RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

1N5817W THRU 1N5819W

SCHOTTKY BARRIER RECTIFIER

VOLTAGE RANGE 20 to 40 Volts CURRENT 1.0 Ampere

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

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

Top View
Marking Code: 1N5817W---12A
1N5818W---13A
1N5819W---14A
Weight：17mg，0.0006 oz
Simplified outline SOD-123F(L) and symbol

Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbols	1N5817W	1N5818W	1N5819W	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 0.375" (9.5 mm) Lead Length at T_L = 90°C	$I_{F(AV)}$	1			A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load (JEDEC method) at TL = 70°C	I_{FSM}	25			A
Typical Current Squared Time	I^2T	2.59			A^2S
Maximum Instantaneous Forward Voltage at 1 A Maximum Instantaneous Forward Voltage at 3.1 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 Thermal Resistance	$R_{\theta JA}$ $R_{\theta JL}$	50 15			°C/W
Typical Junction Capacitance	C_j	110			pF
Storage and Operating Junction Temperature Range	T_j, T_{stg}	-55 ~ +125			°C

2015-07
REV：O

RATING AND CHARACTERISTICS CURVES (1N5817W THRU 1N5819W)

Fig.1 Forward Current Derating Curve

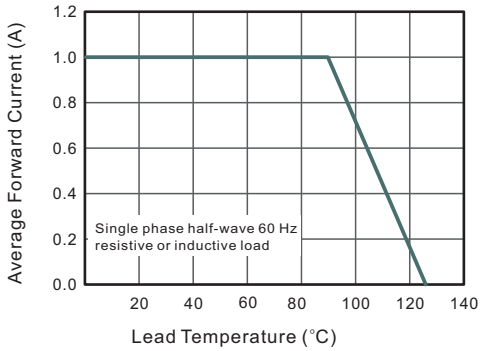


Fig.2 Typical Reverse Characteristics

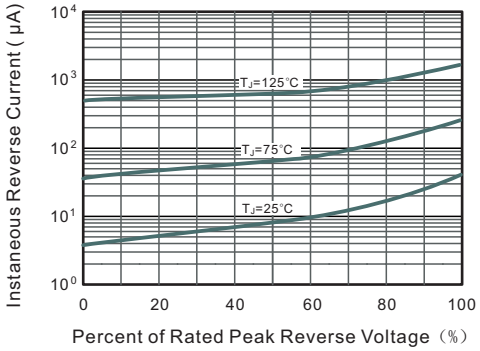


Fig.3 Typical Forward Characteristic

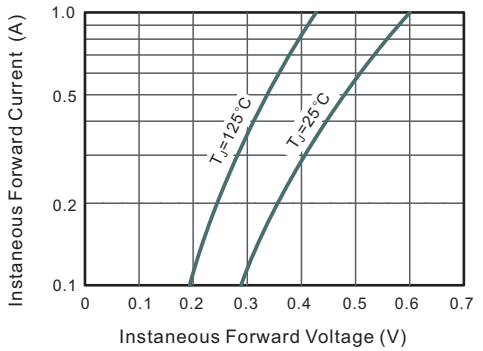


Fig.4 Typical Junction Capacitance

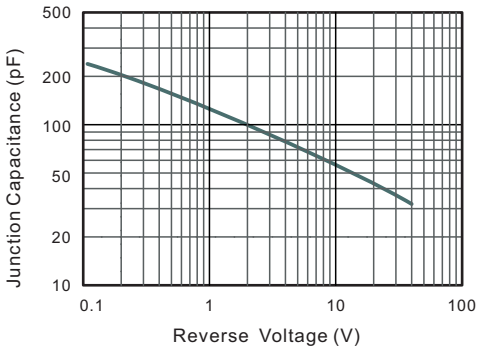


Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

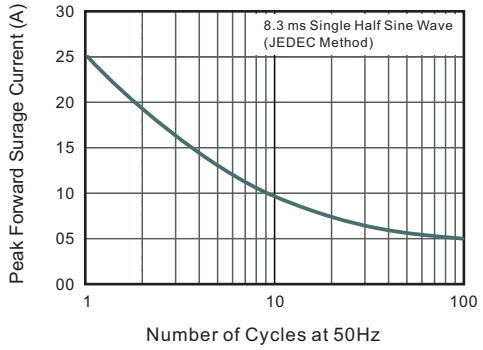
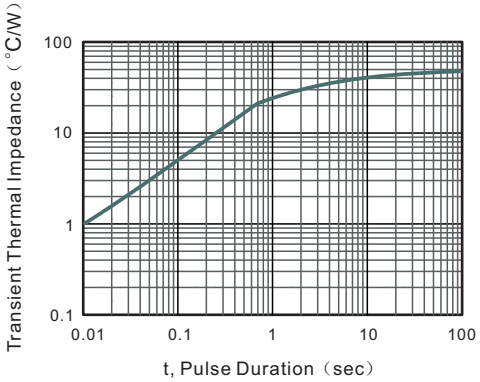
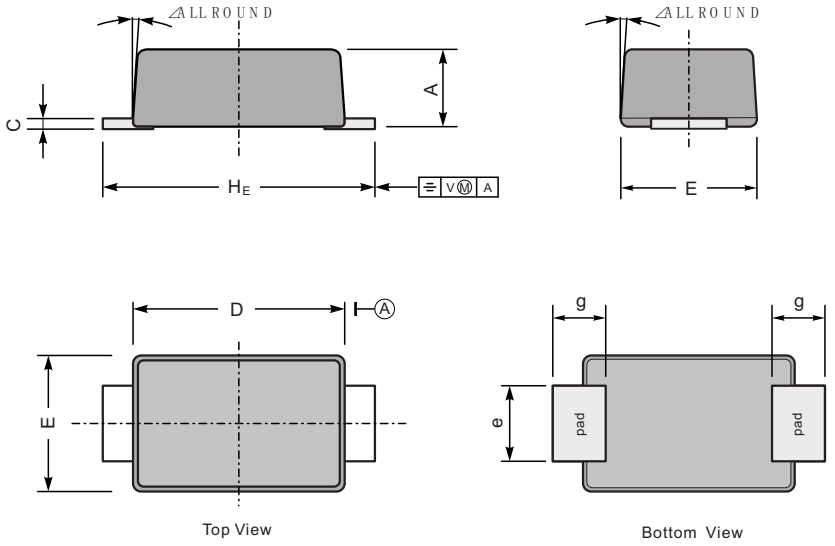


Fig.6- Typical Transient Thermal Impedance



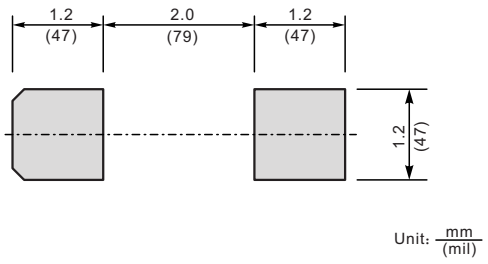
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads SOD123F(L)



