

Surface Mount General Purpose Silicon Rectifiers
Reverse Voltage 50 to 1000 V Forward Current 1.0 A

FEATURES

For surface mounted applications
Low profile package
Glass Passivated Chip Junction
Ideal for automated placement
Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

Case: SOD-123F(L)
Terminals: Solderable per MIL-STD-750, Method 2026
Approx. Weight: 15mg 0.00048oz

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Top View
Marking Code: A1-A7
Simplified outline SOD-123F(L) 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 $T_a = 65\text{ }^{\circ}\text{C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	30							A
Typical Current Squared Time	I^2T	3.74							μs
Maximum Instantaneous Forward Voltage at 1 A	V_F	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25\text{ }^{\circ}\text{C}$ $T_a = 125\text{ }^{\circ}\text{C}$	I_R	5 50							μA
Typical Junction Capacitance ¹⁾	C_j	4							pF
Typical Thermal Resistance ²⁾	$R_{\theta JA}$	180							$^{\circ}\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							$^{\circ}\text{C}$

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

RATING AND CHARACTERISTICS CURVES (1N4001W THRU 1N4007W)

Fig.1 Forward Current Derating Curve

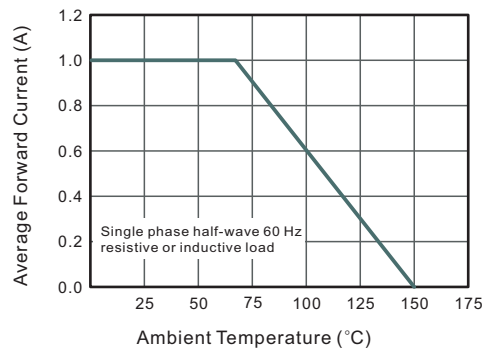


Fig.2 Typical Instantaneous Reverse Characteristics

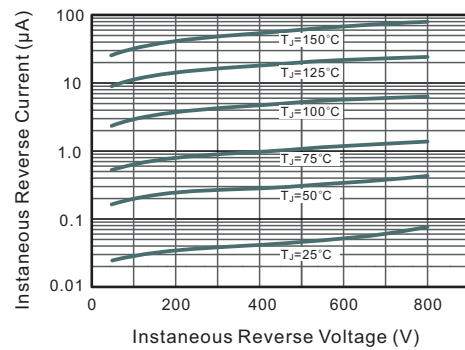


Fig.3 Typical Forward Characteristic

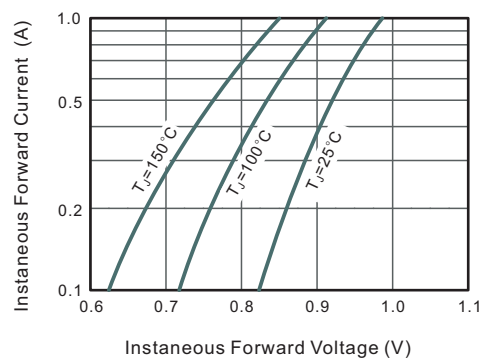
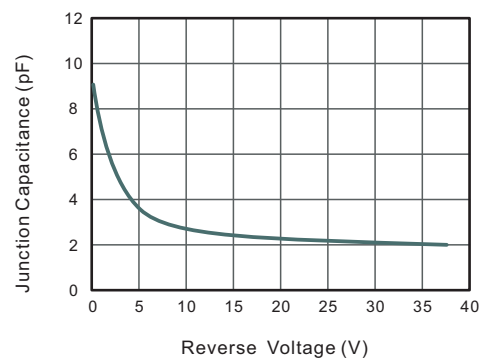


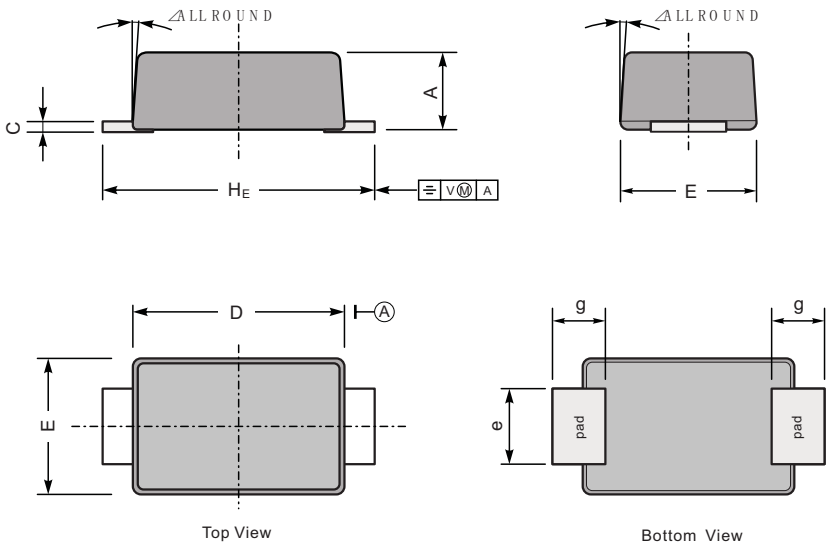
Fig.4 Typical Junction Capacitance



PACKAGE OUTLINE

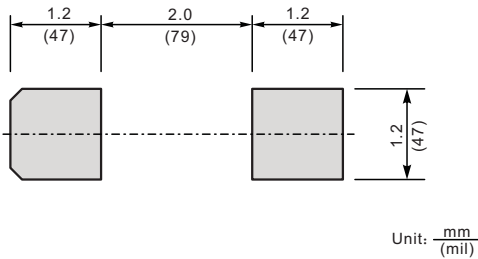
Plastic surface mounted package; 2 leads

S0 D -123F(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
1N4001W	A1
1N4002W	A2
1N4003W	A3
1N4004W	A4
1N4005W	A5
1N4006W	A6
1N4007W	A7

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