

## SOD-123 Plastic-Encapsulate Diode

### B5817W-5819W SCHOTTKY BARRIER DIODE

#### FEATURES

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

**MARKING:** B5817W: SJ  
B5818W:SK  
B5819W: SL



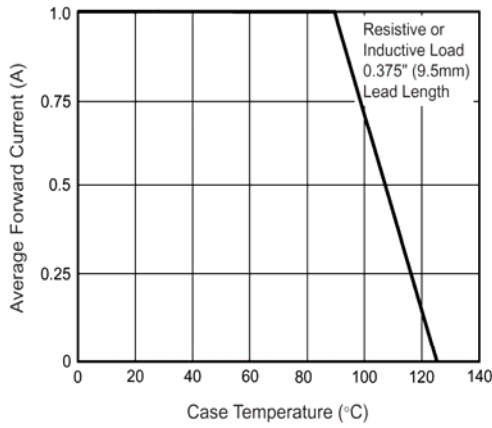
#### Maximum Ratings and Electrical Characteristics, Single Diode @T<sub>A</sub>=25°C

Parameter	Symbol	B5817W	B5818W	B5819W	Unit
Non-Repetitive Peak reverse voltage	V <sub>RM</sub>	20	30	40	V
Peak repetitive Peak reverse voltage	V <sub>RRM</sub>	20	30	40	V
Working Peak Reverse Voltage	V <sub>RWM</sub>				
DC Blocking Voltage	V <sub>R</sub>				
RMS Reverse Voltage	V <sub>R(RMS)</sub>	14	21	28	V
Average Rectified Output Current	I <sub>O</sub>	1			A
Peak forward surge current @=8.3ms	I <sub>FSM</sub>	25			A
Repetitive Peak Forward Current	I <sub>FRM</sub>	625			mA
Power Dissipation	P <sub>d</sub>	250			mW
Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	500			K/W
Storage temperature	T <sub>STG</sub>	-65~+150			°C

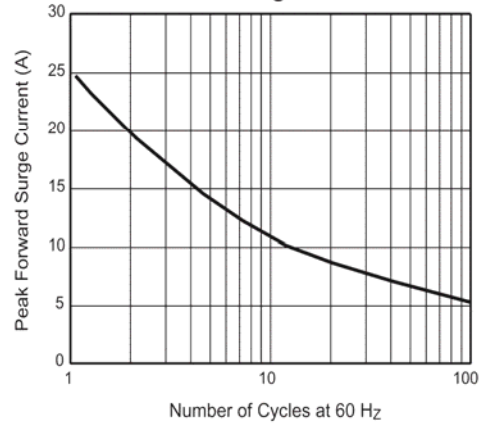
#### ELECTRICAL CHARACTERISTICS (T<sub>amb</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Reverse breakdown voltage	V <sub>(BR)</sub>	I <sub>R</sub> = 1mA			V
		B5817W	20		
		B5818W B5819W	30 40		
Reverse voltage leakage current	I <sub>R</sub>	V <sub>R</sub> =20V B5817W V <sub>R</sub> =30V B5818W V <sub>R</sub> =40V B5819W		1	mA
Forward voltage	V <sub>F</sub>	B5817W I <sub>F</sub> =1A		0.45	V
		I <sub>F</sub> =3A		0.75	
		B5818W I <sub>F</sub> =1A		0.55	V
		I <sub>F</sub> =3A		0.875	
		B5819W I <sub>F</sub> =1A		0.6	V
		I <sub>F</sub> =3A		0.9	
Diode capacitance	C <sub>D</sub>	V <sub>R</sub> =4V, f=1MHz		120	pF

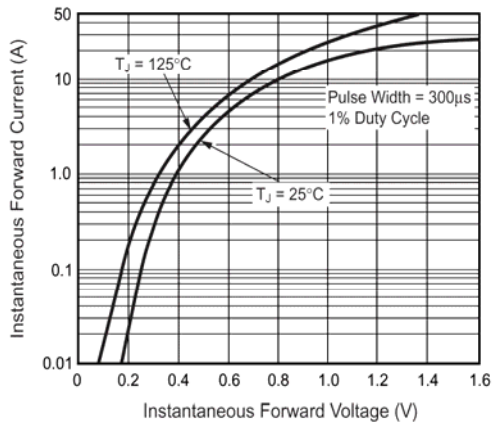
**Fig. 1 - Forward Current Derating Curve**



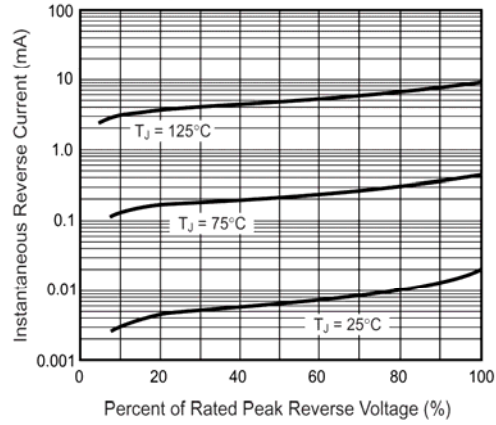
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current**



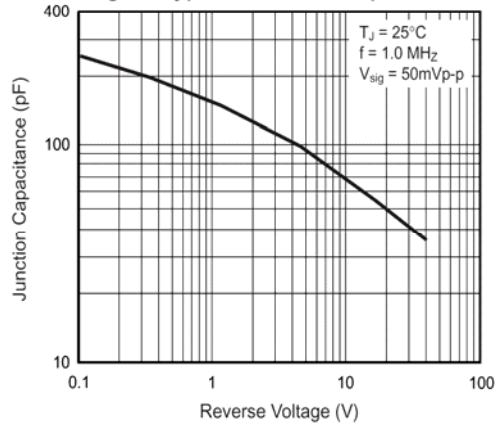
**Fig. 3 - Typical Instantaneous Forward Characteristics**



**Fig. 4 - Typical Reverse Characteristics**



**Fig. 5 - Typical Junction Capacitance**



**Fig. 6 - Typical Transient Thermal Impedance**

