






THE DATASHEET OF SOD1H8



SPECIFICATION SHEET

SPECIFICATION SHEET NO.	P1102- SOD123F1H8S0U8
DATE	Nov. 02, 2022
REVISION	A1
DESCRIPTION	SMD High Efficiency Rectifier, 2 Pads, SOD-123FL series, SOD1H8 Type Reverse Voltage 1000V Max. Forward Current 1.0A Max. Operating Temp. Range -50°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 SOD1H8
PART CODE	SOD123F1H8S0U8

VENDOR APPROVE			
Issued/Checked/Approved			
DATE: Nov. 02, 2022			

CUSTOMER APPROVE	
DATE:	

11/2/2022

SMD HIGH EFFICIENCY RECTIFIER SOD-123FL SERIES



MAIN FEATURE

- Low reverse leakage
- Metallurgically bonded construction
- Glass passivated device
- 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	1H8	S	0U8
1	2	3	4

- 1) **SOD123F**: SMD High Efficiency Rectifier, 2 Pads, SOD-123FL series,
- 2) **1H8**: Type code for original part number SOD1H8
- 3) **S**: Package code, Tape/reel, 3000pcs/reel.
- 4) **0U8**: Marking code for “U8” on the case surface, Different Marking for different specification.

MORE ITEMS AVAILABLE

SOD123F1H1S0U1	SOD123F1H2S0U2	SOD123F1H3S0U3	SOD123F1H4S0U4	SOD123F1H5S0U5
SOD123F1H6S0U6	SOD123F1H7S0U7	SOD123F1H8S0U8		
SOD123F2AWS0W1	SOD123F2BWS0W2	SOD123F2DWS0W3	SOD123F2EWS0W4	SOD123F2GWS0W5
SOD123F2JWS0W6	SOD123F2KWS0W7	SOD123F2MWS0W8		

SMD HIGH EFFICIENCY RECTIFIER SOD-123FL SERIES

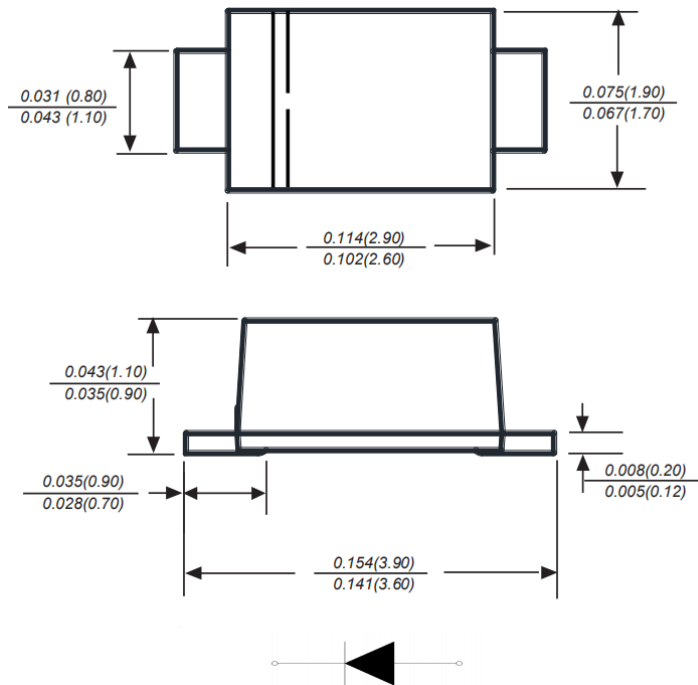
DIMENSION (Unit: Inch/mm)

Image for reference

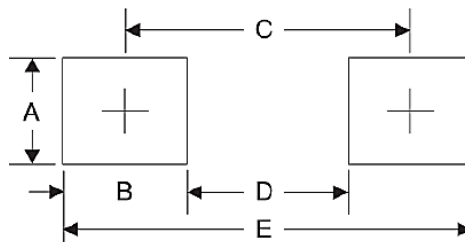


Marking: U8

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 HIGH EFFICIENCY RECTIFIER SOD-123FL 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 case	Any	0.0007 Ounce, 0.0198 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 at TL= 65°C	I _{AV}			1.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}		25		A
Instantaneous forward voltage at 1.0A	V _F			1.70	Volts
DC reverse current at rated DC blocking voltage	I _R			5.0	μA
				100.0	μA
Reverse recovery time (NOTE 2)	T _{rr}			75	ns
Junction capacitance (Note 3)	C _J		15		pF
Thermal resistance	R _{QJA}		85		°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. Reverse recovery condition IF=0.5A,IR=1.0A,Irr=0.25A
3. Measured at 1.0MHz and applied reverse voltage of 4.0Voltage

