SOD4001 THRU SOD4007

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Ampere

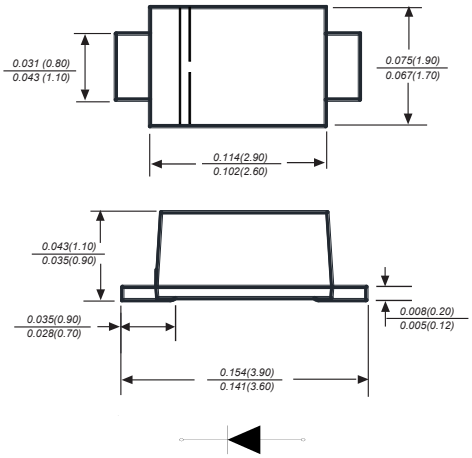
SURFACE MOUNT GENERAL PURPOSE SILICON RECTIFIER

Features

SOD-123FL

RoHS COMPLIANT

- Glass passivated device
- Ideal for surface mouted applications
- Low reverse leakage
- Metallurgically bonded construction
- High temperature soldering guaranteed:
- 250°C/10 seconds,0.375”(9.5mm) lead length, 5 lbs. (2.3kg) tension



Dimensions in inches and (millimeters)

Mechanical Data

Case : JEDEC SOD-123FL molded plastic body
Terminals : Solderable per MIL-STD-750,Method 2026
Polarity : Polarity symbol marking on body
Mounting Position : Any
Weight : 0.0007 ounce, 0.02 grams

Maximum Ratings And Electrical Characteristics

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

Parameter	SYMBOLS	SOD4001	SOD4002	SOD4003	SOD4004	SOD4005	SOD4006	SOD4007	UNITS
Marking Code		D1	D2	D3	D4	D5	D6	D7	
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 TL(see fig.1)	$I_{(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed onrated load (JEDEC Method)	I_{FSM}	30							A
Maximum instantaneous forward voltage at 1.0A	V_F	1.1							V
Maximum DC reverse current T_A=25℃ at rated DC blocking voltage T_A=125℃	I_R	5.0 50							uA
Typical junction capacitance (NOTE 1)	C_J	8							pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	90							℃/W
Operating junction temperature range	T_J	-55 to +150							℃
Storage temperature range	T_{STG}	-55 to +150							℃

Note: 1.Averaged over any 20ms period.
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3.Thermal resistance from junction to ambient at 0.375” (9.5mm)lead length,P.C.B. mounted

