NextGen Components,Inc.

PART CODE: SOD123F4007SD7

SPECIFICATION SHEET

SPECIFICATION SHEET NO.	P1102- SOD123F4007SD7
DATE	Nov. 02, 2022
REVISION	A1
DESCRIPITION	SMD General Purpose Silicon Rectifier, SOD-123FL series, SOD4007 Type, 2 Pads Reverse Voltage 1000V Max. Forward Current 1.0A Max. Operating Temp. Range -55°C ~+150°C Package in Tape/Reel, 3000pcs/Reel RoHS/RoHS III compliant
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	MDD SOD4007
PART CODE	SOD123F4007SD7

VENDOR APPROVE
Issued/Checked/Approved NextGen Components, Inc. Mandy Xu NextGen Components, Inc. Ruby Zhang NextGen Components, Inc. Jack Zhang
DATE: Nov. 02, 2022

CUSTOMER APPROVE
DATE:

NextGen Components,Inc.

PART CODE: SOD123F4007SD7

SMD GENERAL PURPOSE RECTIFER SOD123FL SERIES

MAIN FEATURE

- Glass Passivated Device
- Ideal For SMT 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

APPLICATION

- For printed circuit board

PART CODE GUIDE

RFQ
Request For Quotation

SOD123F	4007	S	D7
1	2	3	4

1) **SOD123F**: SMD General Purpose Silicon Rectifier, SOD-123FL series,

2) **4007**: Type Code for original part number SOD4007

3) **S**: Package code, Tape/reel, 3000pcs/reel.

4) **D7:** Marking code for “D7” on the case surface, Different Marking for different specification..

MORE ITEMS AVAILABLE

SOD123F4001SD1	SOD123F4002SD2	SOD123F4003SD3	SOD123F4004SD4	SOD123F4005SD5
SOD123F4006SD6	**SOD123F4007SD7**			

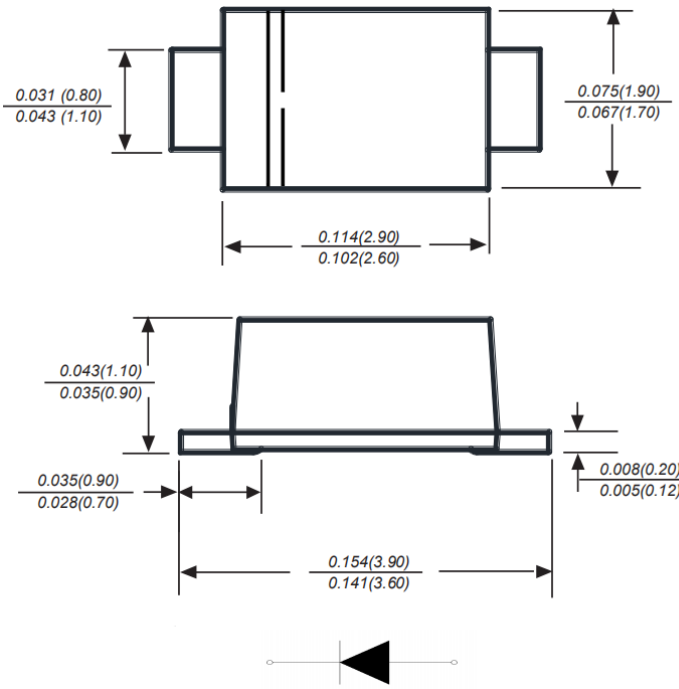
SMD GENERAL PURPOSE RECTIFER SOD123FL SERIES

DIMENSION (Unit: Inch/mm)

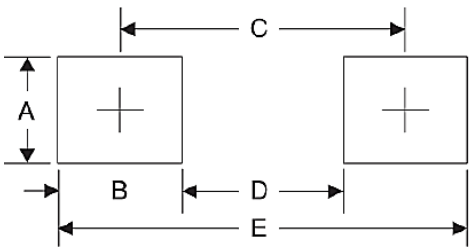
Image for reference

Marking: D7

SOD-123FL



Recommend Pad Layout



Symbol	Unit (Inch)	Unit (mm)
A	0.047	1.20
B	0.047	1.20
C	0.126	3.20
D	0.079	2.00
E	0.173	4.40

