



## DESCRIPTION

The US1AW~US1MW are available in SOD-123FL package

## FEATURES

- Available in SOD-123FL package

## ORDERING INFORMATION

Package Type	Part Number
SOD-123FL	US1AW
	US1BW
	US1DW
	US1GW
	US1JW
	US1KW
	US1MW
Note	SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

## PIN DESCRIPTION





## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbol	US1AW	US1BW	US1DW	US1GW	US1JW	US1KW	US1MW	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at $T_A=65^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	25							A
Maximum Instantaneous Forward Voltage at 1A	$V_F$	1.0			1.4	1.7			V
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	$T_A=25^\circ\text{C}$			$T_A=125^\circ\text{C}$			5 100	$\mu\text{A}$
Maximum Reverse Recovery Time <sup>NOTE1</sup>	$t_{rr}$	50				75			ns
Typical Thermal Resistance	$R_{\theta JA}$	180							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J,$ $T_{STG}$	-55 ~150							$^\circ\text{C}$

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

NOTE1: Measured with  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$



## TYPICAL CHARACTERISTICS

Figure. 1 Forward Current Derating Curve

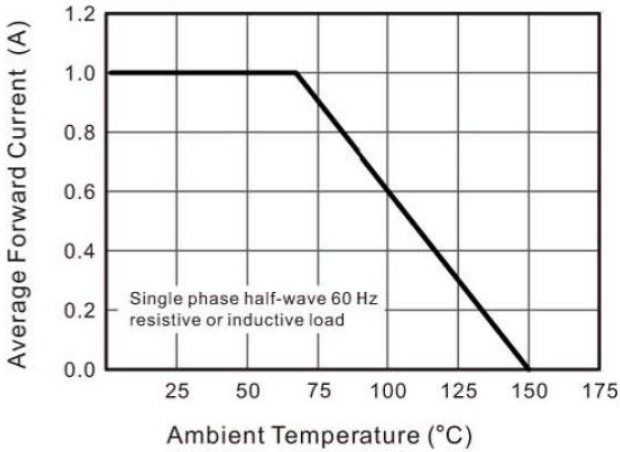


Figure. 2 Typical Reverse Characteristics

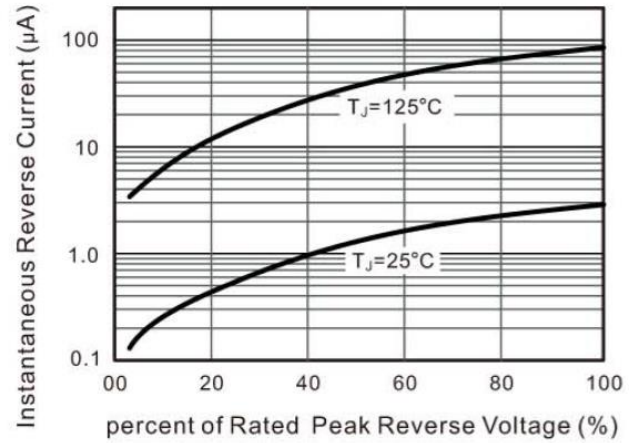


Figure. 3 Typical Instantaneous Forward Characteristics

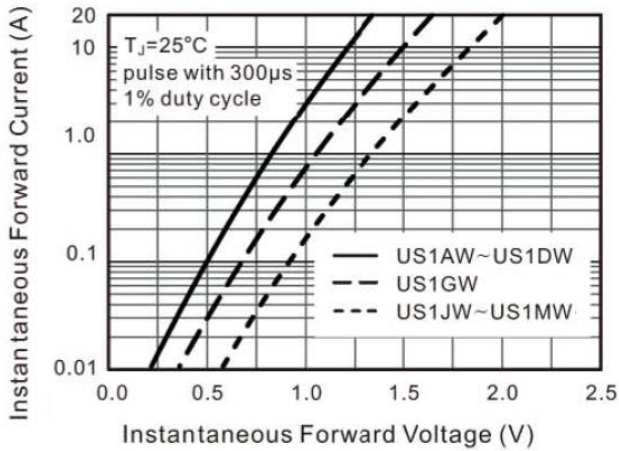
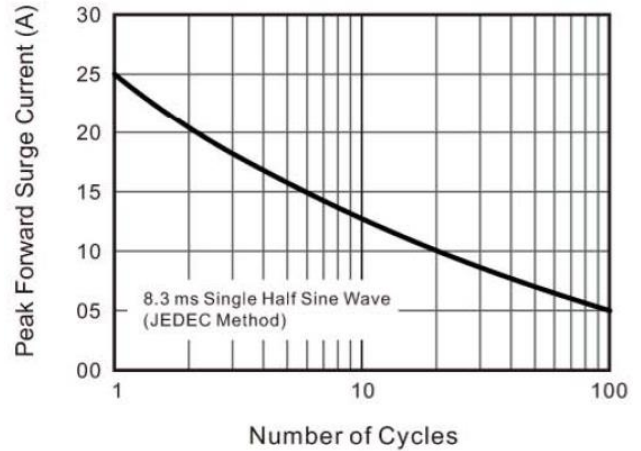
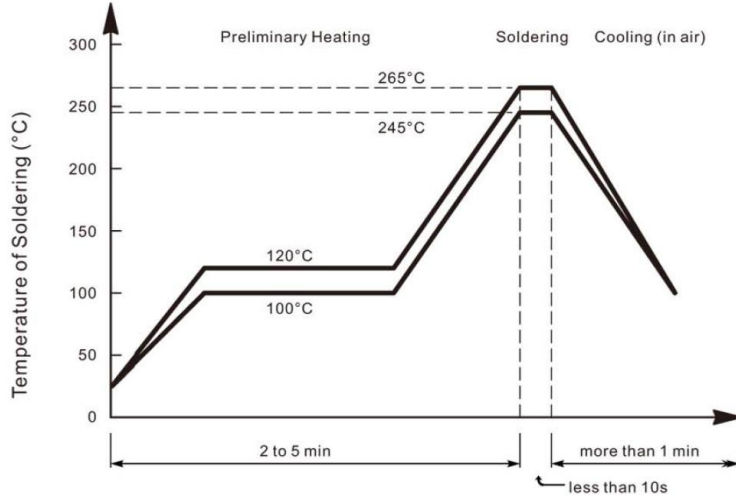