UNIT		A	C	D	E	e	g	H_E	∠
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	

The recommended mounting pad size



Marking

Type number	Marking code
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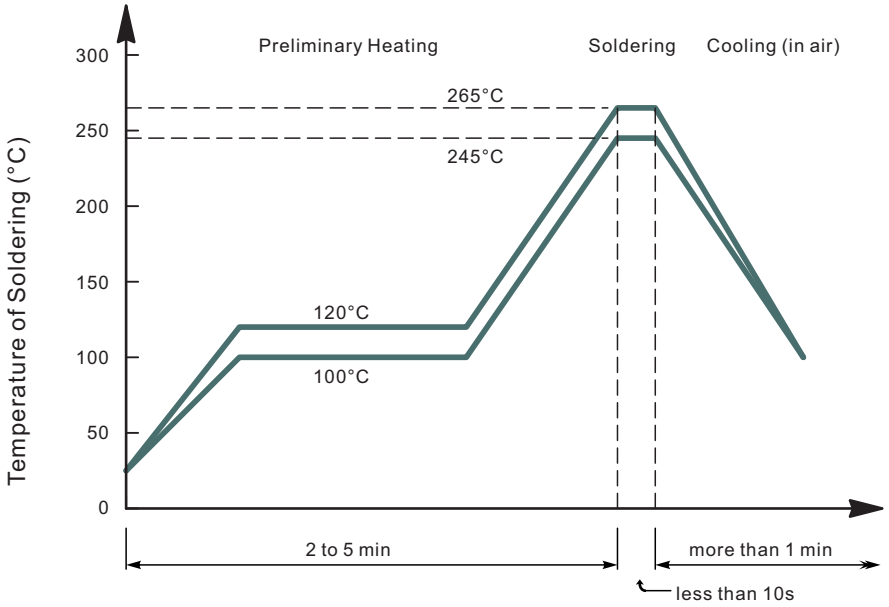
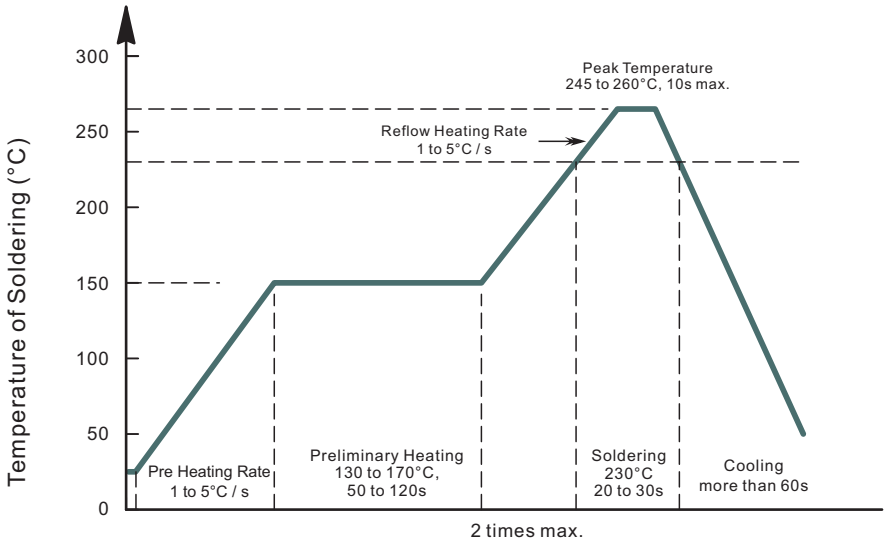
1N5819W	14A

