

SCHOTTKY BARRIER DIODE



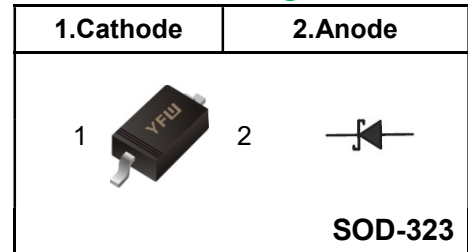
FEATURES

- ◆ Low Forward Voltage Drop
- ◆ Guard Ring Construction for Transient Protection
- ◆ High Conductance
- ◆ Also Available in Lead Free Version
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- ◆ Case: SOD-323
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 5.48mg / 0.00019oz

Pinning



Marking Code

| | |
|----------------|-----------|
| B0520WS | SD |
| B0530WS | SE |
| B0540WS | SF |

Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

| Parameter | Symbols | B0520WS | B0530WS | B0540WS | Units |
|--|-----------------|------------|---------|---------|-------|
| Peak Repetitive Reverse Voltage | V_{RRM} | 20 | 30 | 40 | V |
| RMS reverse voltage | V_{RMS} | 14 | 21 | 28 | V |
| Working Peak Reverse Voltage | V_{DC} | 20 | 30 | 40 | V |
| Maximum Average Forward Current at Ta=25°C | I_o | 0.5 | | | A |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load(JEDEC method) | I_{FSM} | 22 | | | A |
| Maximum Instantaneous Forward Voltage | $I_F=0.1 A$ | 0.33 | 0.36 | - | V |
| | $I_F=0.5 A$ | 0.39 | 0.45 | 0.51 | |
| | $I_F=1 A$ | - | - | 0.62 | |
| Reverse current | $V_R=10V$ | 75 | - | - | uA |
| | $V_R=15V$ | - | 75 | - | |
| | $V_R=20V$ | 250 | 100 | 10 | |
| | $V_R=30V$ | - | 500 | - | |
| | $V_R=40V$ | - | - | 20 | |
| Thermal Resistance, Junction to Ambient Air | $R_{\theta JA}$ | 500 | | | °C/W |
| Junction temperature | T_j | -55 ~ +125 | | | °C |
| Storage temperature | T_{stg} | -55 ~ +150 | | | °C |

