

# SCHOTTKY BARRIER DIODE

## PRODUCT SUMMARY

SOD-123 Plastic-Encapsulate Diode

## FEATURES

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

 **Pb-free; RoHS-compliant**



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

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Single Diode @ $T_A=25^\circ\text{C}$

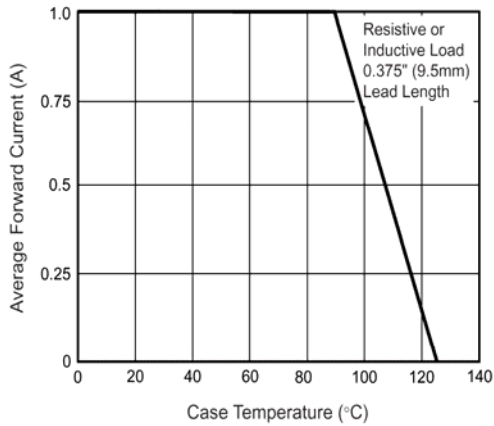
Parameter	Symbol	B5817W	B5818W	B5819W	Unit
Non-Repetitive Peak reverse voltage	$V_{RM}$	20	30	40	V
Peak repetitive Peak reverse voltage	$V_{RRM}$	20	30	40	V
Working Peak Reverse Voltage	$V_{RWM}$				
DC Blocking Voltage	$V_R$				
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	V
Average Rectified Output Current	$I_O$	1			A
Peak forward surge current @=8.3ms	$I_{FSM}$	25			A
Repetitive Peak Forward Current	$I_{FRM}$	625			mA
Power Dissipation	$P_d$	250			mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	500			K/W
Storage temperature	$T_{STG}$	-65~+150			$^\circ\text{C}$

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

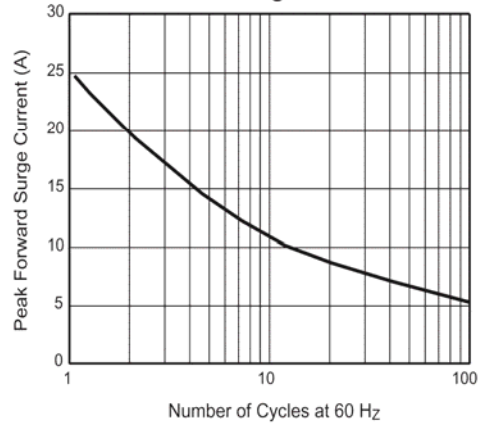
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Reverse breakdown voltage	V <sub>(BR)</sub>	I <sub>R</sub> = 1mA B5817W B5818W B5819W	20 30 40		v
Reverse voltage leakage current	I <sub>R</sub>	V <sub>R</sub> =20V B5817W V <sub>R</sub> =30V B5818W V <sub>R</sub> =40V B5819W		1	mA
Forward voltage	V <sub>F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

## TYPICAL CHARACTERISTICS

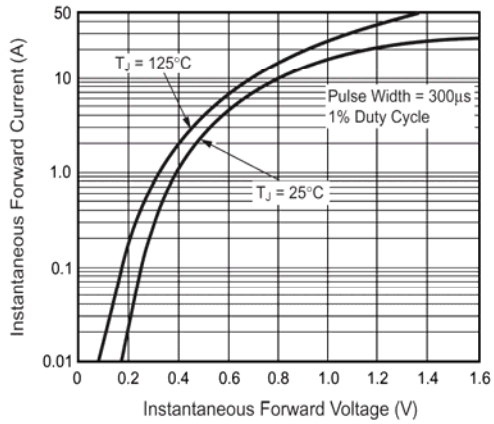
**Fig. 1 - Forward Current Derating Curve**



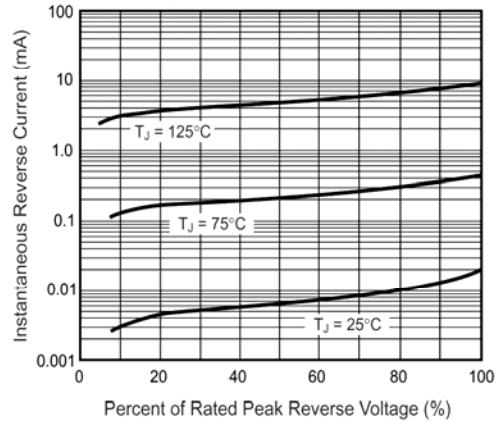
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current**



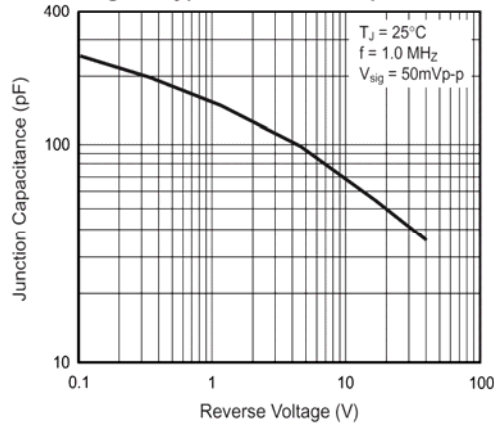
**Fig. 3 - Typical Instantaneous Forward Characteristics**



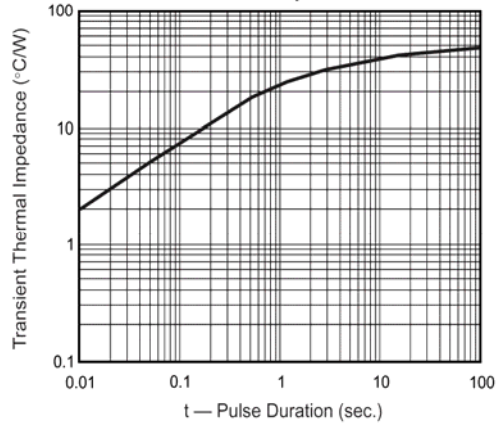
**Fig. 4 - Typical Reverse Characteristics**



**Fig. 5 - Typical Junction Capacitance**



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



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