SMD GENERAL PURPOSE RECTIFER SOD123FL SERIES

MECHANICAL DATA

Case	Terminals	Polarity	Mounting Position	Weight per piece
JEDEC SOD-123FL molded plastic body	Solder plated, Solderable per MIL-STD-750, Method 2026	Polarity symbol marking on body	Any	0.0007 Ounce, 0.020 grams

MAX. RATING & CHARACTERISTICS

Parameter		SYMBOLS	VALUE			UNITS
			Min.	Typical	Max.	
Repetitive peak reverse voltage		V_{RRM}			1000	Volts
RMS voltage		V_{RMS}			700	Volts
DC blocking voltage		V_{DC}			1000	Volts
Average forward output rectified current		I_{AV}			1.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)		I_{FSM}			30	A
Instantaneous forward voltage at 1.0A		V_F			1.1	Volts
DC reverse current at rated DC blocking voltage	**TA=25℃**	I_R			5.0	μA
	TA=125℃				50	μA
Junction capacitance (Note 2)		C_J		8		pF
Thermal resistance (Note 3)		R_{QJA}		90		°C/W
Operating junction temperature range		T_J	-55		+150	°C
Storage temperature range		T_{STG}	-55		+150	°C

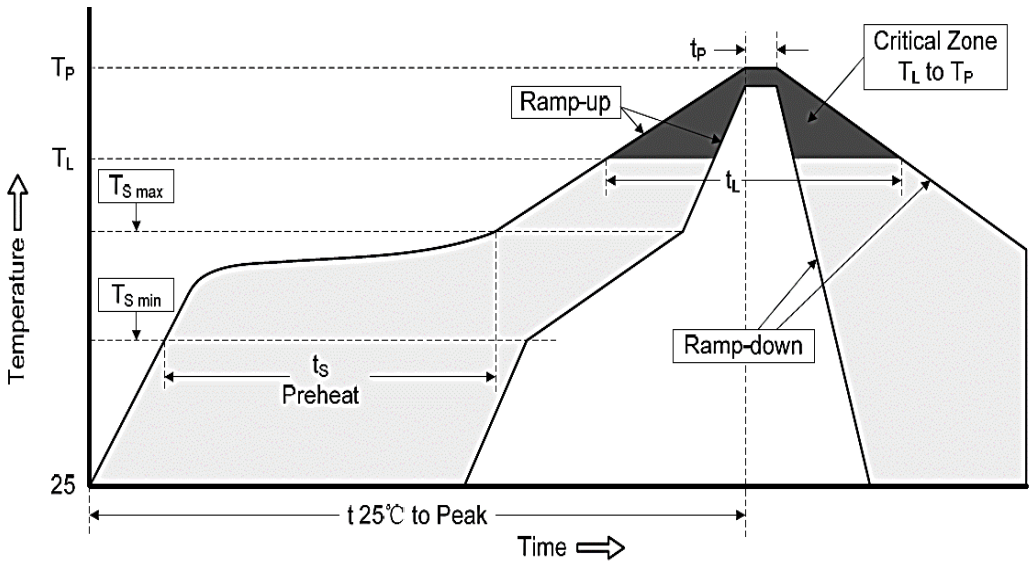
Note

1. Ratings at 25 C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.
2. Averaged over any 20ms period.
3. Measured at 1.0MHz and applied reverse voltage of 4.0Voltage
4. Thermal resistance from junction to ambient at 0.375" (9.5mm)lead length, P.C.B. mounted