Fig.1 Forward Current Derating Curve

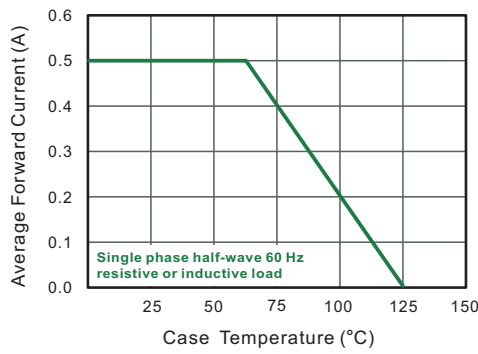


Fig.2 Typical Reverse Characteristics

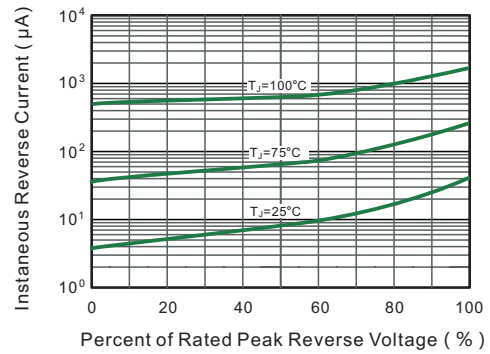


Fig.3 TYPICAL FORWARD VOLTAGE

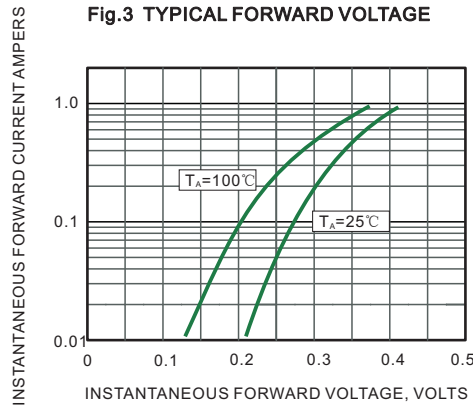


Fig.4 Typical Junction Capacitance

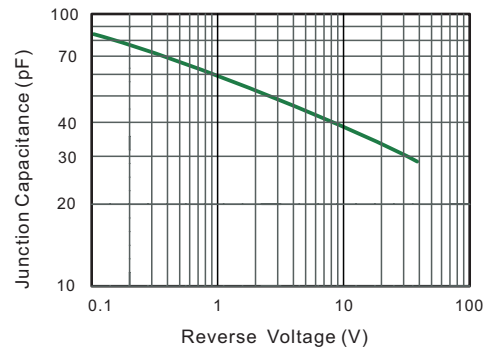


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

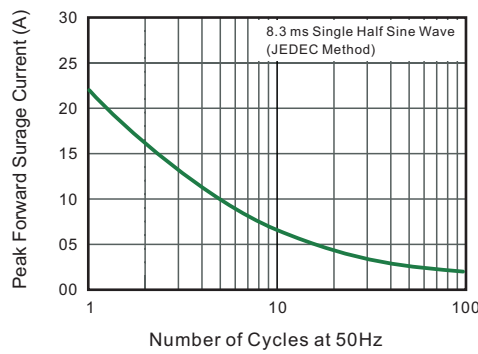
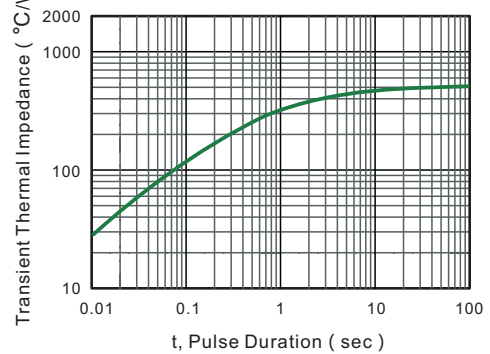
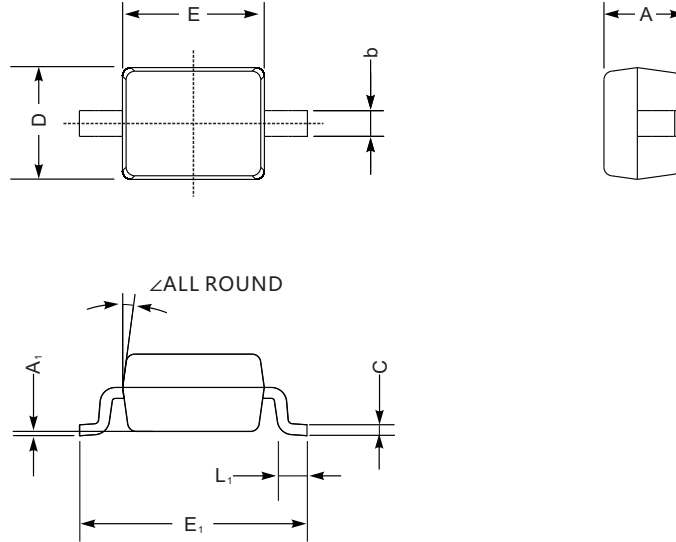


Fig.6 Typical Transient Thermal Impedance



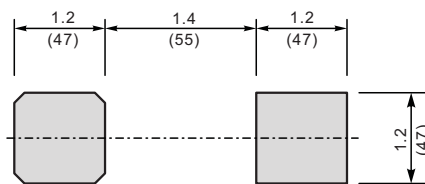
Package Outline SOD-323

Plastic surface mounted package; 2 leads



| 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 | — | |

The recommended mounting pad size



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

Summary of Packing Options

| Package | Packing Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| SOD-323 | Tape/Reel, 7" reel | 3000 | EIA-481-1 |