

**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**

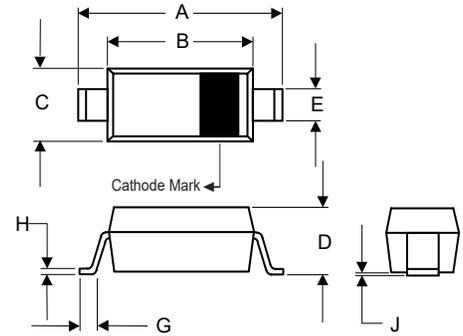
Average Forward Current	$I_{F(AV)}$	1.0A	$T_c = 90^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	10A	8.3ms Half Sine
Power Dissipation	$P_D$	200mW	
Maximum Instantaneous Forward Voltage	$V_F$	0.45V 0.55V 0.60V 0.75V 0.875V 0.90V	$I_{FM}=1.0A;$ $T_J = 25^\circ\text{C}$ (Note 2)  $I_{FM}=3.0A;$ $T_J = 25^\circ\text{C}$ (Note 2)
Reverse Leakage Current	$I_R$	200µA(Max) 30µA(Typ)  40µA(Max) 4µA(Typ)  40µA(Max) 7µA(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 300µsec, Duty Cycle 2%

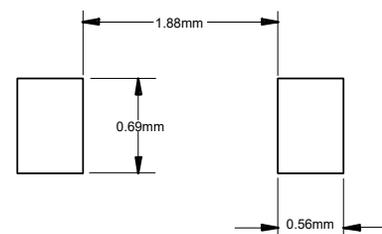
**1 Amp Schottky Barrier Rectifier  
20 - 40 Volts**

**SOD-323**



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	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

