Surface Mount General Purpose Silicon Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 1 A

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

Top View
Marking Code : A1-A7
Weight : 17mg , 0.0006 oz
Simplified outline SOD-123FL and symbol

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	Symbols	1N4001W	1N4002W	1N4003W	1N4004W	1N4005W	1N4006W	1N4007W	Units
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 Ta = 65 °C	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	25							A
Maximum Instantaneous Forward Voltage at 1 A	V_F	1.1							V
Maximum DC Reverse Current Ta = 25 °C at Rated DC Blocking Voltage Ta =125 °C	I_R	5 50							μA
Typical Junction Capacitance 1)	C_j	4							pF
Typical Thermal Resistance 2)	$R_{\theta JA}$	180							°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							°C

1) Measured at 1 MHz and applied reverse voltage of 4 V D.C
2) Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, P.C.B. mounted

Fig.1 Forward Current Derating Curve

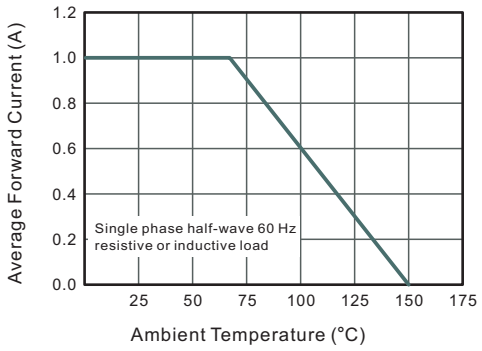


Fig.2 Typical Instaneous Reverse Characteristics

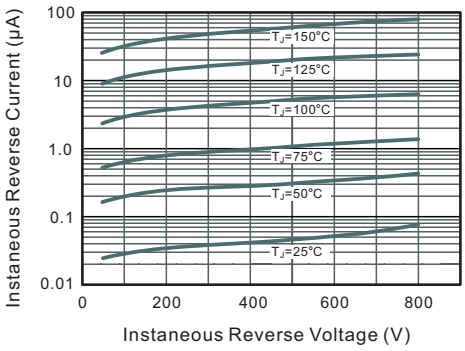


Fig.3 Typical Forward Characteristic

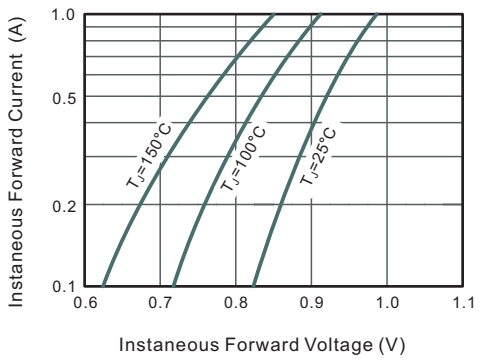
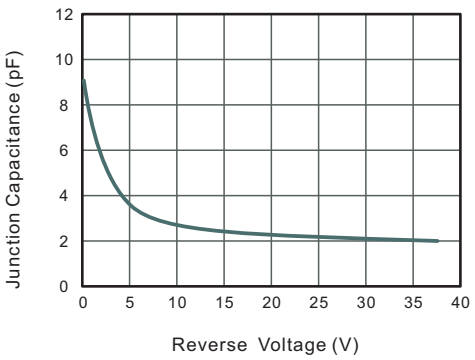
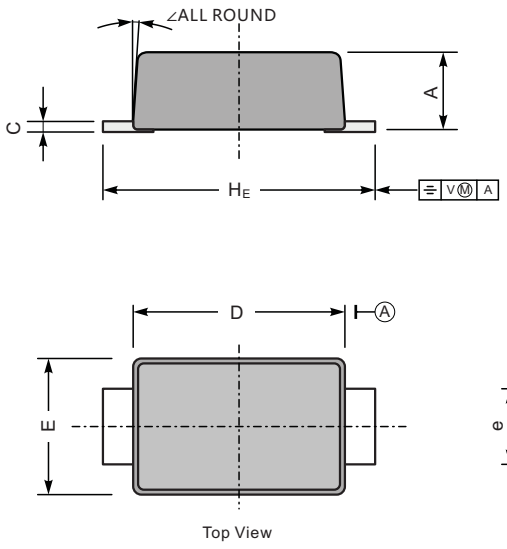


