

SOD-323 Plastic-Encapsulate Diodes

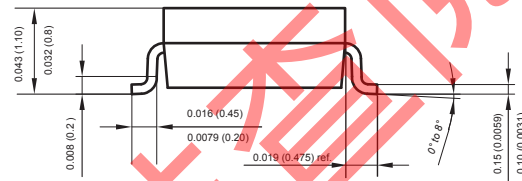
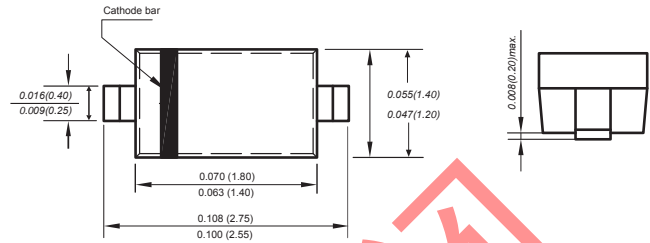
B16WS SCHOTTKY BARRIER DIODES

SOD-323


FEATURES

- Guard ring protection
- Low forward voltage drop
- For use in low voltage, high frequency inverters
- High surge current capability

Marking



Dimensions in inches and (millimeters)

Mechanical Data

Case : SOD-323

Terminals : Solderable per MIL-STD-750, Method 2026

Polarity : Polarity symbol marking on body

Mounting Position : Any

Weight : 0.00019 ounce, 0.00548 grams

Maximum Ratings and Electrical Characteristics, Single Diode @Ta=25°C

| Parameter | Symbol | Limit | Unit |
|---|-----------------|----------|------|
| Maximum recurrent peak reverse voltage | V_{RRM} | 40 | V |
| Maximum RMS voltage | V_{RMS} | 28 | V |
| Maximum DC blocking voltage | V_{DC} | 40 | V |
| Continuous forward current | I_F | 1 | A |
| Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 25 | A |
| Total power dissipation | P_{tot} | 250 | mW |
| Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 400 | °C/W |
| Junction Temperature | T_j | 125 | °C |
| Storage Temperature | T_{STG} | -55~+150 | °C |

ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Max | Unit |
|---|-----------|------------------|-----|-----|------|
| Maximum instantaneous forward voltage | V_F | $I_F=1A$ | | 0.7 | V |
| Maximum DC reverse current at rated DC blocking voltage | I_R | $V_R=40V$ | | 0.1 | mA |
| Total capacitance | C_{tot} | $V_R=4V, f=1MHz$ | | 120 | pF |

The above data are for reference only.

