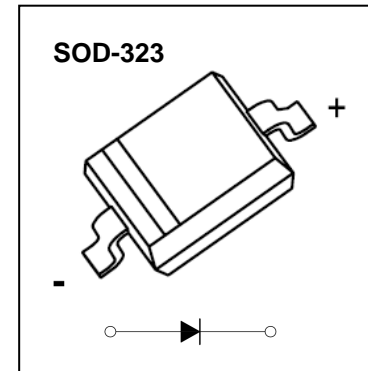


SCHOTTKY BARRIER DIODE

FEATURES

- For use in low voltage, high frequency inverters
- Free wheeling, and polarity protection applications
- AEC-Q101 qualified (Automotive grade with suffix "Q".)
- Exsemi technology



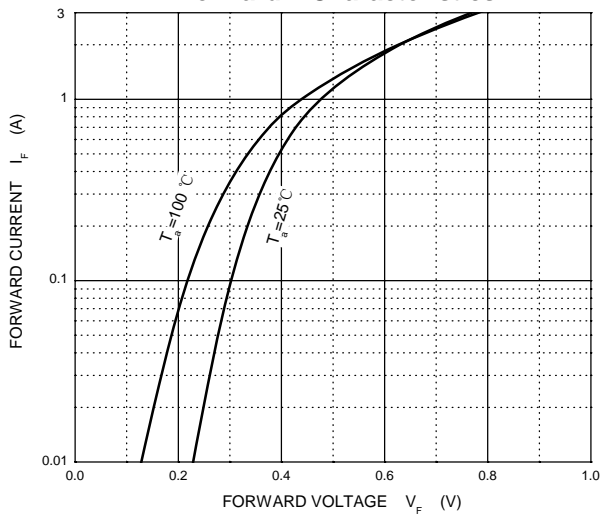
Maximum Ratings and Electrical Characteristics, Single Diode @Ta=25°C

Parameter	Symbol	1N5817WS	1N5818WS	1N5819WS	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
Forward surge current	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
Junction temperature	T_J	125			°C
Storage temperature	T_{STG}	-55~+150			°C

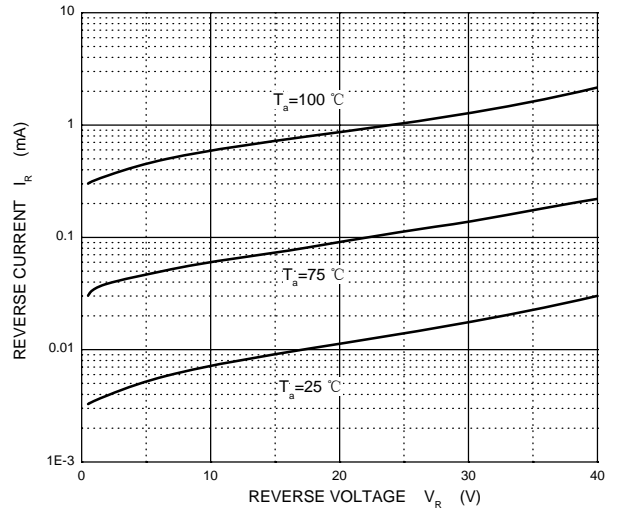
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	$I_R=1mA$ 5817WS 5818WS 5819WS	20 30 40		V
Reverse voltage leakage current	I_R	$V_R=20V$ 5817WS $V_R=30V$ 5818WS $V_R=40V$ 5819WS		1	mA
Forward voltage	V_F	5817WS $I_F=1A$		0.45	V
		$I_F=3A$		0.75	
		5818WS $I_F=1A$		0.55	V
		$I_F=3A$		0.875	
		5819WS $I_F=1A$		0.6	V
		$I_F=3A$		0.9	
Diode capacitance	C_D	$V_R=4V, f=1MHz$		120	pF

