

Features

- Halogen Free. "Green" Device (Note 1)
- Guard Ring Protection
- Low Forward Voltage Drop
- For Use In Low Voltage, High Frequency Inverters
- High Surge Current Capability
- 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: 500°C/W Junction to Ambient

| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|--|---------------------|-----------------------------|
| B5817WS | SJ | 20V | 14V | 20V |
| B5818WS | SK | 30V | 21V | 30V |
| B5819WS | SL | 40V | 28V | 40V |

Electrical Characteristics @ 25°C Unless Otherwise Specified

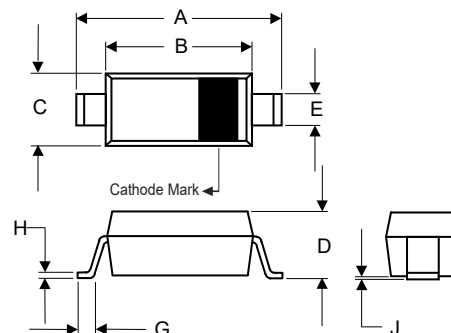
| | | | |
|---------------------------------------|-------------|---|---|
| Average Forward Current | $I_{F(AV)}$ | 1.0A | $T_c = 90^\circ\text{C}$ |
| Peak Forward Surge Current | I_{FSM} | 10A | 8.3ms Half Sine |
| Power Dissipation | P_D | 250mW | |
| Maximum Instantaneous Forward Voltage | V_F | 0.45V 0.55V 0.60V 0.75V 0.875V 0.90V | $I_{FM}=1.0A$; $T_J = 25^\circ\text{C}$ (Note 2) $I_{FM}=3.0A$; $T_J = 25^\circ\text{C}$ (Note 2) |
| Reverse Leakage Current | I_R | 200 μ A(Max) 30 μ A(Typ) 40 μ A(Max) 4 μ A(Typ) 40 μ A(Max) 7 μ A(Typ) | $V_R = 20V, T_A = 25^\circ\text{C}$ $V_R = 30V, T_A = 25^\circ\text{C}$ $V_R = 40V, T_A = 25^\circ\text{C}$ |
| Typical Junction Capacitance | C_J | 80pF 50pF 48pF 32pF | 1.0MHz, $V_R=4.0V$ 1.0MHz, $V_R=10V$ 1.0MHz, $V_R=4.0V$ 1.0MHz, $V_R=10V$ |

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

Note: 2. Pulse Test: Pulse Width 300 μ sec, Duty Cycle 2%

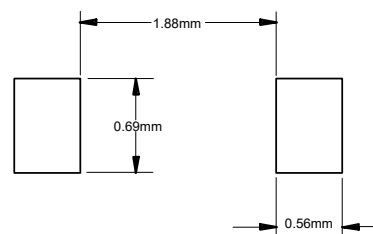
1 Amp Schottky Barrier Rectifier 20 - 40 Volts

SOD-323



| DIMENSIONS | | | | | |
|------------|--------|-------|-------|------|------|
| DIM | INCHES | | MM | | NOTE |
| | MIN | MAX | MIN | MAX | |
| A | 0.090 | 0.107 | 2.30 | 2.70 | |
| B | 0.063 | 0.071 | 1.60 | 1.80 | |
| C | 0.045 | 0.053 | 1.15 | 1.35 | |
| D | 0.031 | 0.045 | 0.80 | 1.15 | |
| E | 0.010 | 0.016 | 0.25 | 0.40 | |
| G | 0.004 | 0.018 | 0.10 | 0.45 | |
| H | 0.004 | 0.010 | 0.10 | 0.25 | |
| J | ----- | 0.006 | ----- | 0.15 | |

