

Plastic-Encapsulate Schottky Barrier Diode

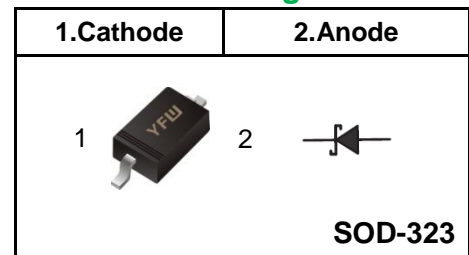
Features

- ◆ High Current Capability
- ◆ Low Forward Voltage Drop

Mechanical Data

- ◆ SOD-323 Small Outline Plastic Package
- ◆ Polarity: Color band denotes cathode end
- ◆ Epoxy UL: 94V-0
- ◆ Mounting Position: Any

Pinning



Marking Code

| | |
|----------------|-----------|
| BAT46WS | S9 |
|----------------|-----------|

Maximum Ratings & Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

| Parameters | Symbol | Value | Unit |
|---|------------------------|----------|-------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 100 | V |
| Forward continuous current | I_F | 150 | mA |
| Repetitive peak forward current (Note1)@tp<1.0s, Duty cycle<50% | I_{FRM} | 350 | mA |
| Peak forward surge current 8.3 ms single half sine-wave | I_{FSM} | 750 | mA |
| Typical thermal resistance | R_{θJA} | 500 | °C/W |
| Power Dissipation | P_D | 200 | mW |
| Junction temperature | T_j | 125 | °C |
| Storage temperature range | T_{STG} | -55-+150 | °C |

Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified).

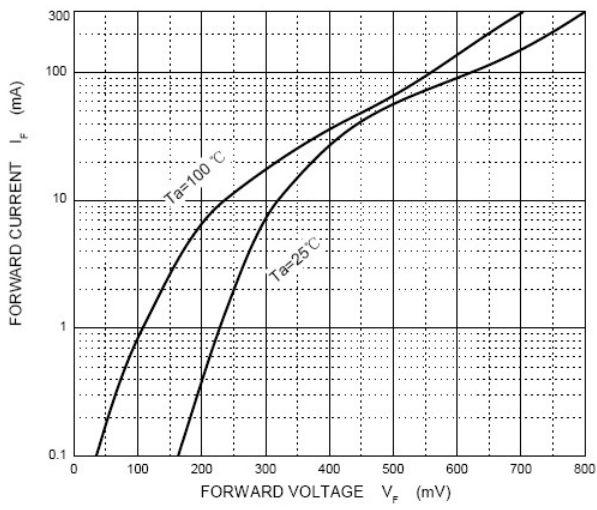
| Parameter | Symbols | Test Condition | Limits | | | Unit |
|-----------------------------------|-----------------------|---------------------|--------|-----|------|-----------|
| | | | Min | Typ | Max | |
| Maximum forward voltage (Note 2) | V_{F1} | IF = 0.1mA | | | 250 | mV |
| | V_{F2} | IF = 10mA | | | 450 | mV |
| | V_{F3} | IF = 250mA | | | 1000 | mV |
| Maximum reverse breakdown voltage | VR | IR=100uA | 100 | | | V |
| Maximum reverse current | I_R | VR1=1.5V | | | 0.3 | uA |
| | | VR2=10V | | | 0.5 | |
| | | VR3=50V | | | 1.0 | |
| | | VR4=75V | | | 2.0 | |
| Type junction capacitance | CT | VR = 0V, f = 1MHz | | 20 | | PF |
| | | VR = 1.0V, f = 1MHz | | 12 | | |

Note:

