

SOD-323 Plastic-Encapsulate Diodes

B5817WS-B5819WS Schottky barrier Diode

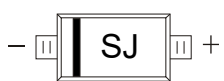


SOD-323

RoHS
COMPLIANT

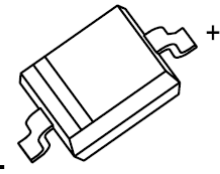
Features

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

Marking:

B5817WS:SJ	B5818WS:SK	B5819WS:SL
		

The marking bar indicates the cathode



Equivalent circuit



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

Parameter	Symbol	B5817WS	B5818WS	B5819WS	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	250			mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	400			°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	$V_{(BR)}$	B5817WS	$I_R=1mA$	20		V
		B5818WS	$I_R=1mA$	30		
		B5819WS	$I_R=1mA$	40		
Reverse voltage leakage current	I_R	B5817WS	$V_R=20V$		1	mA
		B5818WS	$V_R=30V$		1	
		B5819WS	$V_R=40V$		1	
Forward voltage	V_F	B5817WS	$I_F=1A$		0.45	V
			$I_F=3A$		0.75	
		B5818WS	$I_F=1A$		0.55	
			$I_F=3A$		0.875	
		B5819WS	$I_F=1A$		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

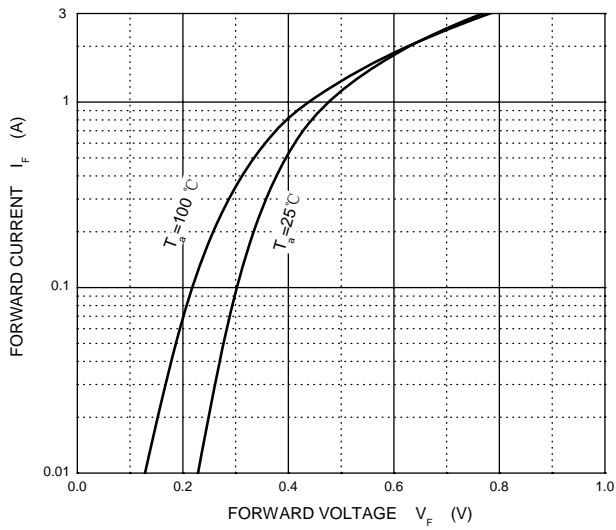


Fig.2 Typical Reverse Characteristics

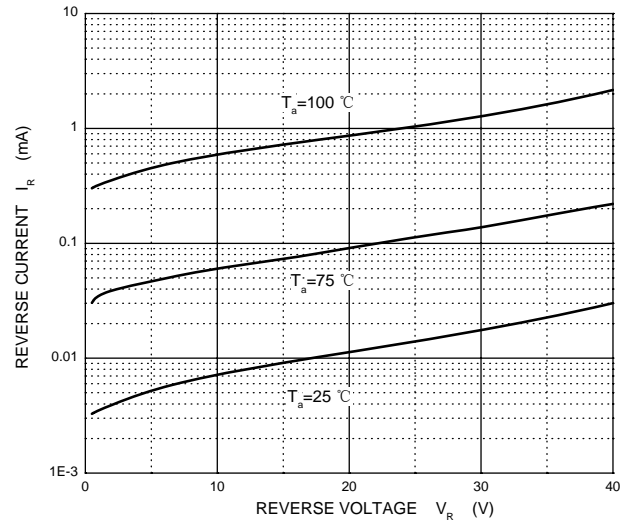


Fig.3 Typical Junction Capacitance

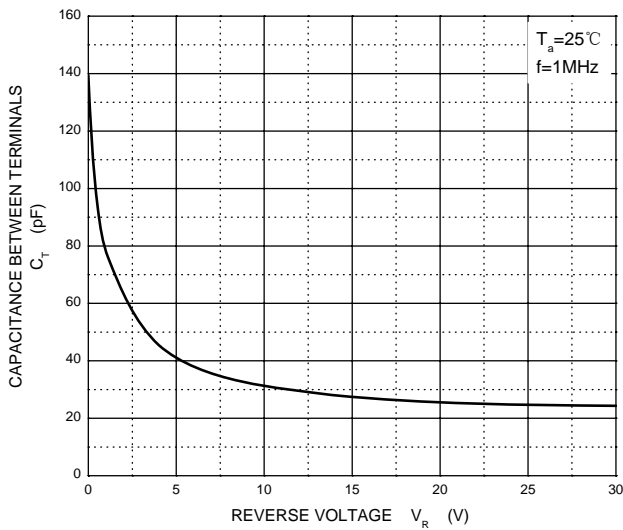
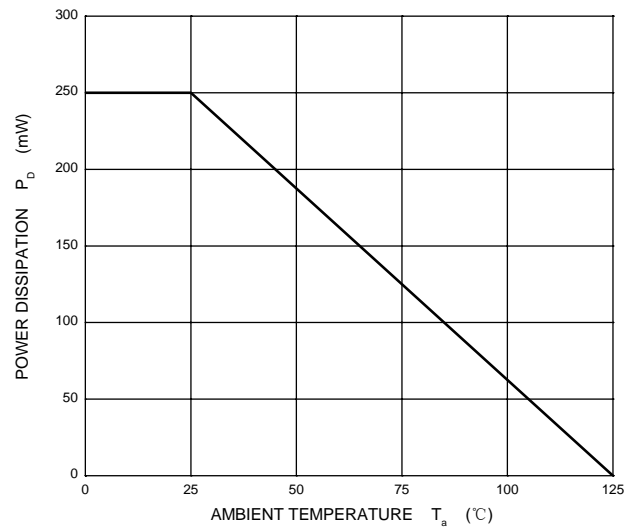
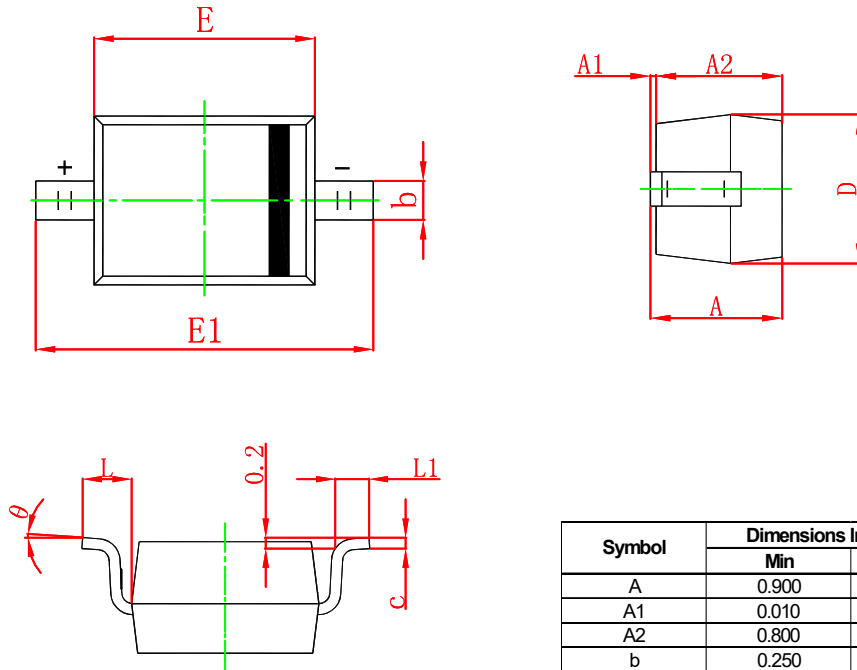


Fig.4 Power Derating Curve

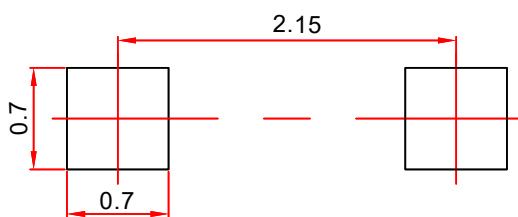


SOD-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.010	0.150	0.000	0.006
A2	0.800	1.000	0.031	0.039
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.500	2.750	0.098	0.108
L	0.475 REF		0.019 REF	
L1	0.250	0.040	0.010	0.016
θ	0°		8°	

SOD-323 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.