

## II. Schottky Rectifier

### 1.0A Surface Mount Schottky Rectifier B5817W~B5819W

(Package: SOD-123)

|  |   |
|--|---|
| <p><b>FEATURES</b></p> <ul style="list-style-type: none"> <li>• For use in low voltage, high frequency inverters</li> <li>• Free wheeling, &amp; polarity protection applications</li> <li>• High conductance</li> </ul> <p><b>MECHANICAL DATA</b></p> <ul style="list-style-type: none"> <li>• Case : Molded plastic, SOD-123</li> <li>• Terminals : Plated leads solderable per MIL-STD-750, Method 2026</li> <li>• Polarity : Color band denotes cathode</li> </ul> <p><b>DEVICE MARKING CODE</b></p> <ul style="list-style-type: none"> <li>• B5817W : SJ</li> <li>• B5818W : SK</li> <li>• B5819W : SL</li> </ul> | <p>Case: SOD-123<br/>Dimensions in millimeters and (inches)</p> |
|--|---|

### Ratings & Electrical Characteristics

Ratings at 25 ambient temperature unless otherwise specified.

| Characteristic                                  | Symbol       | B5817W      | B5818W | B5819W | Unit  |
|---|--------------|-------------|--------|--------|-------|
| Peak repetitive reverse voltage                 | $V_{RRM}$    | 20          | 30     | 40     | Volts |
| Working peak reverse voltage                    | $V_{RWM}$    |             |        |        |       |
| DC blocking voltage                             | $V_R$        |             |        |        |       |
| RMS reverse voltage                             | $V_{R(RMS)}$ | 14          | 21     | 28     | Volts |
| Average rectified output current                | $I_O$        | 1.0         |        |        | Amps  |
| Peak forward surge current @8.3ms               | $I_{FSM}$    | 25          |        |        | Amps  |
| Power dissipation                               | $P_D$        | 250         |        |        | mW    |
| Repetitive peak forward current                 | $I_{FRM}$    | 625         |        |        | mA    |
| Typical thermal resistance, junction to ambient | $R_{th-JA}$  | 500         |        |        | °C/W  |
| Storage temperature range                       | $T_{stg}$    | -65 to +150 |        |        | °C    |

| Electrical ratings @Ta=25       |            |     |               |       |                      |        |
|---------------------------------|------------|-----|---------------|-------|----------------------|--------|
| Parameter                       | Symbols    | Min | Max           | Unit  | Testing Condition    |        |
| Reverse breakdown voltage       | $V_{(BR)}$ | 20  |               | Volts | $I_R=1mA$            | B5817W |
|                                 |            | 30  |               | Volts |                      | B5818W |
|                                 |            | 40  |               | Volts |                      | B5819W |
| Reverse voltage leakage current | $I_R$      |     | 1             | mA    | $V_R=20V$            | B5817W |
|                                 |            |     |               |       | $V_R=30V$            | B5818W |
|                                 |            |     |               |       | $V_R=40V$            | B5819W |
| Forward Voltage                 | $V_F$      |     | 0.45          | Volts | $I_F=1A$<br>$I_F=3A$ | B5817W |
|                                 |            |     | 0.75          | Volts |                      | B5818W |
|                                 |            |     | 0.55<br>0.875 | Volts |                      | B5819W |
| Diode Capacitance               | $C_D$      |     | 120           | PF    | $V_R=4V, f=1.0MHz$   |        |

