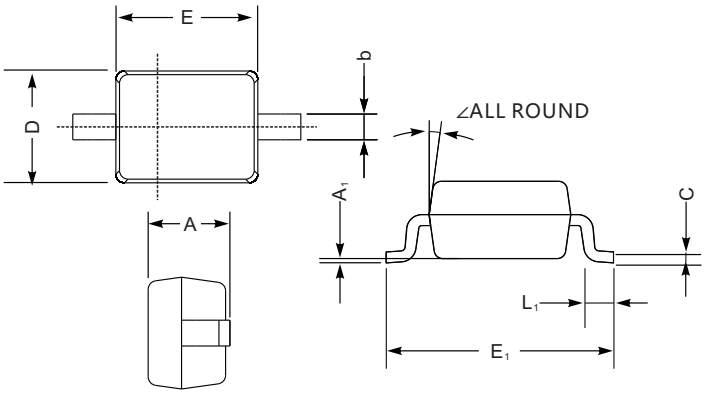
## FEATURES

High breakdown voltage
Low turn-on voltage
Guard ring construction for transient protection




**SOD-323**

## SOD-323




SOD-323 mechanical data

| UNIT | | A | C | D | E | $E_1$ | b | $L_1$ | $A_1$ | ∠ |
|---|---|---|---|---|---|---|---|---|---|---|
| mm | max | 1.1 | 0.15 | 1.4 | 1.8 | 2.75 | 0.4 | 0.45 | 0.2 | 9° |
| | min | 0.8 | 0.08 | 1.2 | 1.4 | 2.55 | 0.25 | 0.2 | — | |
| mil | max | 43 | 5.9 | 55 | 70 | 108 | 16 | 16 | 8 | |
| | min | 32 | 3.1 | 47 | 63 | 100 | 9.8 | 7.9 | — | |

## Maximum Ratings @$T_a$=25℃

| Parameter | Symbol | Limit | Unit |
|---|---|---|---|
| **Peak repetitive peak reverse voltage**<br>**Working peak reverse voltage** | $V_{RRM}$<br>$V_{RWM}$ | 100 | V |
| **Forward continuous current** | $I_F$ | 150 | mA |
| **Repetitive peak forward current (Note 1) @ tp < 1.0s, Duty Cycle < 50%** | $I_{FRM}$ | 350 | mA |
| **Non-repetitive Peak Forward surge current @ t = 8.3ms** | $I_{FSM}$ | 750 | mA |
| **Power dissipation** | $P_D$ | 500 | mW |
| **Thermal resistance junction to ambient air** | $R_{\theta JA}$ | 200 | ℃/W |
| **Junction temperature** | $T_j$ | 125 | ℃ |
| **Storage temperature** | $T_{STG}$ | -55~+150 | ℃ |

# BAT46WS

**ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)**

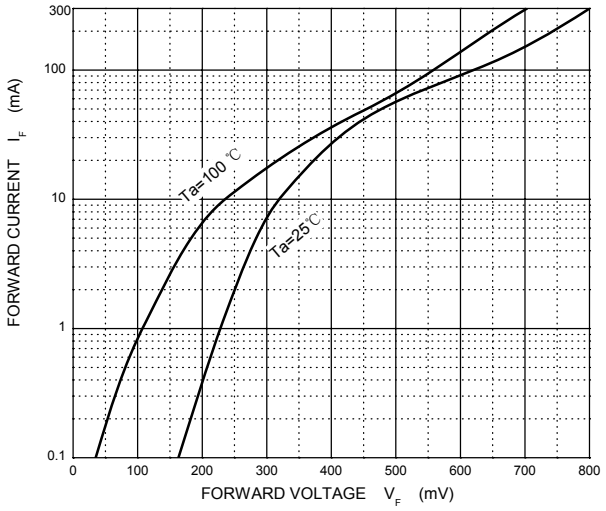
| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Reverse breakdown voltage(Note 2)** | $V_R$ | $I_R$= 100μA | 100 | | | V |
| **Reverse voltage leakage current** | $I_R$ | $V_{R1}$=1.5V | | | 0.3 | μA |
| | | $V_{R2}$=10V | | | 0.5 | |
| | | $V_{R3}$=50V | | | 1 | |
| | | $V_{R4}$=75V | | | 2 | |
| **Forward voltage(Note 2)** | $V_F$ | $I_{F1}$=0.1mA | | | 0.30 | V |
| | | $I_{F2}$=10mA | | | 0.45 | |
| | | $I_{F3}$=250mA | | | 1 | |
| **Diode capacitance** | $C_T$ | $V_R$=0, f=1MHz | | 20 | | pF |
| | | $V_R$=1V, f=1MHz | | 12 | | |

Notes: 1. Part mounted on FR-4 board with recommended pad layout.

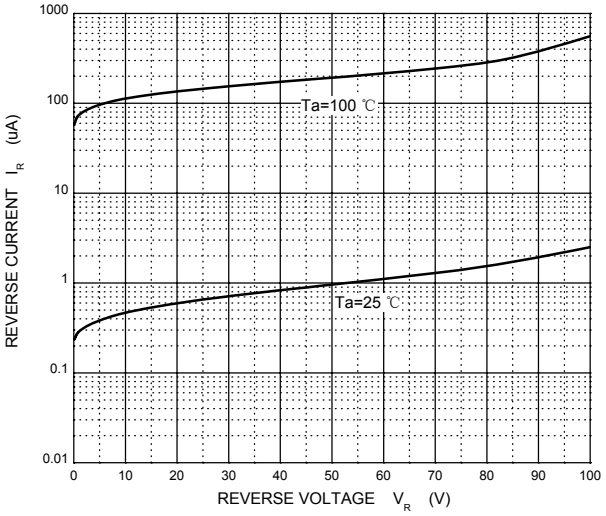
2. Short duration pulse test used to minimize self-heating effect.

RATING AND CHARACTERISTIC CURVES (BAT46WS)

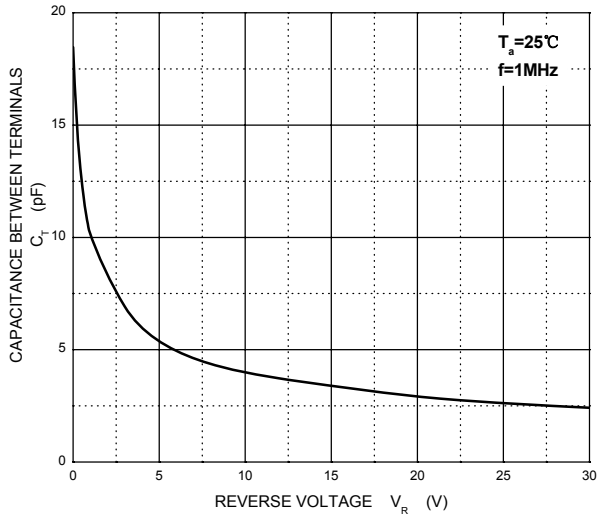
**Forward Characteristics**




**Reverse Characteristics**




**Capacitance Characteristics**




**Power Derating Curve**