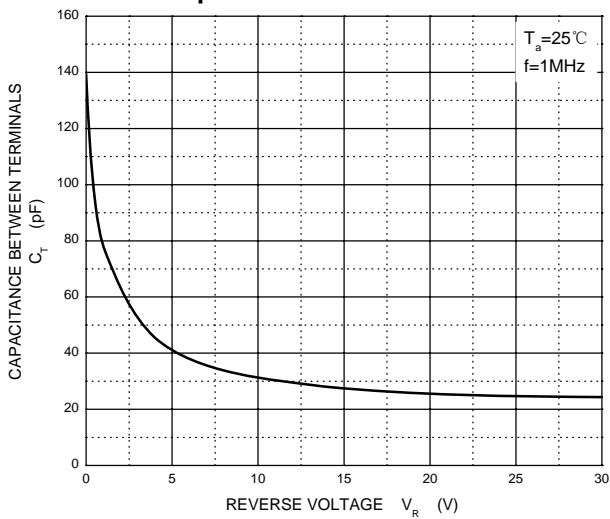
Forward Characteristics



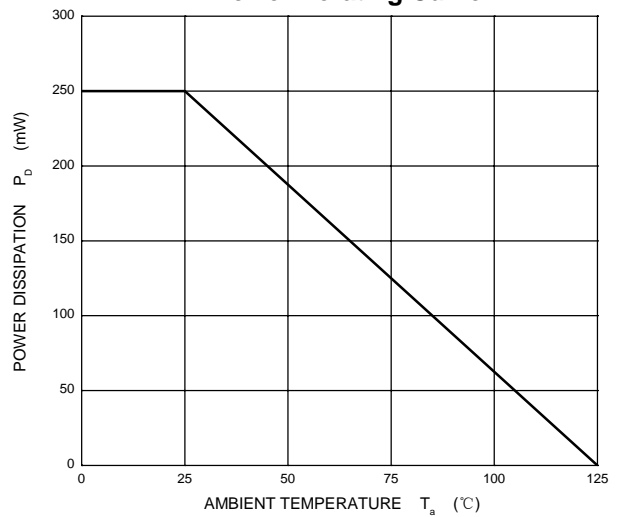
Reverse Characteristics



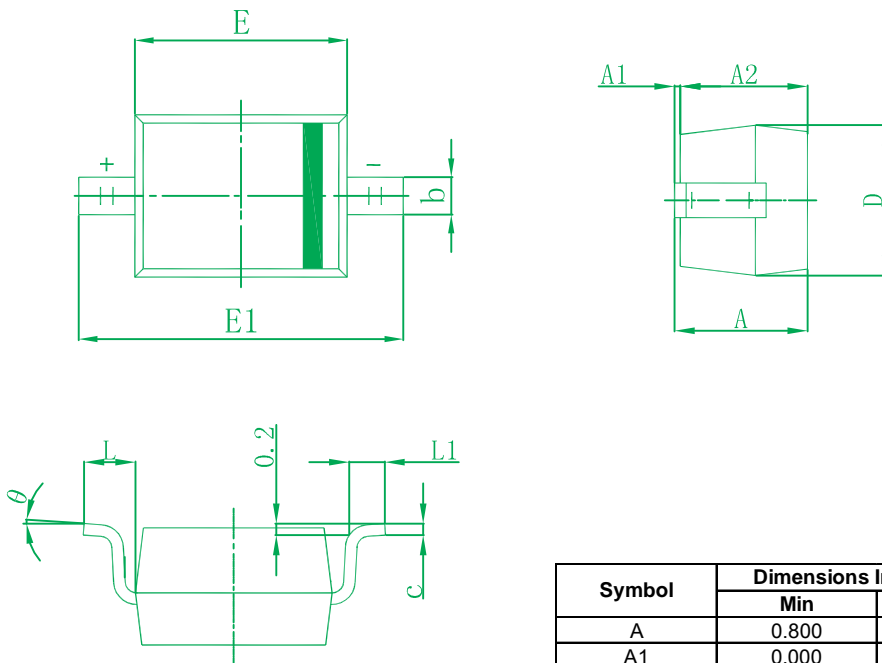
Capacitance Characteristics



Power Derating Curve

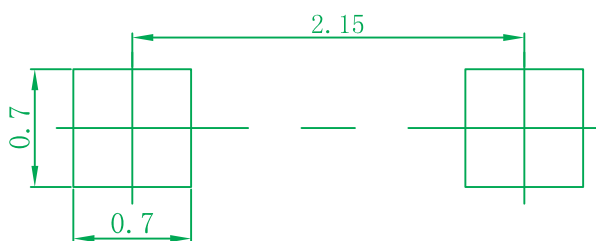


SOD-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.800	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.150	0.035	0.045
b	0.250	0.400	0.010	0.015
c	0.080	0.150	0.003	0.006
D	1.150	1.400	0.045	0.055
E	1.600	1.800	0.063	0.071
E1	2.400	2.800	0.094	0.110
L	0.475 REF		0.019 REF	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°

SOD-323 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

Ordering information

Device	Package	Shipping
1N58XXWS	SOD-323	3000/Tape&Reel(7inches)