• **Recommended condition of flow soldering**



• **Recommended condition of reflow soldering**

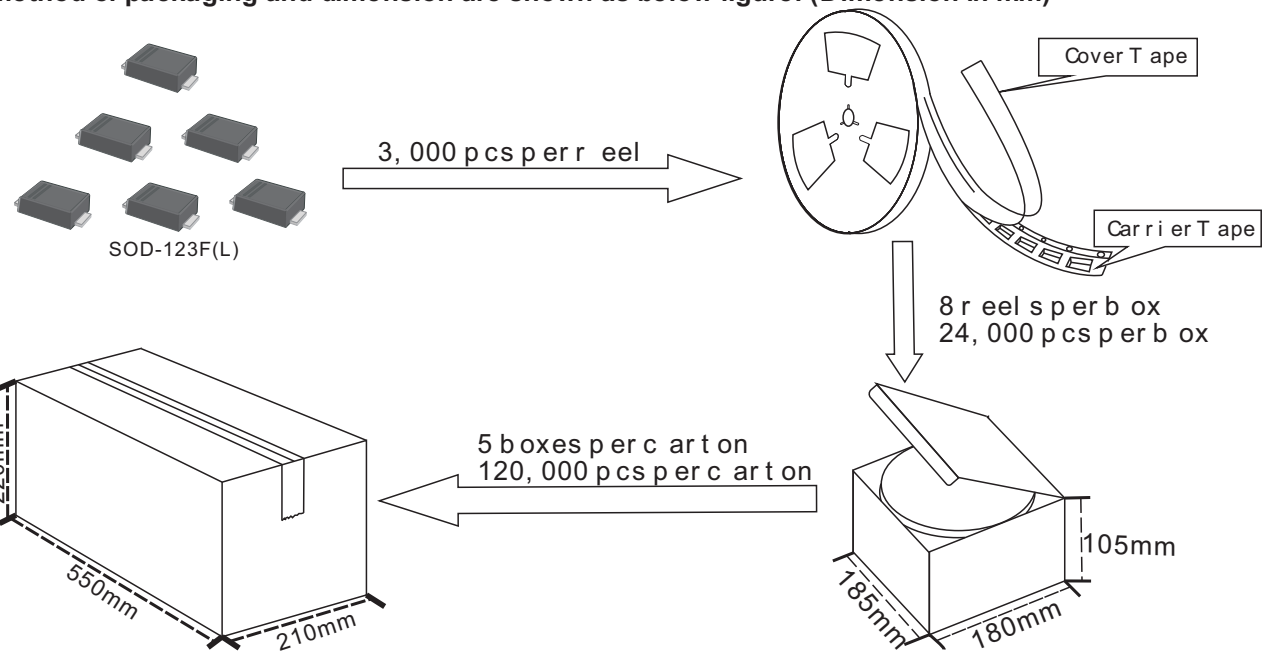


Recommended peak temperature is over 245 °C. If peak temperature is below 245 °C, you may adjust the following parameters; time length of peak temperature (longer), time length of soldering (longer), thickness of solder paste (thicker)

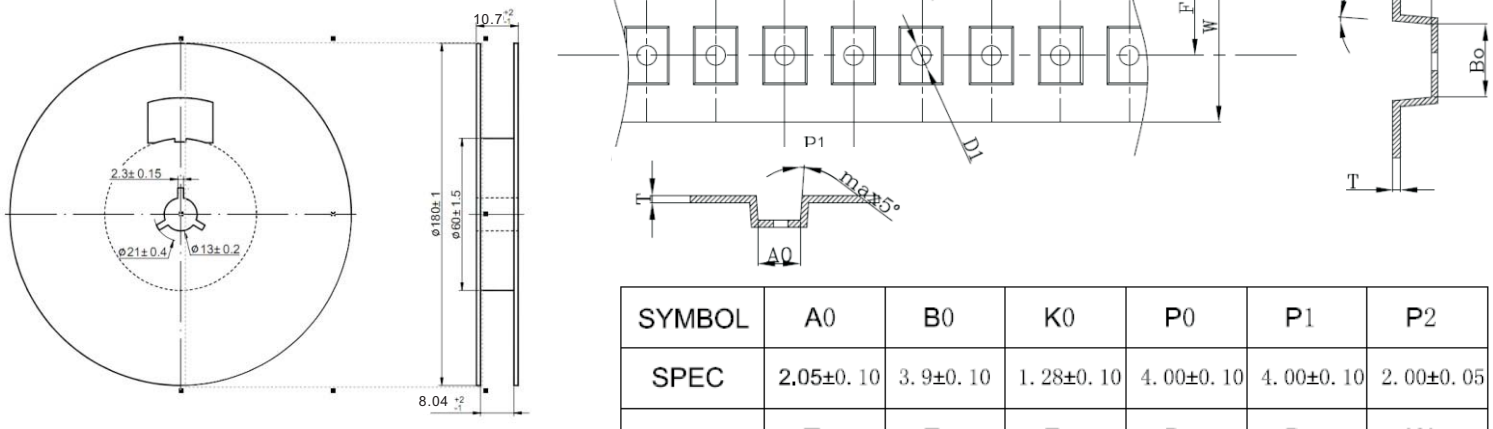
• **Condition of hand soldering**
Temperature: 320°C
Time: 3s max.
Times: one time

• **Remark:**
Lead free solder paste (96.5Sn/3.0Ag/0.5Cu)

1.The method of packaging and dimension are shown as below figure. (Dimension in mm)



2. Tape and reel data (Units: mm)



SYMBOL	A0	B0	K0	P0	P1	P2
SPEC	2.05±0.10	3.9±0.10	1.28±0.10	4.00±0.10	4.00±0.10	2.00±0.05
SYMBOL	T	E	F	D0	D1	W
SPEC	0.25±0.02	1.75±0.10	3.50±0.05	1.55±0.05	1.1±0.1	8.00±0.3

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