11/2/2022

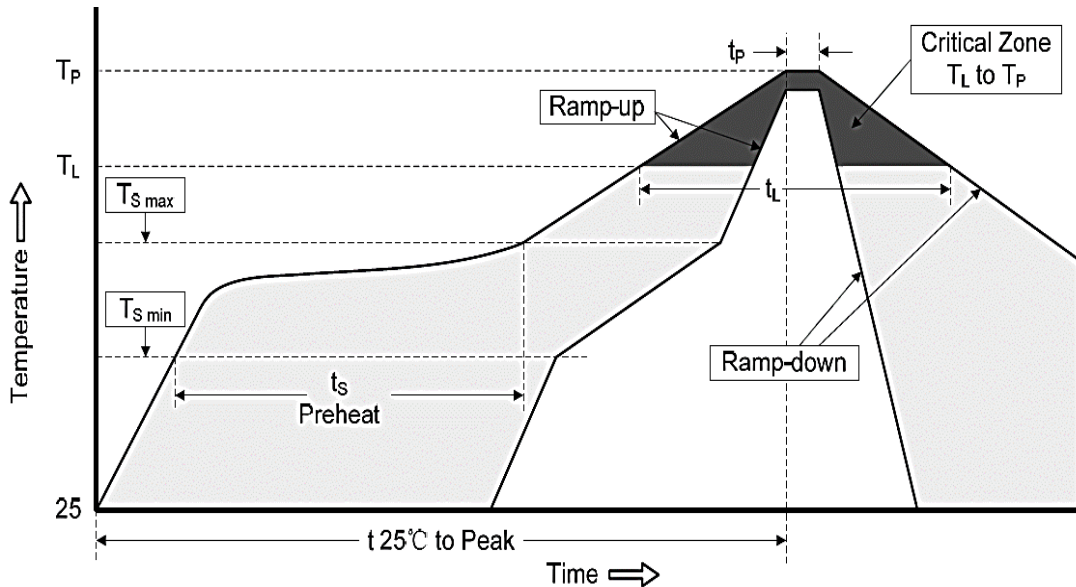
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SMD HIGH EFFICIENCY RECTIFIER SOD-123FL SERIES
RELIABILITY

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	TA=100°C for 1000 Hours at VR=80% Rated VR	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, TA=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	TA=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

SMD SCHOTTKY BARRIER RECTIFIER SOD-123FL SERIES

SUGGESTED REFLOW PROFILE (For Reference Only)



Profile Feature		Pb-Free Assembly
Average Ramp-up Rate (Ts Max to Tp)		3°C/second Max
Preheat	Temperature Min (Ts Min.)	150°C
	Temperature Max (Ts Max.)	200°C
	Time (ts Min. to ts Max.)	60 ~ 180 seconds
Time maintained above	Temperature (Tl)	217°C
	Time (tl)	60 ~ 150 seconds
Peak/Classification Temperature (Tp)		250 °C
Time within 5°C of actual Peak Temperature (tp)		10 seconds
Ramp-down rate		6 °C /Second Max.
Time 25 °C to Peak Temperature		6 minutes Max.
Suggest reflow times		3 Times Max.