RELIABILITY

Number	Experiment Items	Experiment Method And Conditions	Reference Documents
1	Solder Resistance Test	Test 260°C± 5°C for 10 ± 2 sec. Immerse body into solder 1/16" ± 1/32"	MIL-STD-750D METHOD-2031.2
2	Solderability Test	230°C ±5°C for 5 sec.	MIL-STD-750D METHOD-2026.1 0
3	Pull Test	1 kg in axial lead direction for 10 sec.	MIL-STD-750D METHOD-2036.4
4	Bend Test	0.5Kg Weight Applied To Each Lead, Bending Arcs 90 °C ± 5 °C For 3 Times	MIL-STD-750D METHOD-2036.4
5	High Temperature Reverse Bias Test	T_A=100°C for 1000 Hours at V_R=80% Rated V_R	MIL-STD-750D METHOD-1038.4
6	Forward Operation Life Test	TA=25°C Rated Average Rectified Current	MIL-STD-750D METHOD-1027.3
7	Intermittent Operation Life Test	On state: 5 min with rated IRMS Power Off state: 5 min with Cool Forced Air. On and off for 1000 cycles.	MIL-STD-750D METHOD-1036.3
8	Pressure Cooker Test	15 PSIG, T_A=121°C, 4 hours	MIL-S-19500 APPENOIXC
9	Temperature Cycling Test	-55°C~+125°C; 30 Minutes For Dwelled Time 5 minutes for transferred time. Total: 10 cycles.	MIL-STD-750D METHOD-1051.7
10	Thermal Shock Test	0°C for 5 minutes., 100°C for 5minutes, Total: 10 cycles	MIL-STD-750D METHOD-1056.7
11	Forward Surge Test	8.3ms Single Sale Sine-wave One Surge.	MIL-STD-750D METHOD-4066.4
12	Humidity Test	T_A=65°C, RH=98% for 1000 hours.	MIL-STD-750D METHOD-1021.3
13	High Temperature Storage life Test	150°C for 1000 Hours	MIL-STD-750D METHOD-1031.5

SUGGESTED REFLOW PROFILE (For Reference Only)



Profile Feature		Pb-Free Assembly
Average Ramp-up Rate (Ts Max to Tp)		3℃/second Max
Preheat	**Temperature Min (Ts Min.)**	150℃
	Temperature Max (Ts Max.)	200℃
	Time (ts Min. to ts Max.)	60 ~ 180 seconds
Time maintained above	**Temperature (TL)**	217℃
	Time (tL)	60 ~ 150 seconds
Peak/Classification Temperature (Tp)		260 ℃
Time within 5℃ of actual Peak Temperature (tp)		20 ~ 40 seconds
Ramp-down rate		6 ℃ /Second Max.
Time 25 ℃ to Peak Temperature		8 minutes Max.
Suggest reflow times		3 Times Max.

RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

Fig.1 Forward Current Derating Curve

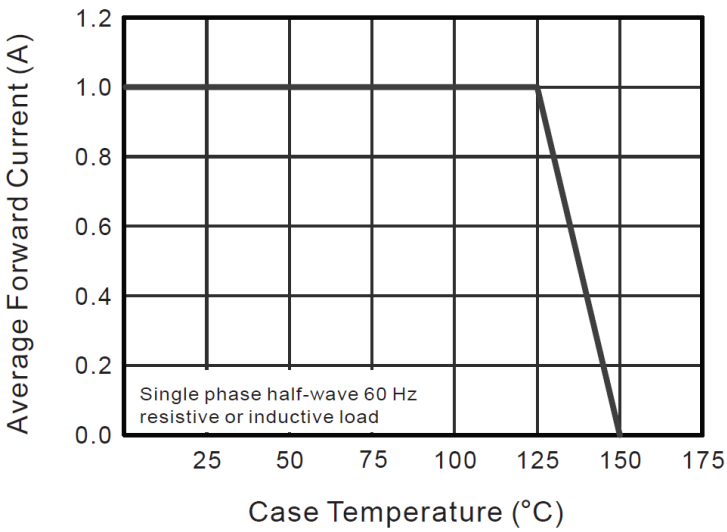
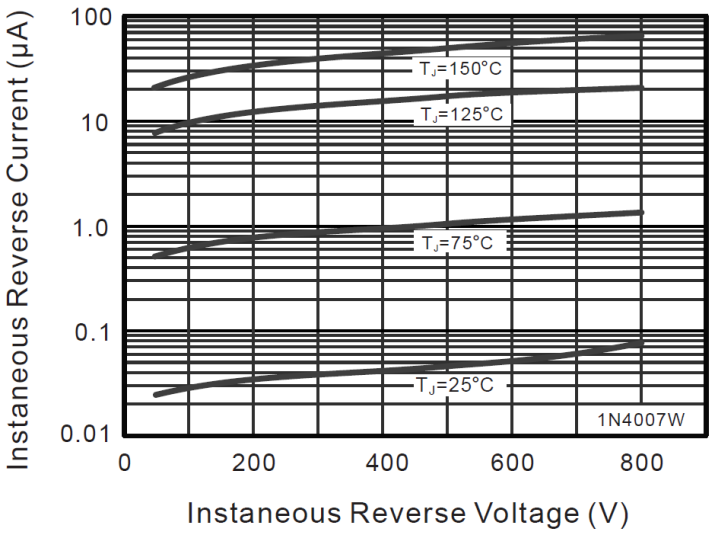


