TWGMC

SCHOTTKY BARRIER RECTIFIERS

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

Top View
Marking Code: 1N5817WS---SJ
                1N5818WS---SK
                1N5819WS---SL
Simplified outline SOD-323 and symbol
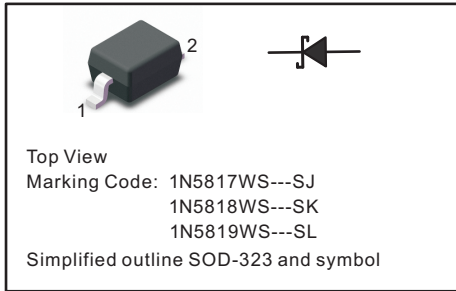
FEATURES

- Metal silicon junction, majority carrier conduction
- Guarding for overvoltage protection
- Low power loss, high efficiency
- High current capability
- low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
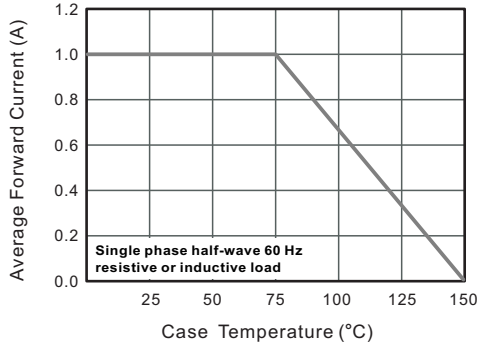
MECHANICAL DATA

- Case: SOD-323
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 5.48mg / 0.00019oz
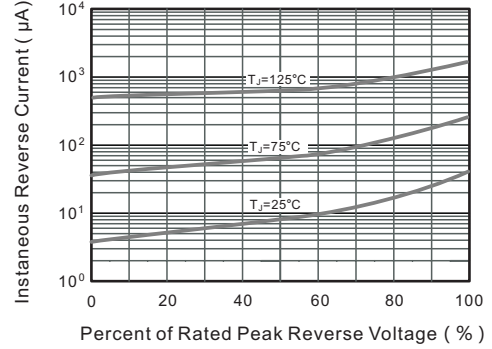
Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbols	1N5817WS	1N5818WS	1N5819WS	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	30	40	V
Maximum RMS voltage	V_{RMS}	14	21	28	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1			A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load (JEDEC method)	I_{FSM}	9			A
Maximum Instantaneous Forward Voltage at 1 A at 3 A	V_F	0.45 0.75	0.55 0.875	0.6 0.9	V
Maximum Instantaneous Reverse Current at TA = 25°C Rated DC Reverse Voltage TA = 100°C	I_R	1 10			mA
Typical Junction Capacitance	C_j	110			pF
Storage and Operating Junction Temperature Range	T_j, T_{stg}	-55 ~ +150			°C

Fig.1 Forward Current Derating Curve

Average Forward Current (A) vs Case Temperature (°C)

Single phase half-wave 60 Hz resistive or inductive load

Fig.2 Typical Reverse Characteristics

Instaneous Reverse Current (μA) vs Percent of Rated Peak Reverse Voltage (%)

$T_J=125°C$
$T_J=75°C$
$T_J=25°C$

Fig.3 Typical Forward Characteristic

Instaneous Forward Current (A) vs Instaneous Forward Voltage (V)

$T_J=125°C$
$T_J=25°C$

Fig.4 Typical Junction Capacitance

Junction Capacitance (pF) vs Reverse Voltage (V)
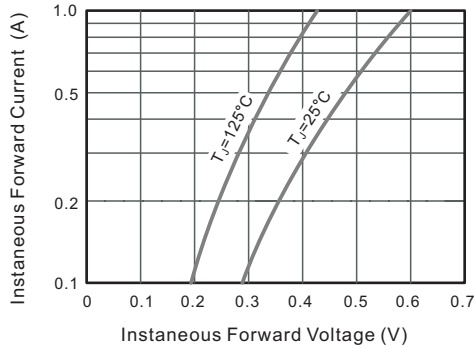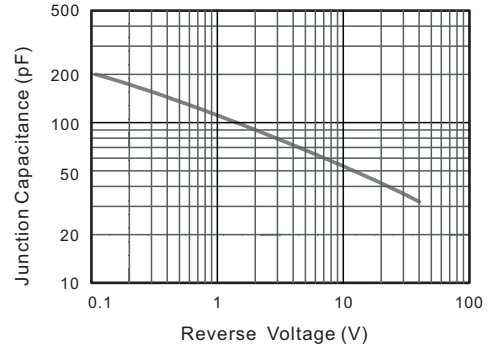
Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

Peak Forward Surage Current (A) vs Number of Cycles at 50Hz

8.3 ms Single Half Sine Wave (JEDEC Method)

