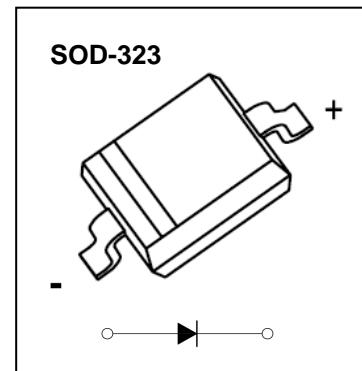


SCHOTTKY BARRIER DIODE

FEATURES

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

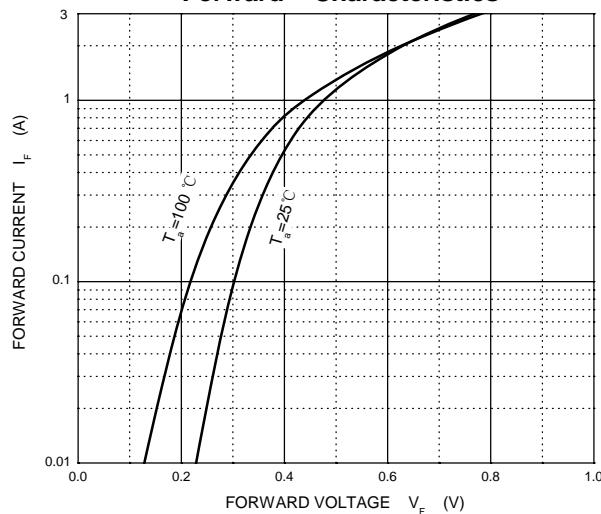
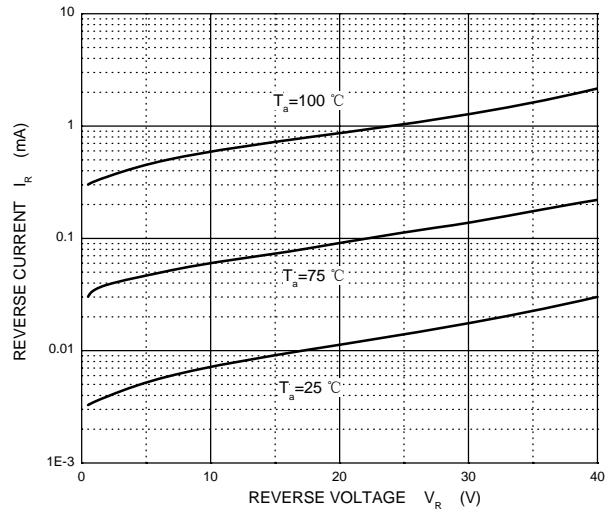
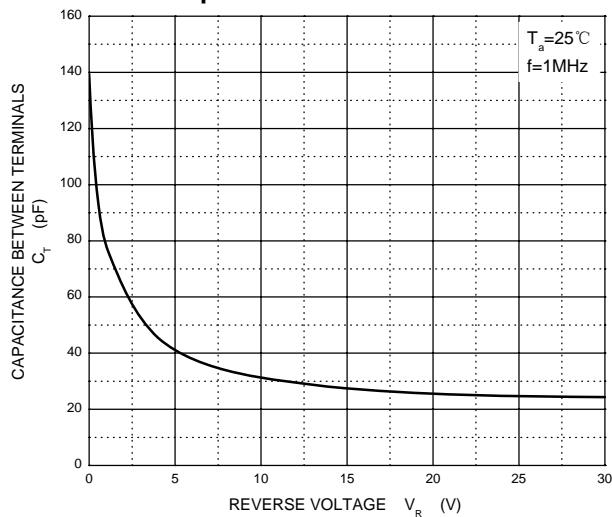
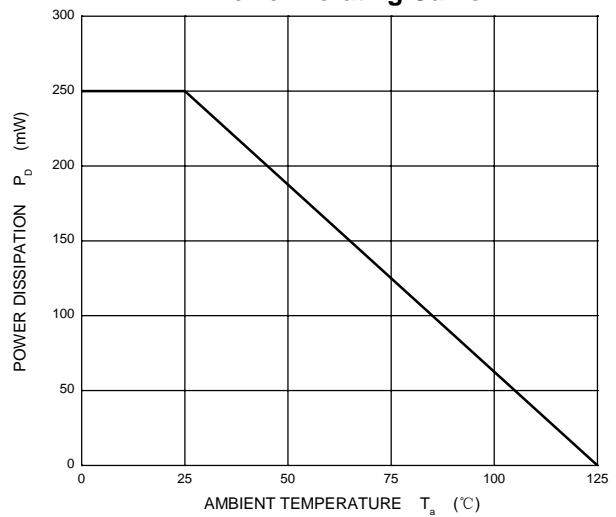


Maximum Ratings and Electrical Characteristics, Single Diode @Ta=25°C

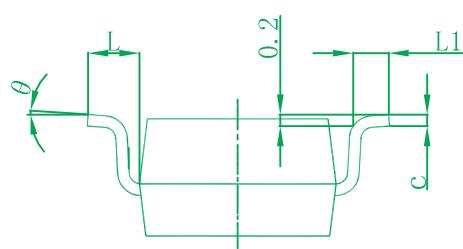
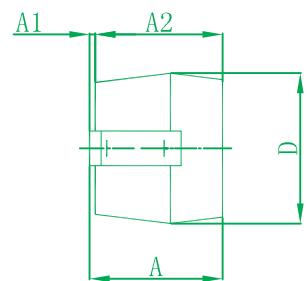
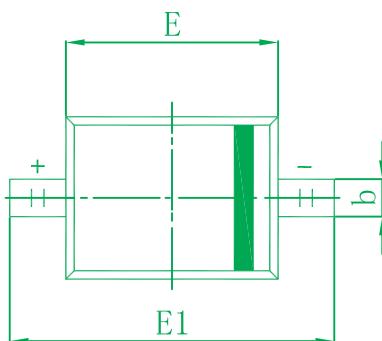
Parameter	Symbol	1N5817WS	1N5818WS	1N5819WS	Unit
Non-repetitive peak reverse voltage	V _{RM}	20	30	40	V
Peak repetitive peak reverse voltage	V _{RRM}				
Working peak reverse voltage	V _{RWM}	20	30	40	V
DC blocking voltage	V _R				
RMS reverse voltage	V _{R(RMS)}	14	21	28	V
Average rectified output current	I _O		1		A
Bcb!fYdYHij YDYU Forward Gi f[Y7 urrent 4 H, " a g	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 _{θJA}		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 V _R =30V V _R =40V 5817WS 5818WS 5819WS		1	mA
Forward voltage	V _F	5817WS I _F =1A I _F =3A 5818WS I _F =1A I _F =3A 5819WS I _F =1A I _F =3A		0.45 0.75 0.55 0.875 0.6 0.9	V
Diode capacitance	C _D	V _R =4V, f=1MHz		120	pF

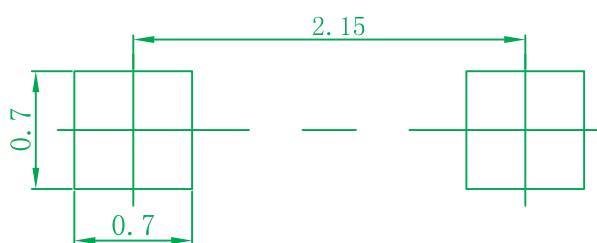
Forward Characteristics

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		0.019REF	
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: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Ordering information

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