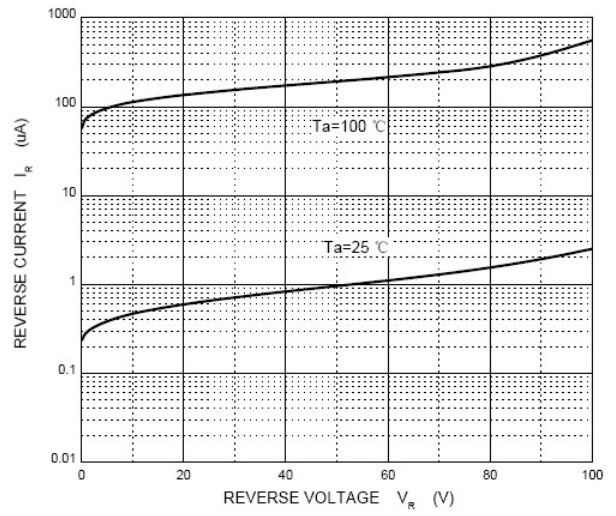
- 1, Part mounted on FR-4 board with recommended pad layout.
- 2, Short duration pulse test used to minimize self-heating effect.

Typical Characteristics

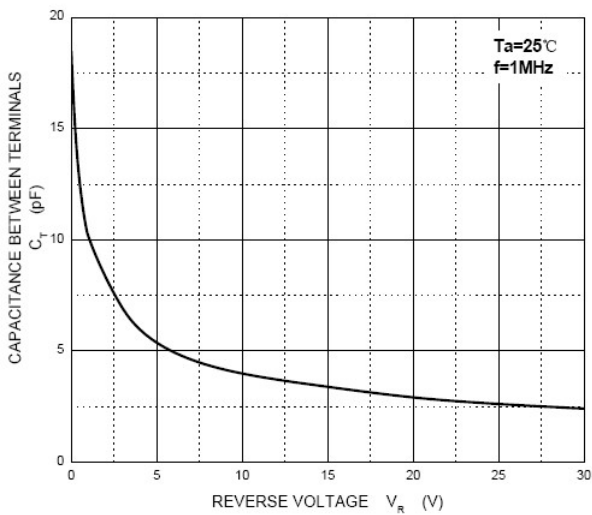
Forward Characteristics



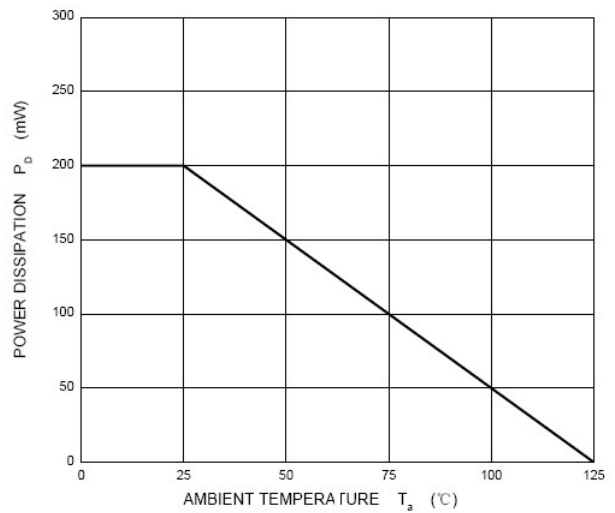
Reverse Characteristics



Capacitance Characteristics



Power Derating Curve



Ordering information

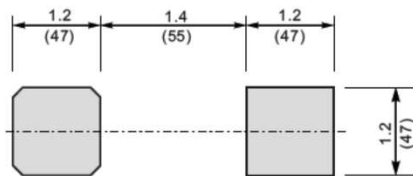
| Package | Packing Description | Packing Quantity |
|---------|---------------------|-------------------------------|
| SOD-323 | Tape/Reel, 7" reel | 3000PCS/Reel 120000PCS/Carton |

Package Dimensions

SOD-323

| Dim. | Millimeter(mm) | | mil | |
|------|----------------|------|------|------|
| | Min. | Max. | Min. | Max. |
| A | 0.8 | 1.1 | 32 | 43 |
| C | 0.08 | 0.15 | 3.1 | 5.9 |
| D | 1.2 | 1.4 | 47 | 55 |
| E | 1.4 | 1.8 | 63 | 70 |
| E1 | 2.55 | 2.75 | 100 | 108 |
| b | 0.25 | 0.4 | 9.8 | 16 |
| L1 | 0.2 | 0.45 | 7.9 | 16 |
| A1 | - | 0.2 | - | 8 |
| ∠ | 9° | | | |

The recommended mounting pad size



Unit: $\frac{mm}{(mil)}$

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