Fig.2 Typical Instaneous Reverse Characteristics



RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

Fig.3 Typical Forward Characteristic

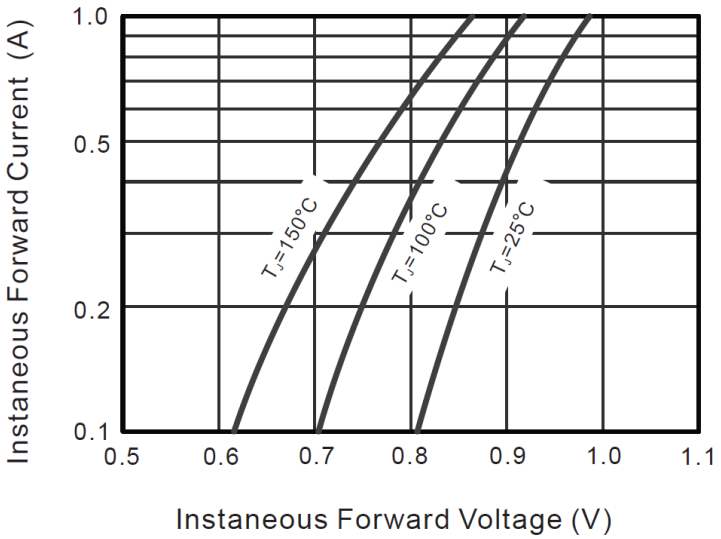
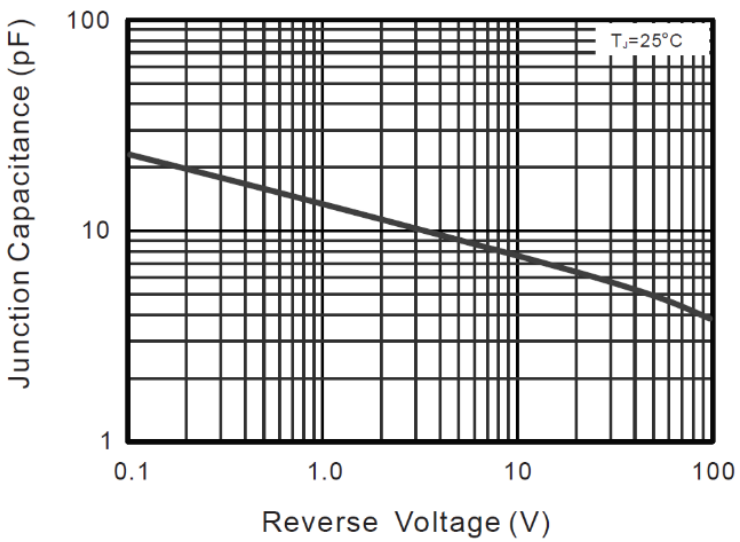
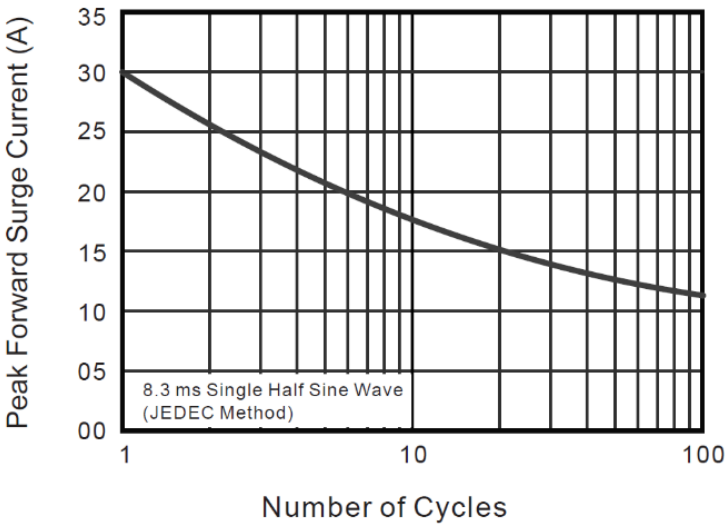