Typical Characterisitics

Fig.1 Forward Current Derating Curve

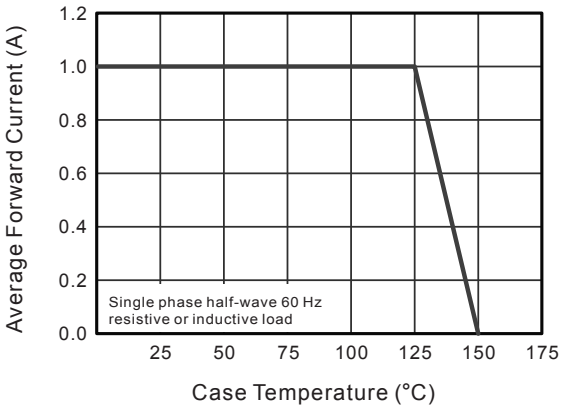


Fig.2 Typical Instaneous Reverse Characteristics

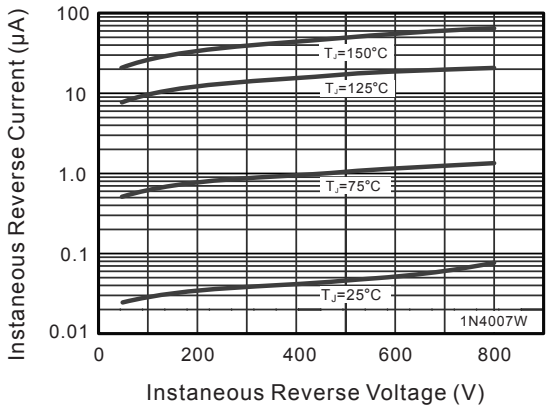


Fig.3 Typical Forward Characteristic

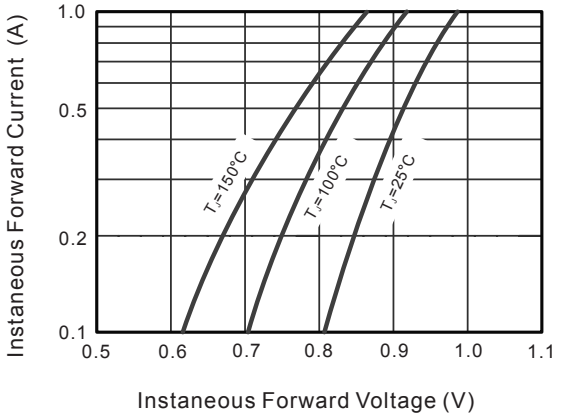


Fig.4 Typical Junction Capacitance

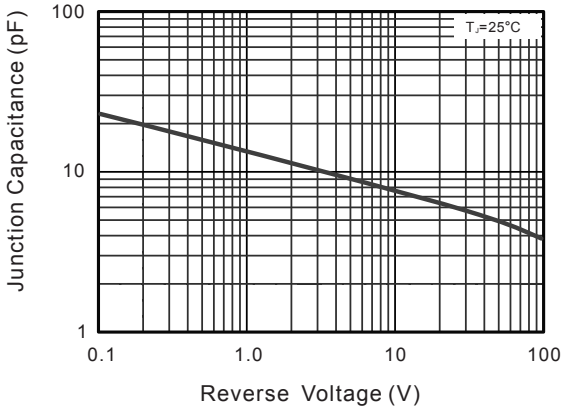
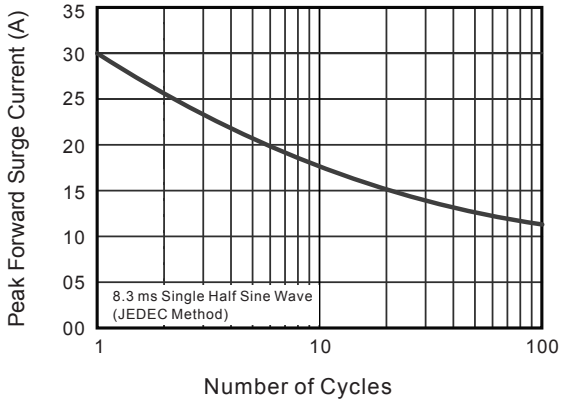
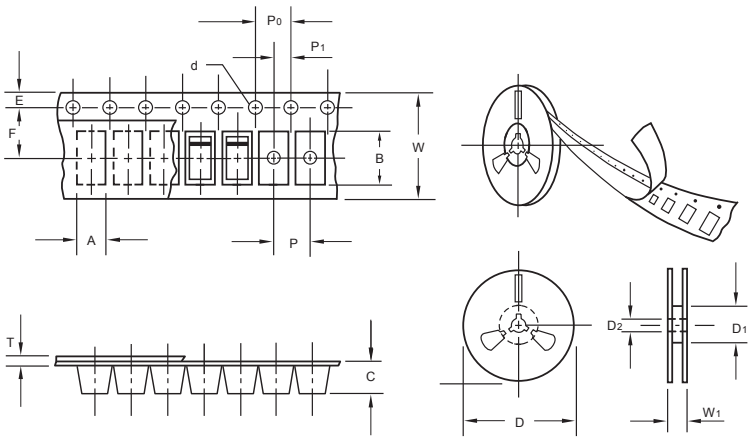


Fig.5 Maximum Non-Repetitive Peak Forward Surae Current



The curve above is for reference only.

Packing information



unit:mm

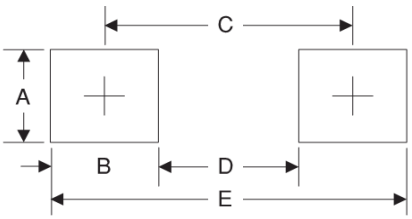
Item	Symbol	Tolerance	SOD-123FL
Carrier width	A	0.1	2.1
Carrier length	B	0.1	4.0
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D_1	min	50.0
Feed hole diameter	D_2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P_0	0.1	4.00
Embossment center	P_1	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.15
Reel width	W_1	1.0	10.5

Note:Devices are packed in accor dance with EIA standar RS-481-A and specifications listed above.

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-123FL	7"	3,000	4.0	45,000	210*208*203	178	430*430*235	180,000	9.0

Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.2	0.047
B	1.2	0.047
C	3.2	0.126
D	2	0.079
E	4.4	0.173