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-323

∠ALL ROUND

SOD-323 mechanical data

UNIT		A	C	D	E	E₁	b	L₁	A₁	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	
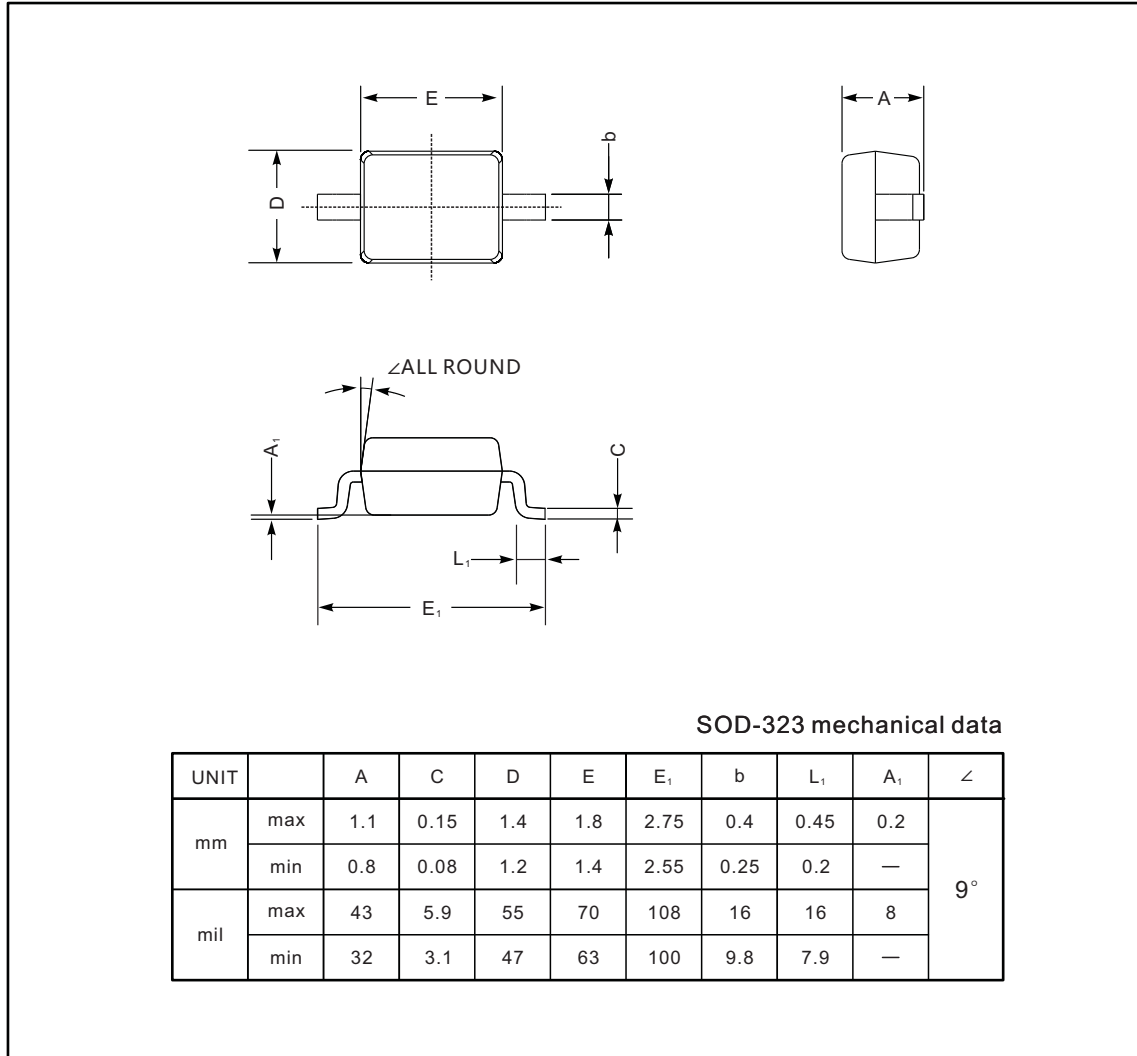
The recommended mounting pad size

1.2 (47)   1.4 (55)   1.2 (47)

1.2 (47)

Unit: $\frac{mm}{(mil)}$
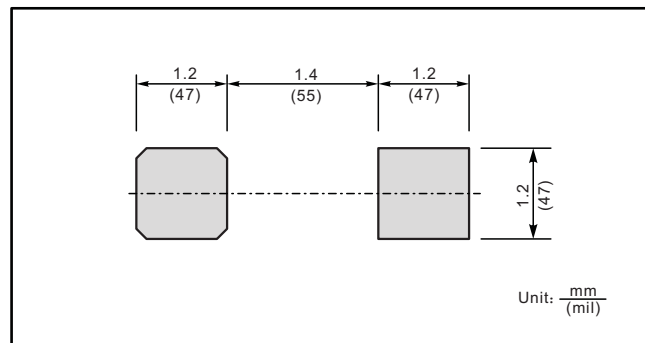
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