Typical Characteristics

Fig.1 Power Derating Curve

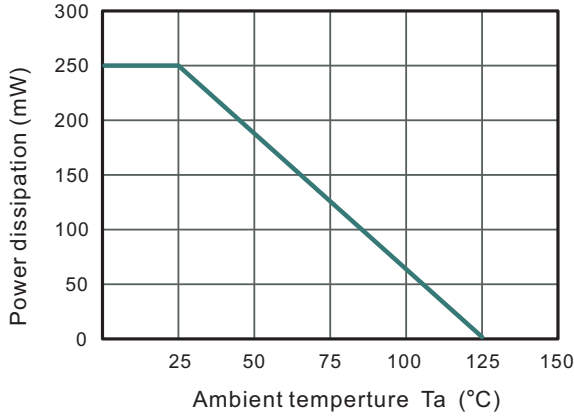


Fig.2 Typical Reverse Characteristics

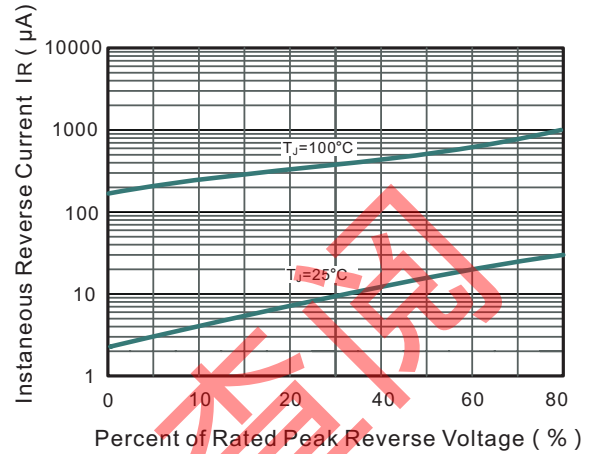


Fig.3 TYPICAL FORWARD VOLTAGE

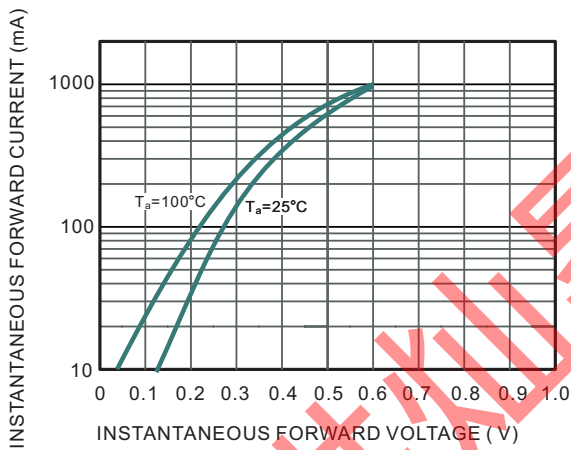


Fig.4 Typical Junction Capacitance

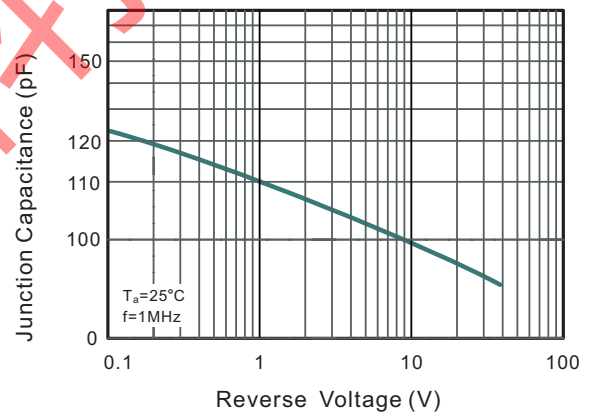


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

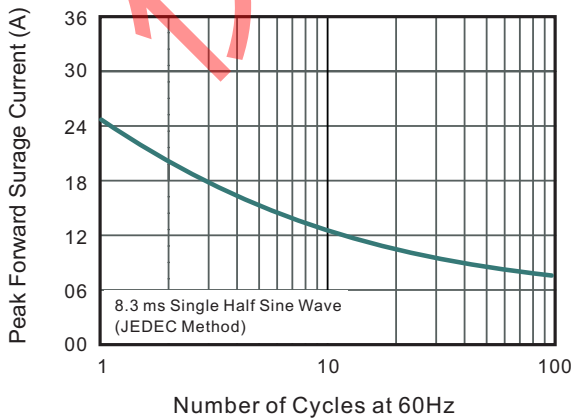
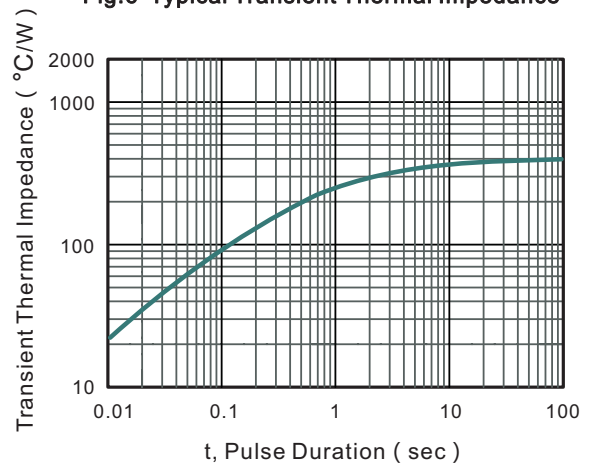
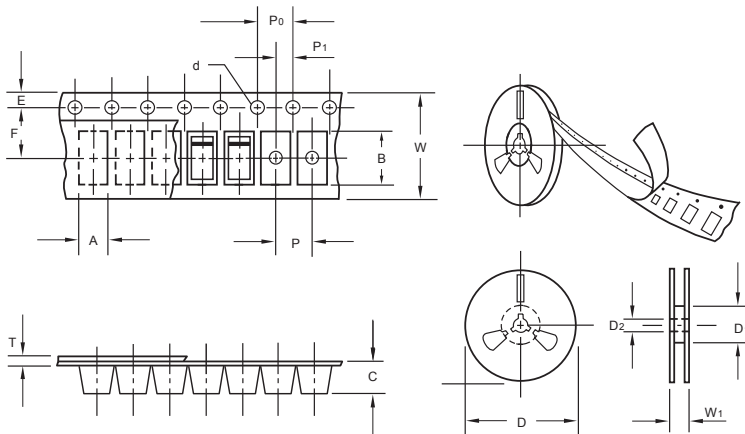


Fig.6 Typical Transient Thermal Impedance



The curve above is for reference only.

Packing information



unit:mm

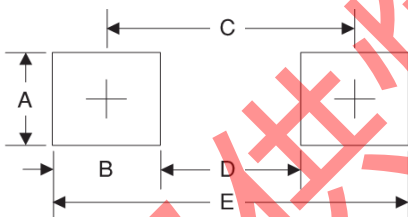
| Item | Symbol | Tolerance | SOD-323 |
|---------------------------|----------------|-----------|---------|
| Carrier width | A | 0.1 | 1.46 |
| Carrier length | B | 0.1 | 2.90 |
| Carrier depth | C | 0.1 | 1.25 |
| Sprocket hole | d | 0.05 | 1.50 |
| 13" Reel outside diameter | D | 2.0 | 330.00 |
| 13" Reel inner diameter | D ₁ | min | 50.00 |
| 7" Reel outside diameter | D | 2.0 | 178.00 |
| 7" Reel inner diameter | D ₁ | min | 54.40 |
| Feed hole diameter | D ₂ | 0.5 | 13.00 |
| Sprocket hole position | E | 0.1 | 1.75 |
| Punch hole position | F | 0.1 | 3.50 |
| Punch hole pitch | P | 0.1 | 4.00 |
| Sprocket hole pitch | P ₀ | 0.1 | 4.00 |
| Embossment center | P ₁ | 0.1 | 2.00 |
| Overall tape thickness | T | 0.1 | 0.06 |
| Tape width | W | 0.3 | 8.00 |
| Reel width | W ₁ | 1.0 | 12.30 |

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

Reel packing

| PACKAGE | REEL SIZE | REEL (pcs) | COMPONENT SPACING (m/m) | BOX (pcs) | INNER BOX (m/m) | REEL DIA. (m/m) | CARTON SIZE (m/m) | CARTON (pcs) | APPROX. GROSS WEIGHT (kg) |
|---------|-----------|------------|-------------------------|-----------|-----------------|-----------------|-------------------|--------------|---------------------------|
| SOD-323 | 7" | 3,000 | 4.0 | 45,000 | 210*208*203 | 178 | 430*430*235 | 180,000 | 9.0 |

Suggested Pad Layout



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A | 1.2 | 0.047 |
| B | 1.2 | 0.047 |
| C | 2.6 | 0.102 |
| D | 1.4 | 0.055 |
| E | 3.8 | 0.149 |