

**Features**

- Halogen Free. "Green" Device (Note 1)
- Guard Ring Protection
- Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters
- Power Dissipation:500mW
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

**Maximum Ratings**

- Operating Junction Temperature Range: -65°C to +125°C
- Storage Temperature Range: -65°C to +150°C
- Maximum Thermal Resistance: 200°C/W Junction to Ambient

| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|--|---------------------|-----------------------------|
| B5817W          | SJ             | 20V                                    | 14V                 | 20V                         |
| B5818W          | SK             | 30V                                    | 21V                 | 30V                         |
| B5819W          | SL             | 40V                                    | 28V                 | 40V                         |

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

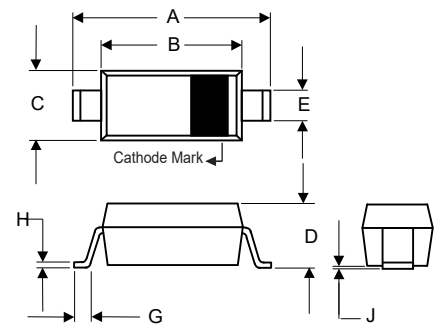
|                                       |             |                         |   |
|---------------------------------------|-------------|-------------------------|---|
| Average Forward Current               | $I_{F(AV)}$ | 1.0A                    | $T_C=90^\circ C$                            |
| Peak Forward Surge Current            | $I_{FSM}$   | 10A                     | 8.3ms Half Sine                             |
| Maximum Instantaneous Forward Voltage | $V_F$       | 0.45V                   | $I_{FM}=1.0A;$<br>$T_J=25^\circ C$ (Note 2) |
|                                       |             | 0.55V                   |   |
|                                       |             | 0.60V                   | $I_{FM}=3A;$<br>$T_J=25^\circ C$ (Note 2)   |
|                                       |             | 0.75V                   |   |
| B5817W                                | 0.875V      |                         |   |
| B5818W                                | 0.90V       |                         |   |
| B5819W                                |             |                         |   |
| Reverse leakage Current               | $I_R$       | 200µA(Max)<br>8µA(Typ.) | $V_R=20V, T_A=25^\circ C$                   |
|                                       |             | 40µA(Max)<br>4µA(Typ.)  | $V_R=30V, T_A=25^\circ C$                   |
|                                       |             | 40µA(Max)<br>7µA(Typ.)  | $V_R=40V, T_A=25^\circ C$                   |
| Typical Junction Capacitance          | $C_J$       | 120pF                   | Measured at 1.0MHz, $V_R=4.0V$              |

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Notes: 2. Pulse Test: Pulse Width 300µsec, Duty Cycle 2%

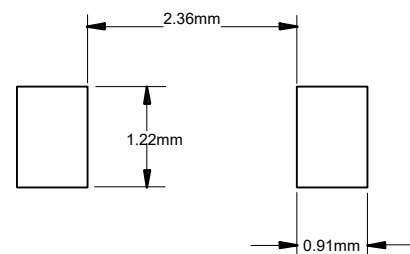
**1 Amp Schottky Barrier Rectifier  
20 - 40 Volts**

**SOD-123**



| DIM | DIMENSIONS |       |      |      | NOTE |
|-----|------------|-------|------|------|------|
|     | INCHES     |       | MM   |      |      |
|     | MIN        | MAX   | MIN  | MAX  |      |
| A   | 0.140      | 0.152 | 3.55 | 3.85 |      |
| B   | 0.100      | 0.112 | 2.55 | 2.85 |      |
| C   | 0.055      | 0.071 | 1.40 | 1.80 |      |
| D   | ----       | 0.053 | ---- | 1.35 |      |
| E   | 0.018      | 0.026 | 0.45 | 0.65 |      |
| G   | 0.006      | ----  | 0.15 | ---- |      |
| H   | ----       | 0.010 | ---- | 0.25 |      |
| J   | ----       | 0.006 | ---- | 0.15 |      |

