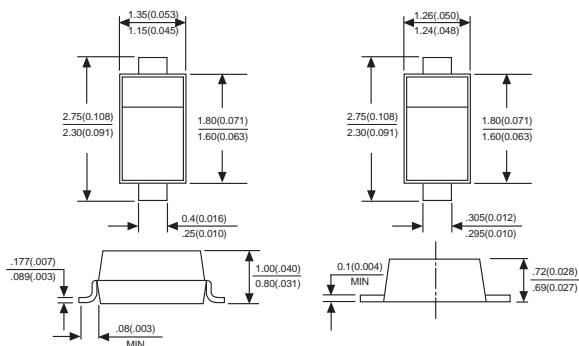


B5817WS-B5819WS

SCHOTTKY BARRIER DIODE

SOD-323



Dimensions in millimeters and (inches)

FEATURES

- ◆ For use in low voltage, high frequency inverters
- ◆ Free wheeling, and polarity protection applications

MECHANICAL DATA

Case: Molded plastic body

Terminals: Plated leads solderable per MIL-STD-750, Method 2026

Polarity: Polarity symbols marked on case

Marking: B5817W:SJ, B5818WS:SK, B5819WS:SL

Maximum ratings and electrical characteristics, Single diode @ $T_A=25^\circ\text{C}$

| PARAMETER | SYMBOLS | B5817WS | B5818WS | B5819WS | UNITS |
|--|-----------------|---------|-------------|---------|------------------|
| Peak repetitive peak reverse voltage | V_{RRM} | | | | |
| Working peak | V_{RWM} | 20 | 30 | 40 | V |
| DC Blocking voltage | V_R | | | | |
| RMS Reverse voltage | $V_{R(RMS)}$ | 14 | 21 | 28 | V |
| Average rectified output current | I_o | | 1 | | A |
| Peak forward surge current @=8.3ms | I_{FSM} | | 9 | | A |
| Power dissipation | P_d | | 200 | | mW |
| Thermal resistance junction to ambient | $R_{\theta JA}$ | | 625 | | K/W |
| Storage temperature | T_{STG} | | -65 to +150 | | $^\circ\text{C}$ |
| Non-Repetitive peak reverse voltage | V_{RM} | 20 | 30 | 40 | V |

Electrical ratings @ $T_A=25^\circ\text{C}$

| PARAMETER | SYMBOLS | Min. | Max. | Unit | Test conditions | |
|---------------------------------|------------|-------|------|------|------------------------------------|---------|
| Reverse breakdown voltage | $V_{(BR)}$ | 20 | | V | $I_R=1\text{mA}$ | B5817WS |
| | | 30 | | V | | B5818WS |
| | | 40 | | V | | B5819WS |
| Reverse voltage leakage current | I_R | | 1 | mA | $V_R=20\text{V}$ | B5817WS |
| | | | | | $V_R=30\text{V}$ | B5818WS |
| | | | | | $V_R=40\text{V}$ | B5819WS |
| Forward voltage | V_F | | 0.45 | V | $I_F=1\text{A}$ $I_F=3\text{A}$ | B5817WS |
| | | | 0.75 | V | | B5818WS |
| | | | 0.55 | V | | B5819WS |
| | | 0.875 | V | | | |
| | | 0.6 | V | | | |
| | | 0.9 | V | | | |
| Diode capacitance | C_D | | 120 | pF | $V_R=4\text{V}, f=1.0\text{MHz}$ | |