Fig.4 Typical Junction Capacitance



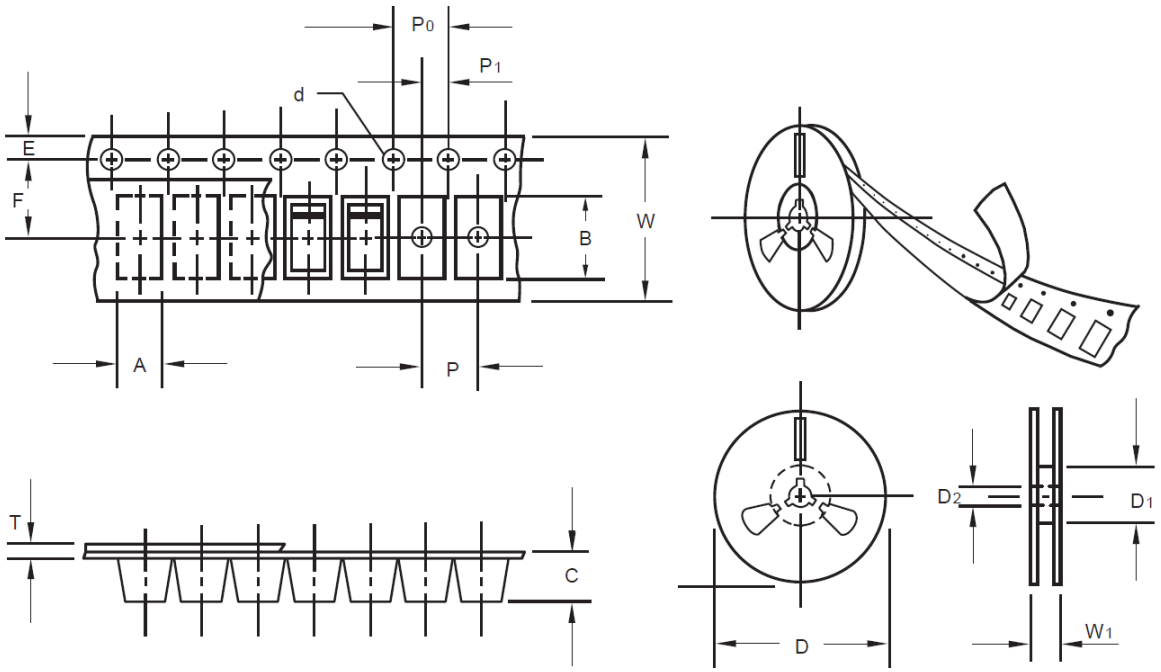
RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

Fig.5 Maximum Non-Repetitive Peak Forward Surae Current



TAPE/REEL (Unit: mm)

All Devices are packed in accordance with EIA standard RS-481-A and specifications.



Item	Symbol	Tolerance	SOD-123FL
Carrier width	A	0.1	2.10
Carrier Length	B	0.1	4.00
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	D1	Min.	50.00
Feed hole diameter	D2	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	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.15
Reel width	W1	1.0	10.50

PACKAGE For Reference

Case Code	SOD-123FL
Reel Size	7”
Reel Size	178 mm
MPQ/Reel	3000 pcs
Qty. /Box	6000 pcs
G.W/Box	1 lbs

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