**Suggested Solder Pad Layout**



## Curve Characteristics

Fig. 1 - Forward Characteristics

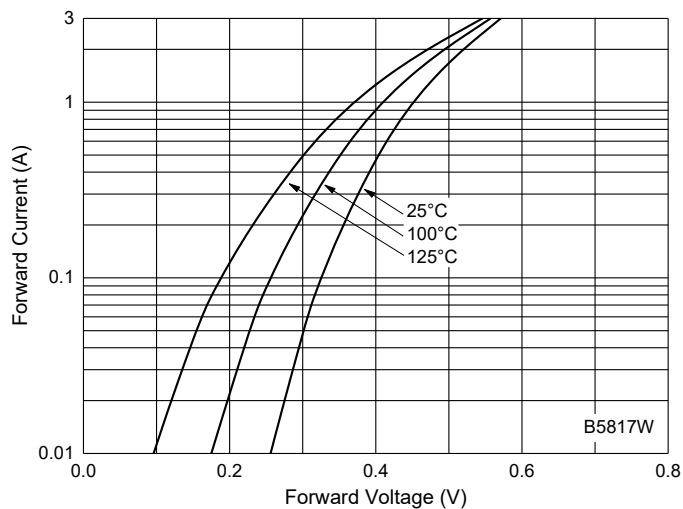


Fig. 2 - Forward Characteristics

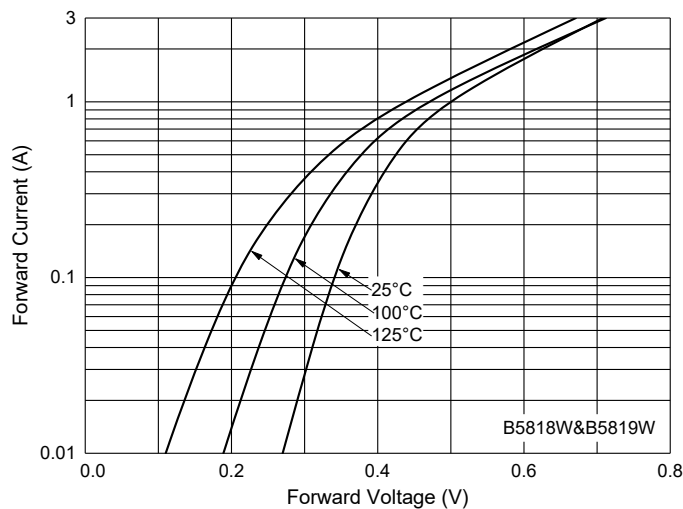


Fig. 3 - Reverse Characteristics

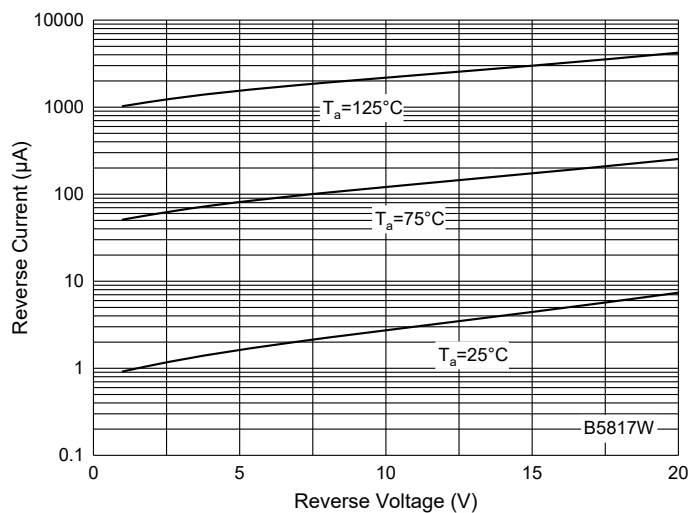


Fig. 4 - Reverse Characteristics

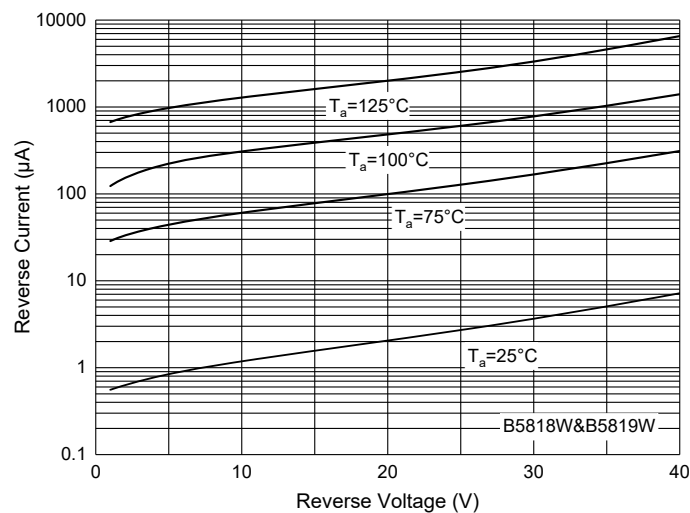
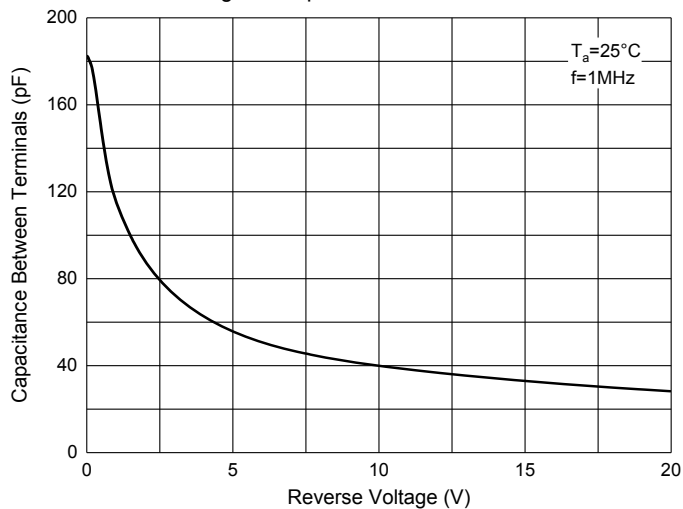


Fig. 5 - Capacitance Characteristics



## Ordering Information

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

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