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RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

AVERAGE FORWARD RECTIFIED CURRENT,
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE

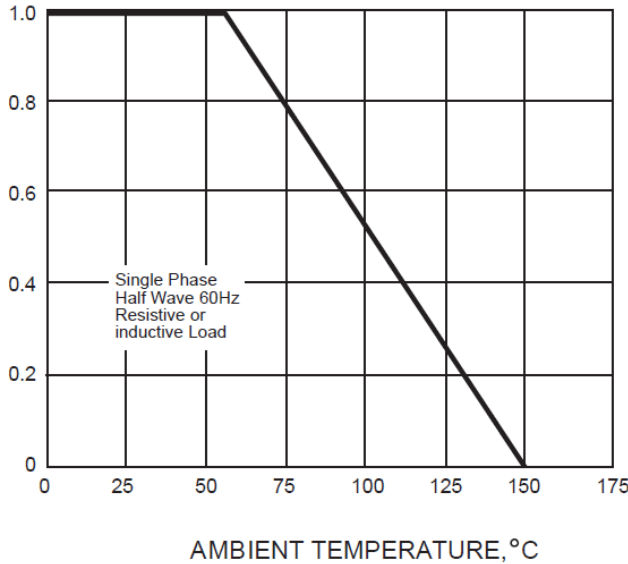
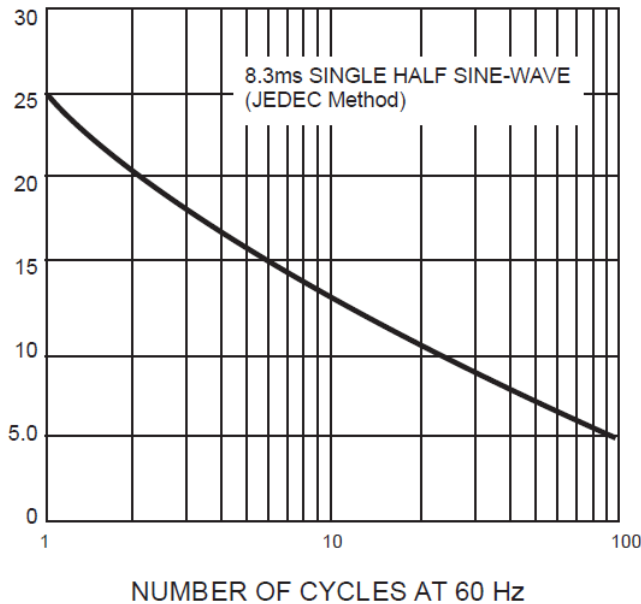


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

PEAK FORWARD SURGE CURRENT,
AMPERES



SMD HIGH EFFICIENCY RECTIFIER SOD-123FL SERIES

RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

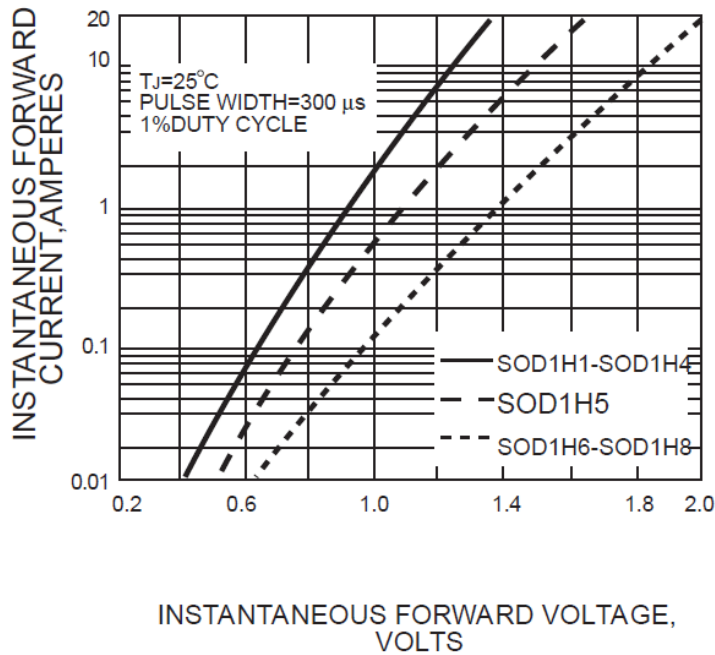
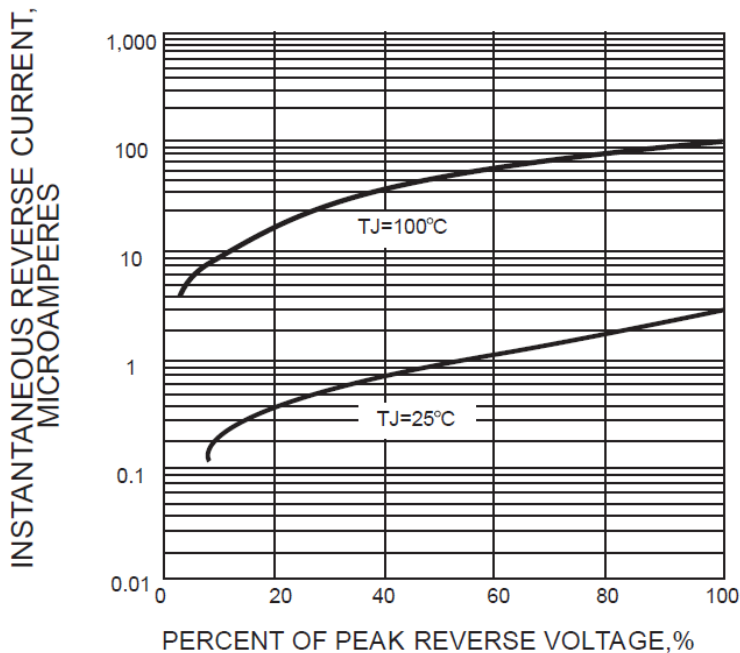