Figure. 4 Maximum Non-Repetitive Peak Forward Surge Current

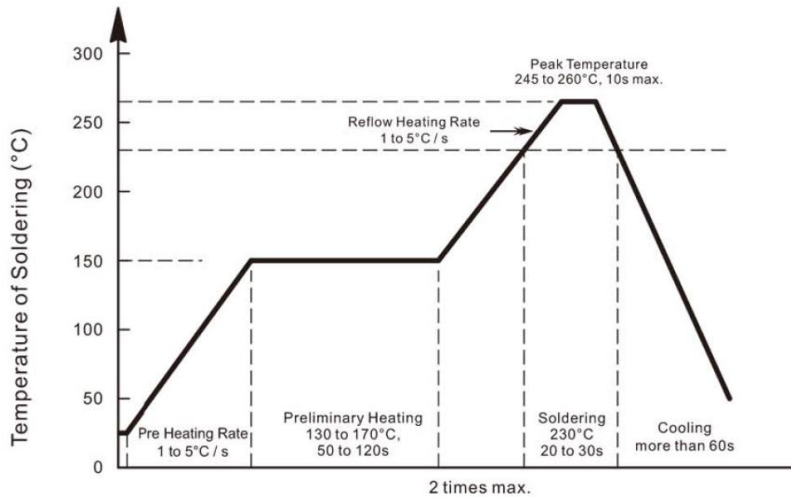




Recommended Condition of flow soldering



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: 370°C

Time: 3s max.

Times: one time

● **Remark**

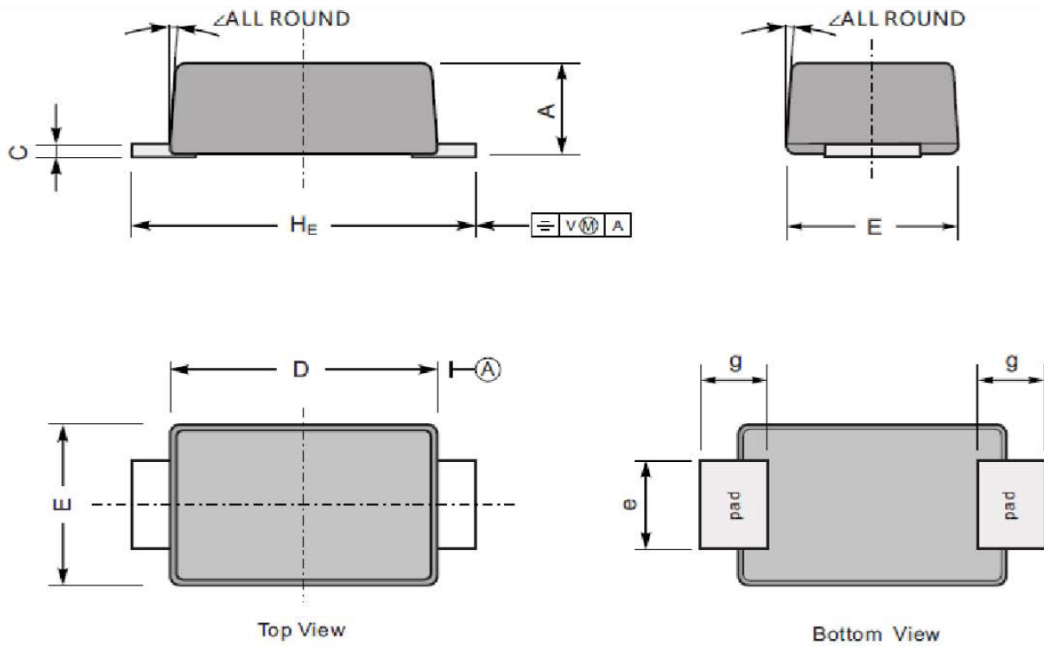
Lead free solder paste (96.5Sn/3.0Ag/0.5Cu)



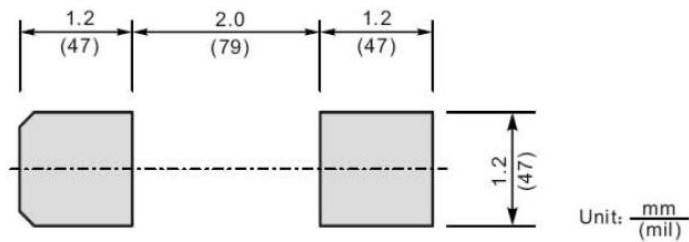
**PACKAGE INFORMATION**

Dimension in SOD-123FL (Unit: mm)

Plastic surface mounted package; 2 leads



The recommended mounting pad size



UNIT		A	C	D	E	e	g	H <sub>E</sub>	$\angle$
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	



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