

SOD-123 Plastic-Encapsulate Diodes

B5817W-B5819W Schottky barrier Diode

Features

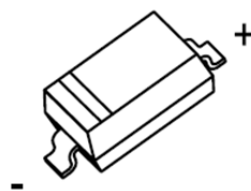
- Low forward voltage drop, High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

Marking:

B5817W:SJ	B5818W:SK	B5819W:SL
		

The marking bar indicates the cathode

SOD-123 



Equivalent circuit



Maximum Ratings and Electrical Characteristics, Single Diode @Ta=25°C

Parameter	Symbol	B5817W	B5818W	B5819W	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	20	30	40	V
Peak Repetitive Peak Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	30	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	V
Average Rectified Output Current	I_O	1			A
Non-repetitive Peak Forward Surge Current@t=8.3ms	I_{FSM}	9			A
Repetitive Peak Forward Current	I_{FRM}	1.5			A
Power Dissipation	P_D	500			mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	200			°C/W
Operating Junction Temperature Range	T_J	-40 ~ +125			°C
Storage Temperature Range	T_{STG}	-55 ~ +150			°C

ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions		Min	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	B5817W	$I_R = 1mA$	20		V
		B5818W	$I_R = 1mA$	30		
		B5819W	$I_R = 1mA$	40		
Reverse voltage leakage current	I_R	B5817W	$V_R = 20V$		1	mA
		B5818W	$V_R = 30V$		1	
		B5819W	$V_R = 40V$		1	
Forward voltage	V_F	B5817W	$I_F = 1A$		0.45	V
			$I_F = 3A$		0.75	
		B5818W	$I_F = 1A$		0.55	
			$I_F = 3A$		0.875	
		B5819W	$I_F = 1A$		0.6	
			$I_F = 3A$		0.9	
Diode capacitance	C_D	$V_R = 4V, f = 1MHz$			120	pF