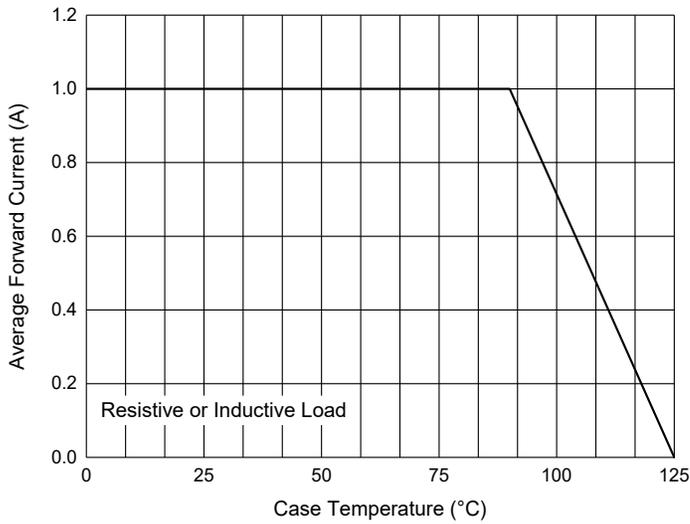


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

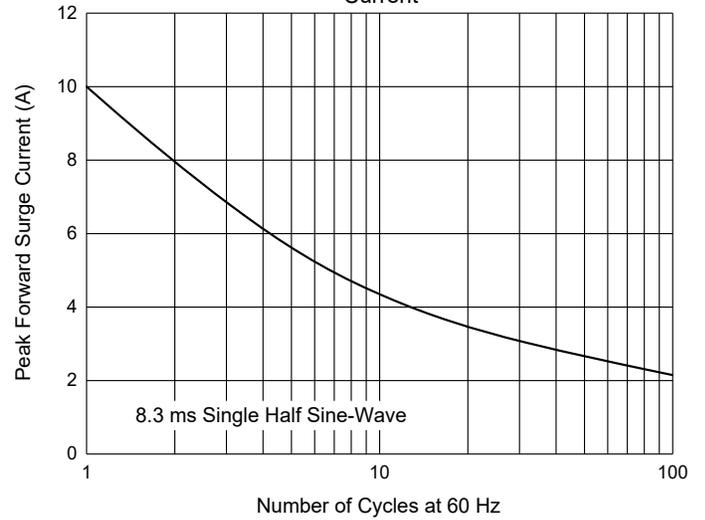


Fig. 3 - Typical Instantaneous Forward Characteristics

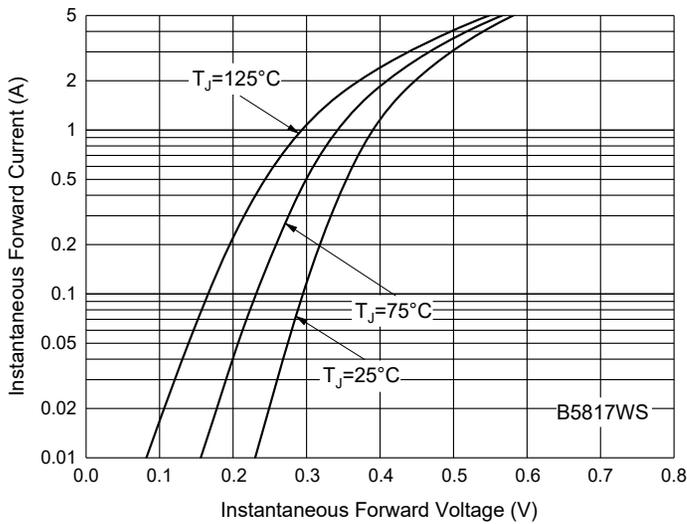


Fig. 4 - Typical Instantaneous Forward Characteristics

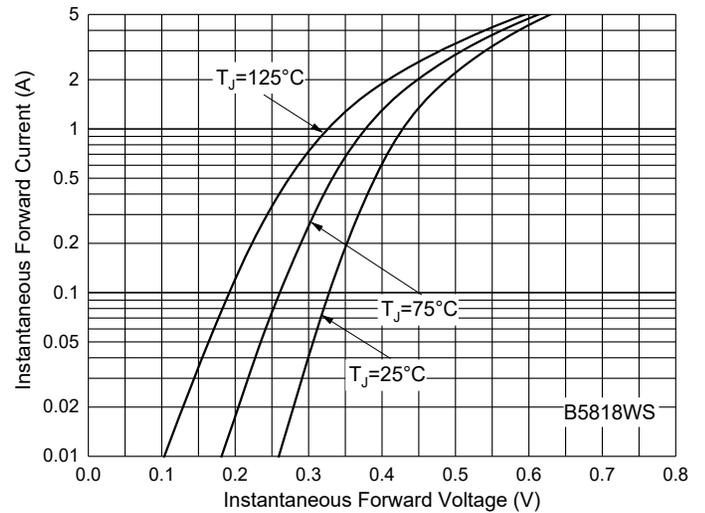


Fig. 5 - Typical Instantaneous Forward Characteristics

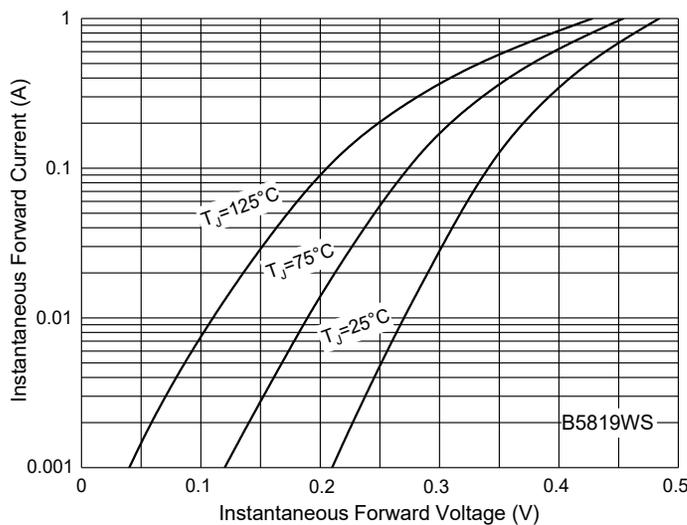
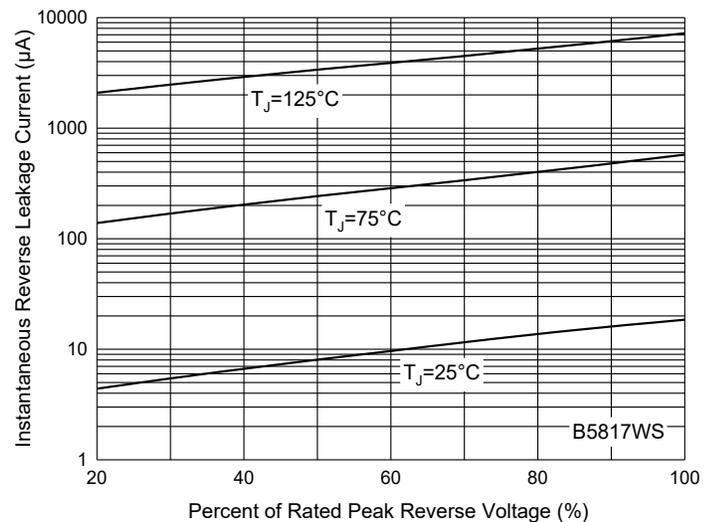