Suggested Solder Pad Layout



Curve Characteristics

Fig. 1 - Forward Current Derating Curve

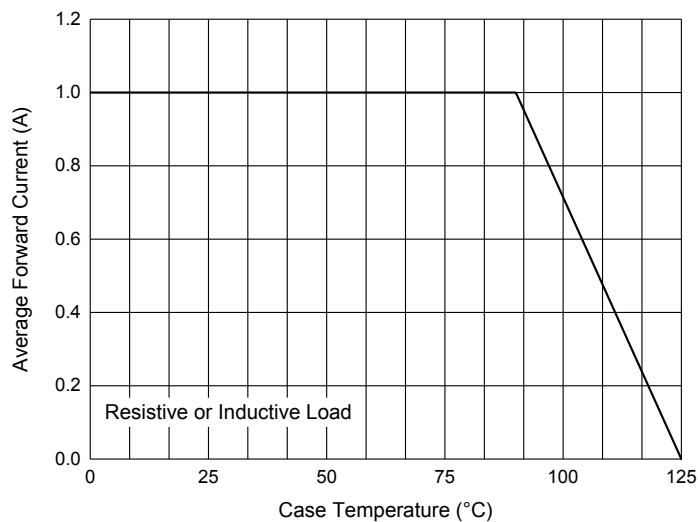


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

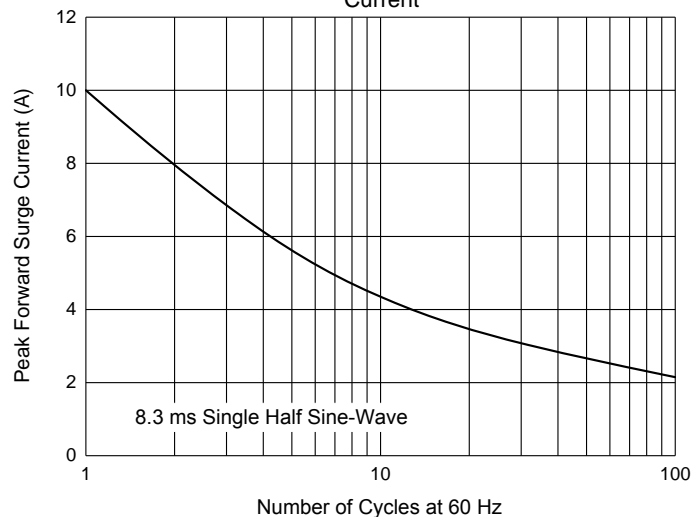


Fig. 3 - Typical Instantaneous Forward Characteristics

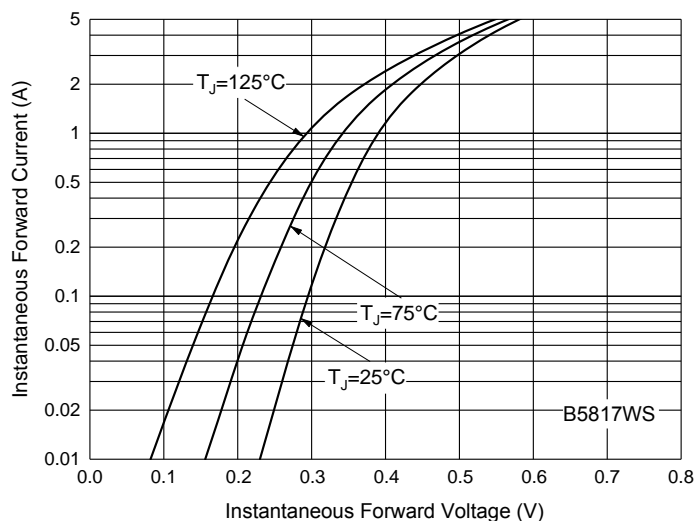


Fig. 4 - Typical Instantaneous Forward Characteristics

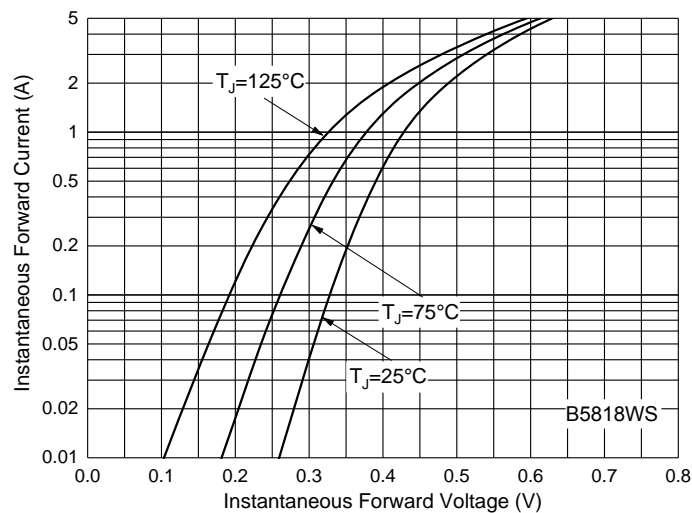


Fig. 5 - Typical Instantaneous Forward Characteristics