Typical Characteristics

Fig.1 Typical Instantaneous Forward Characteristics

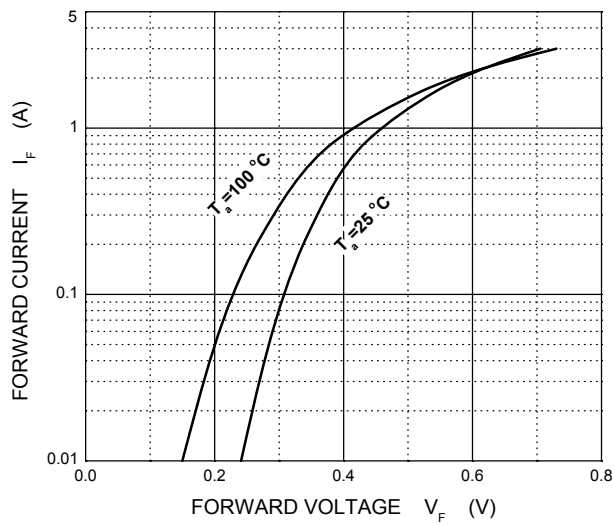


Fig.2 Typical Reverse Characteristics

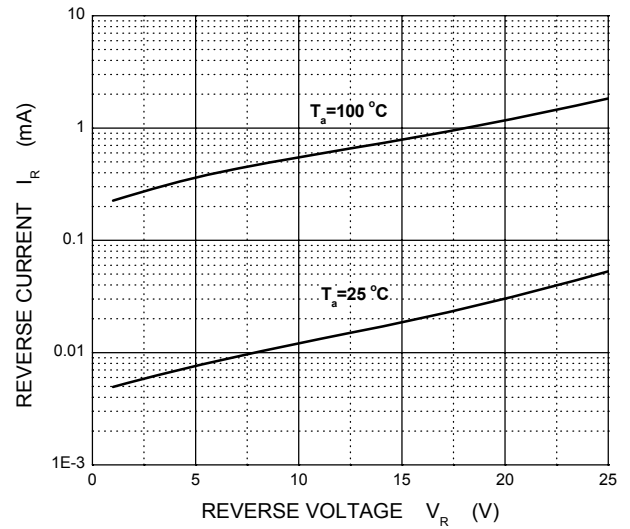


Fig.3 Typical Junction Capacitance

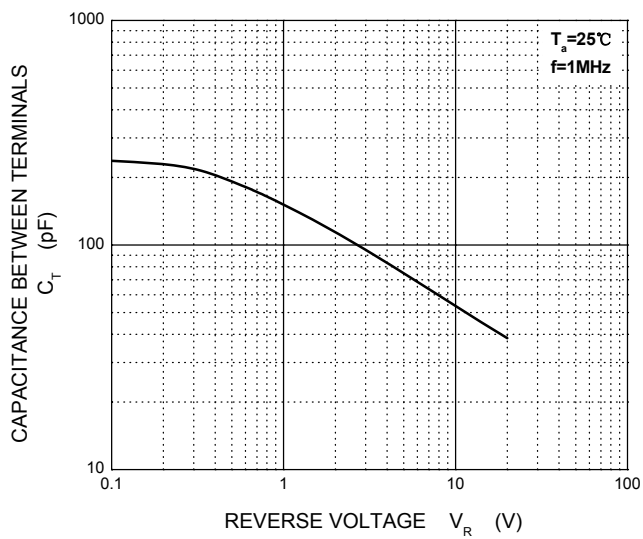
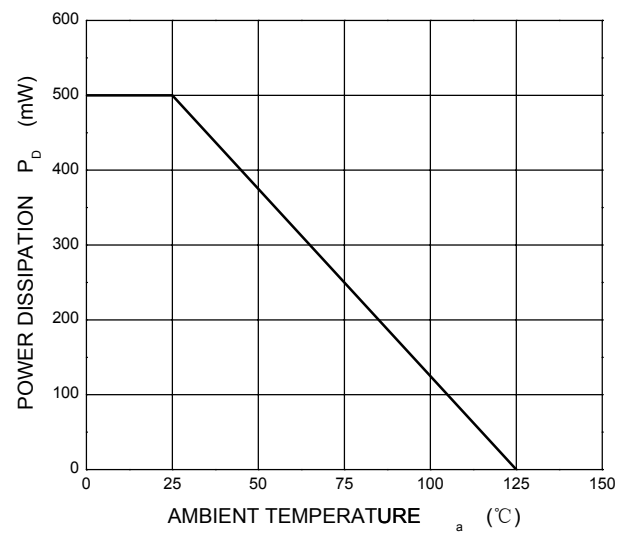
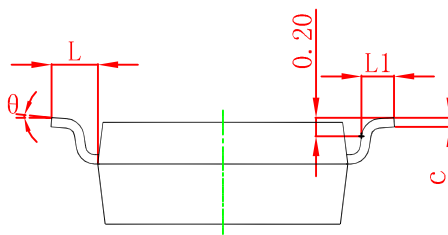
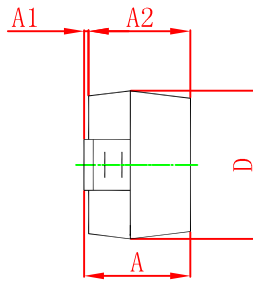
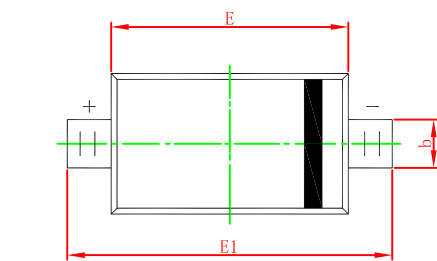


Fig.4 Power Derating Curve

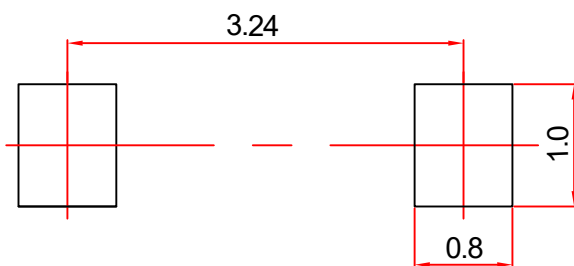


SOD-123 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

SOD-123 Suggested Pad Layout



Note:

1. Controlling dimension: in/millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.