Fig. 6 - Typical Reverse Leakage Characteristics



**Curve Characteristics**

Fig. 7 - Typical Reverse Leakage Characteristics

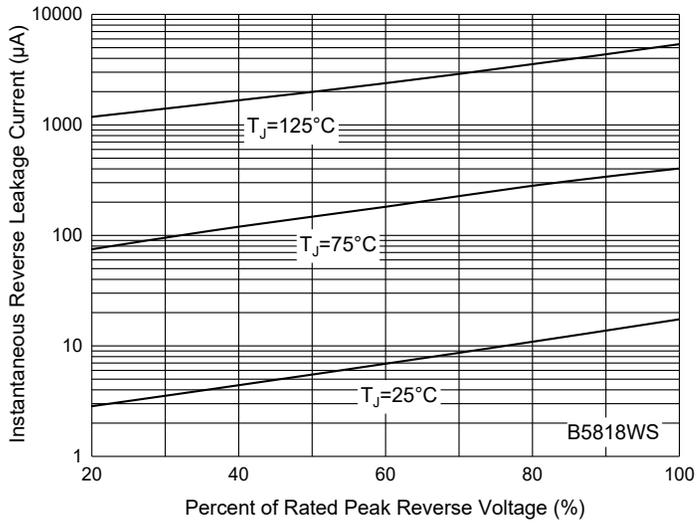
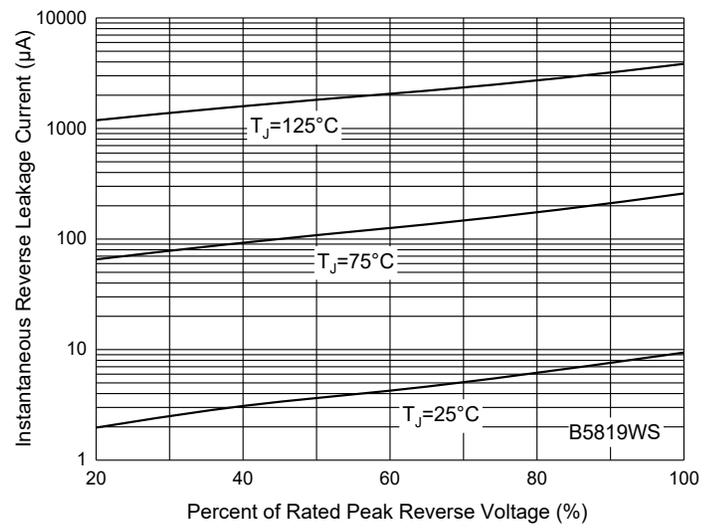


Fig. 8 - Typical Reverse Leakage Characteristics



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel
Part Number-13P	Tape&Reel: 10Kpcs/Reel

For packaging details, go to our website at <https://www.mccsemi.com/pdf/productpackaging/SOD-323%20Package.pdf>

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