Fig.4 Typical Junction Capacitance



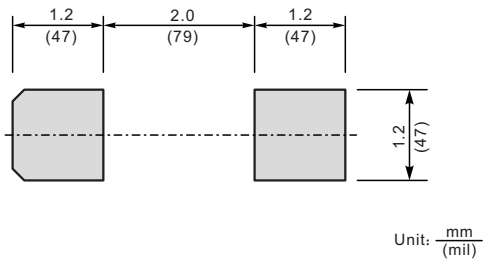
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads SOD123FL



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	

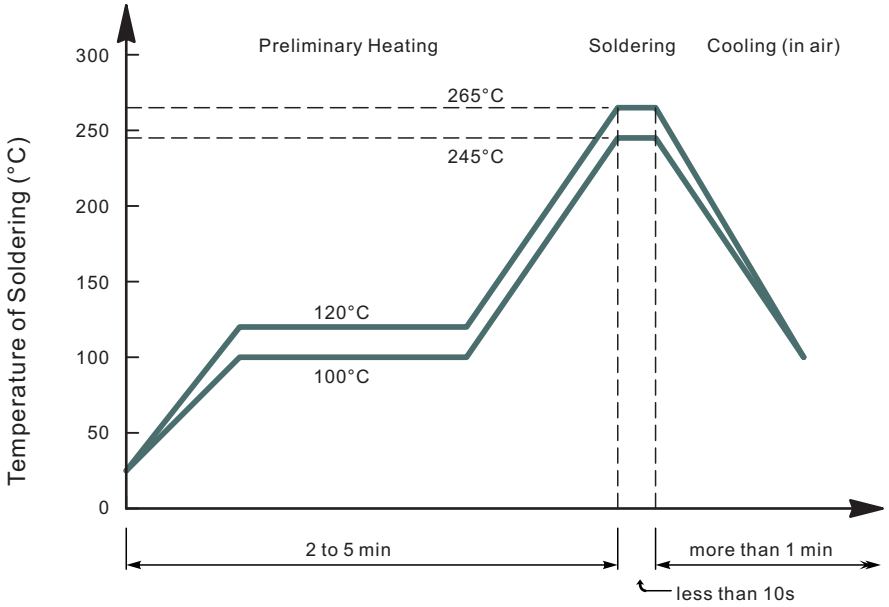
The recommended mounting pad size



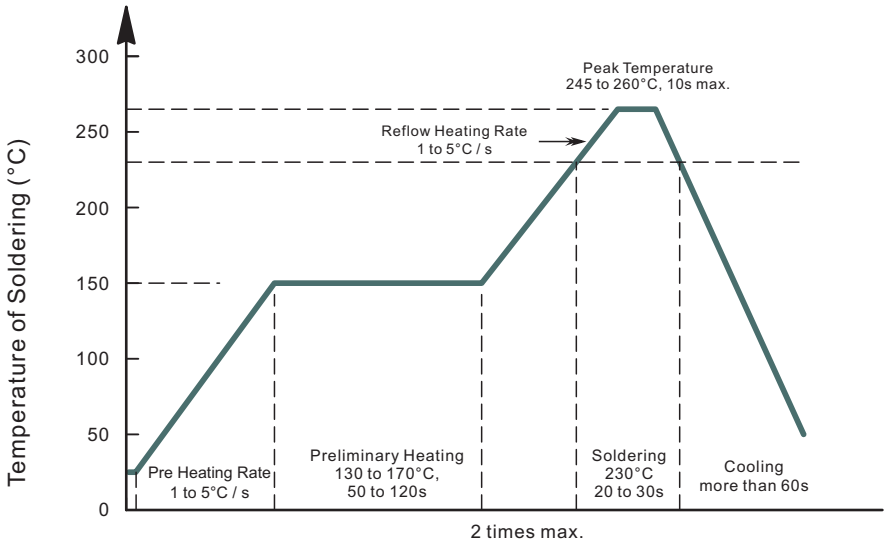
Marking

Type number	Marking code
1N4001W	A1
1N4002W	A2
1N4003W	A3
1N4004W	A4
1N4005W	A5
1N4006W	A6
1N4007W	A7

• **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)