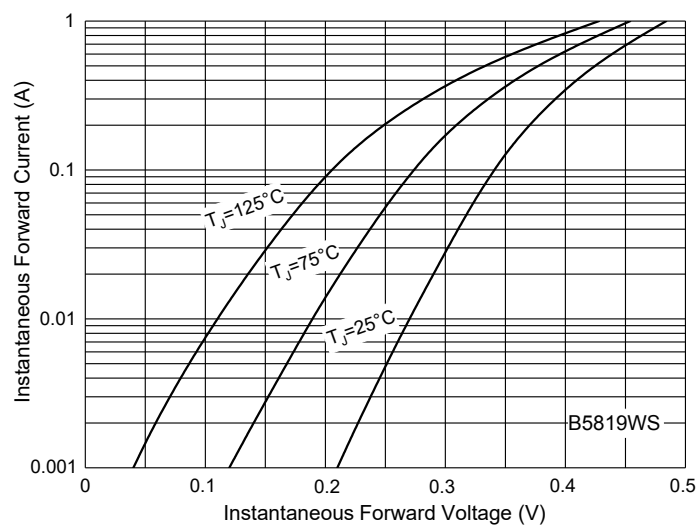
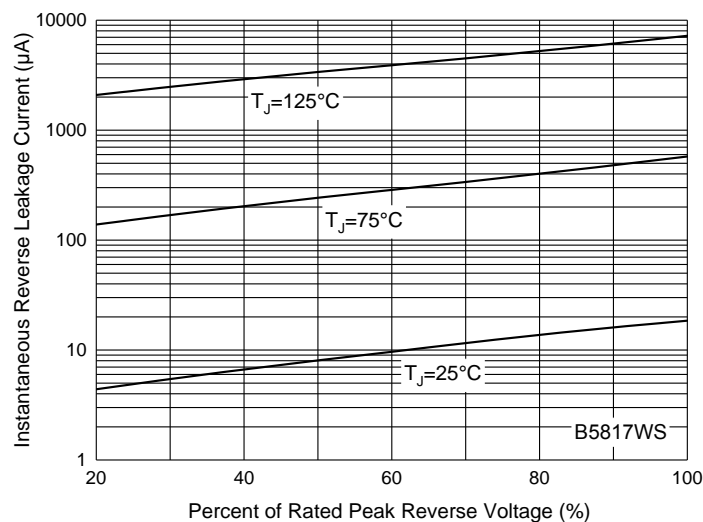


Fig. 6 - Typical Reverse Leakage Characteristics



Curve Characteristics

Fig. 7 - Typical Reverse Leakage Characteristics

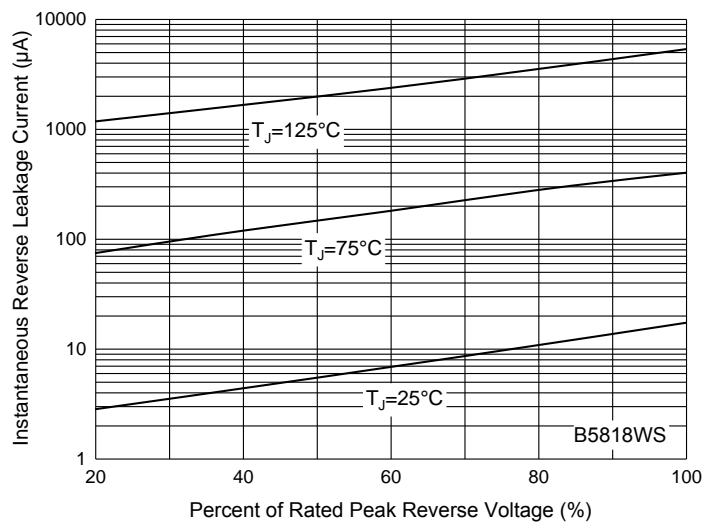
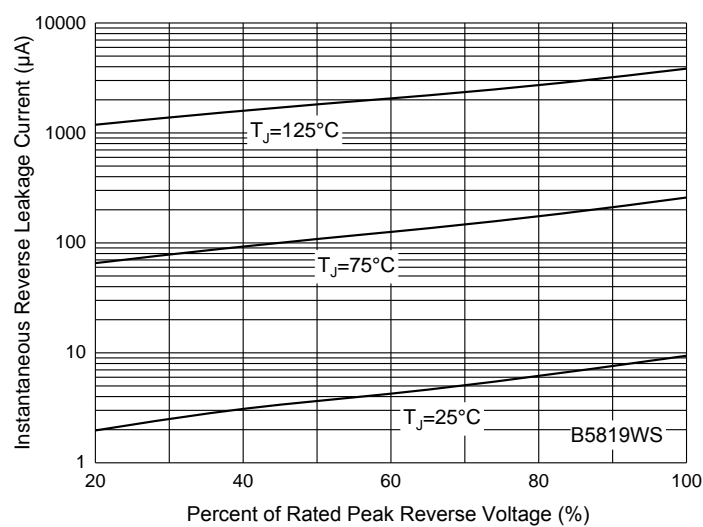


Fig. 8 - Typical Reverse Leakage Characteristics



Ordering Information

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

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