RATINGS AND CHARACTERISTIC CURVES B5817WS-B5819WS

FIG. 1- FORWARD CURRENT DERATING CURVE

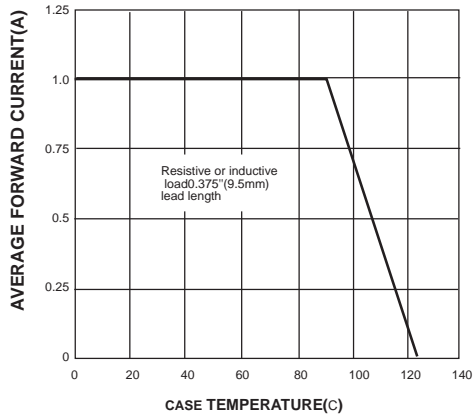


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

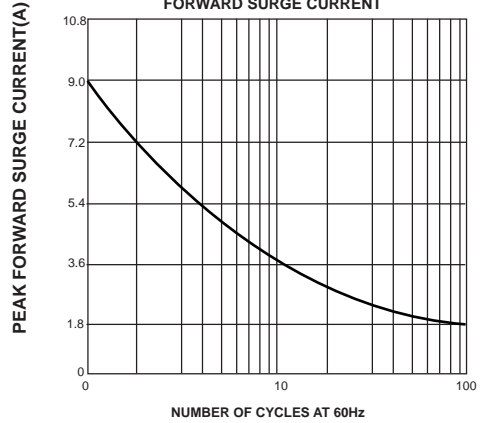


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

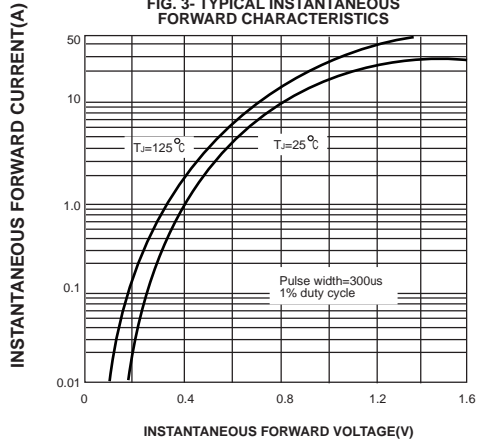


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

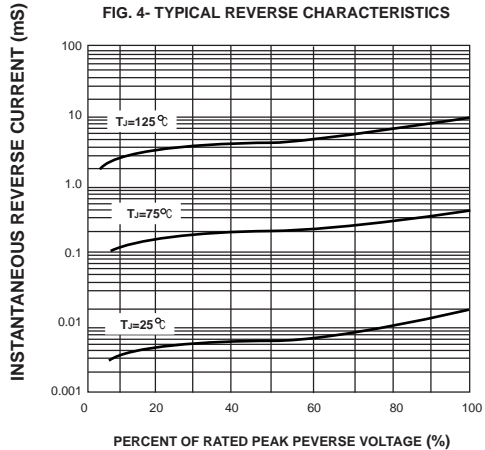


FIG. 5- TYPICAL JUNCTION CAPACITANCE

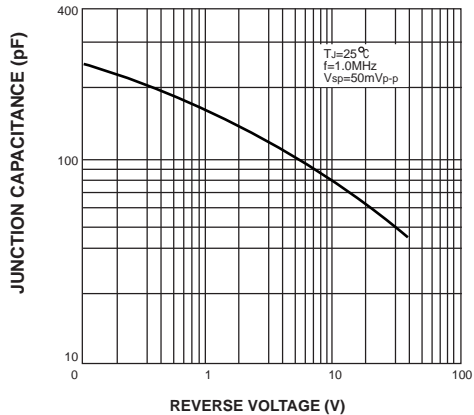
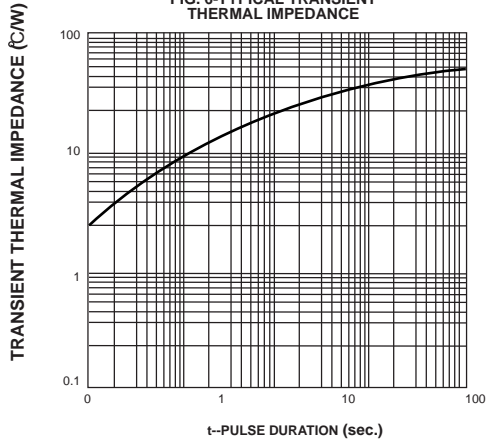


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



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