# Ratings and Characteristic Curves of B5817W~B5819W

FIG. 1- FORWARD CURRENT DERATING CURVE

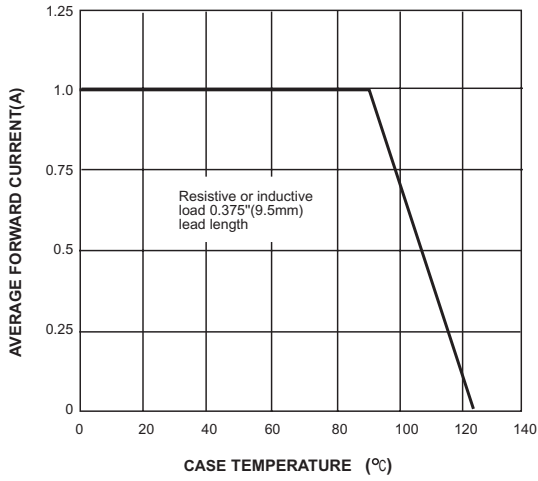


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

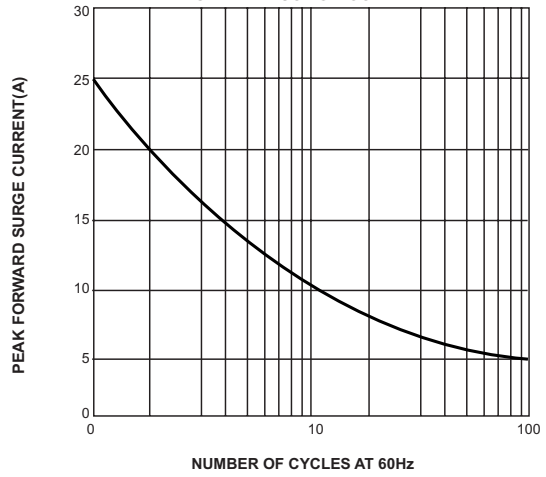


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

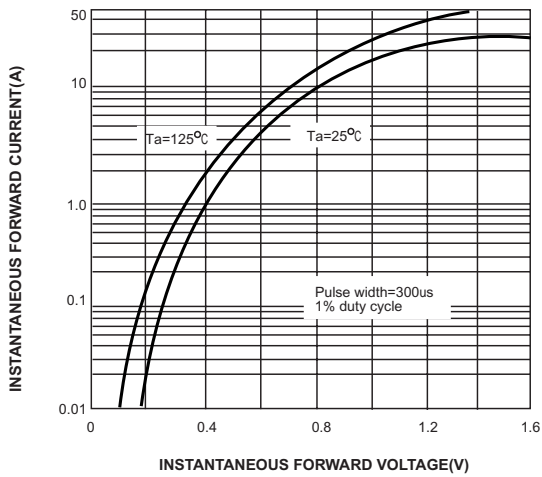


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

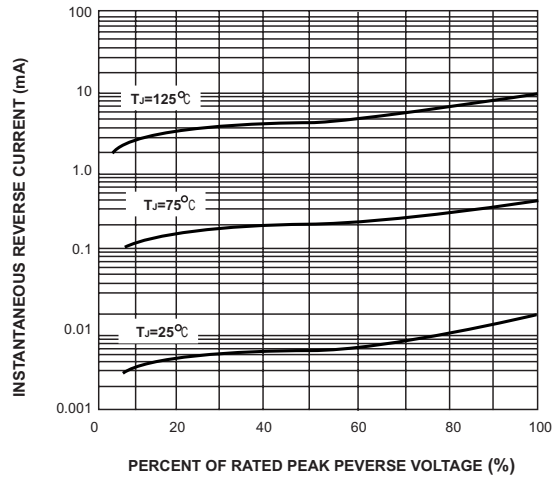


FIG. 5- TYPICAL JUNCTION CAPACITANCE

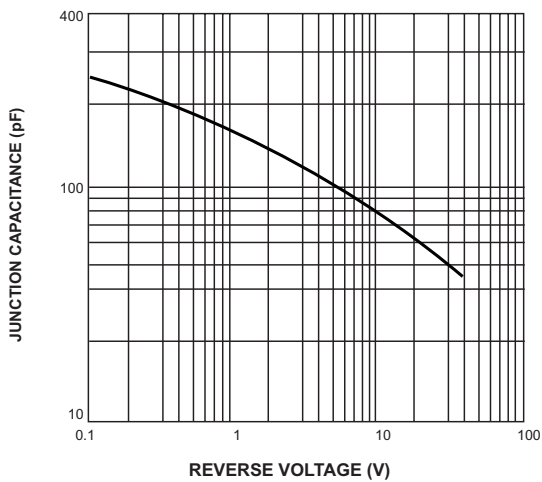


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