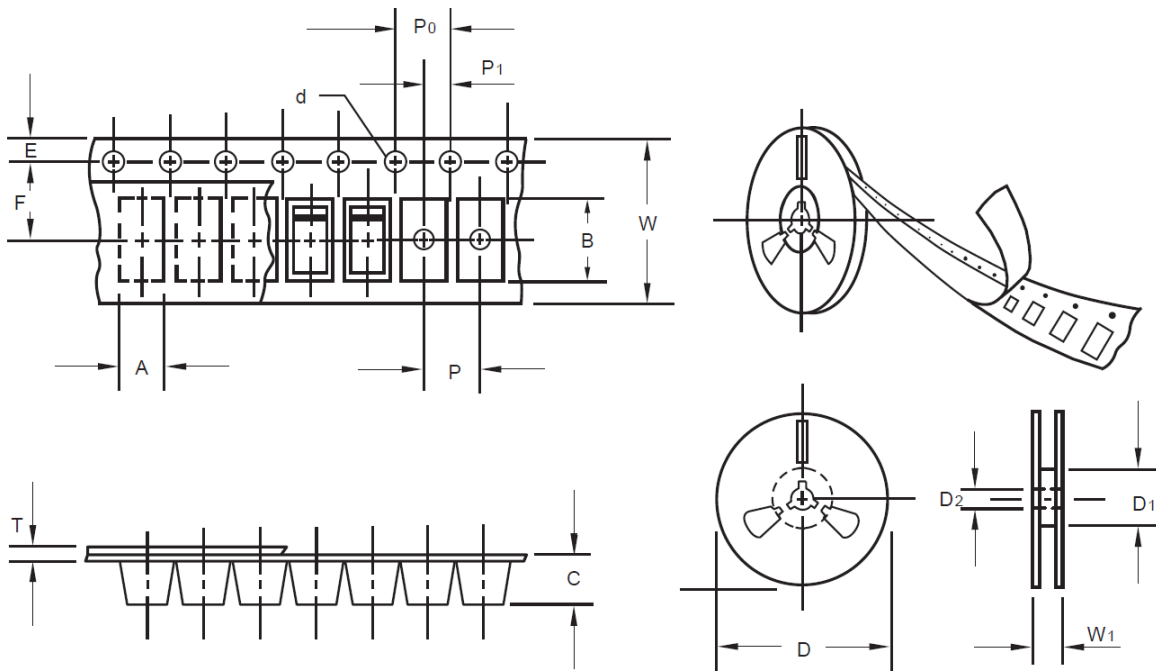
FIG. 4-TYPICAL REVERSE CHARACTERISTICS



SMD HIGH EFFICIENCY RECTIFIER SOD-123FL SERIES

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

SMD HIGH EFFICIENCY RECTIFIER SOD-123FL SERIES

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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