

OM SENI

SOD-123FL Surface Mount High Efficient Rectifier US1AW THRU US1MW

Features

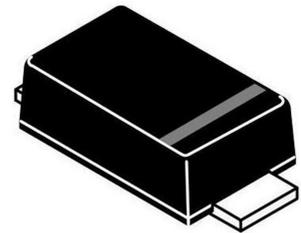
- Low profile package
- Ideal for automated placement
- Glass passivated pallet chip junction
- Fast reverse recovery time
- Fast switching for high efficiency
- High forward surge capability

Reverse Voltage
50-1000 V

Forward Current
1 Ampere

Applications

For use in fast switching rectification of power supplies, inverters, converters, and free wheeling diodes for consumer, and telecommunication.



SOD-123FL

Mechanical Data

- Case: SOD-123FL
- Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

Function Diagram



Maximum Ratings (Ta=25°C Unless otherwise specified)

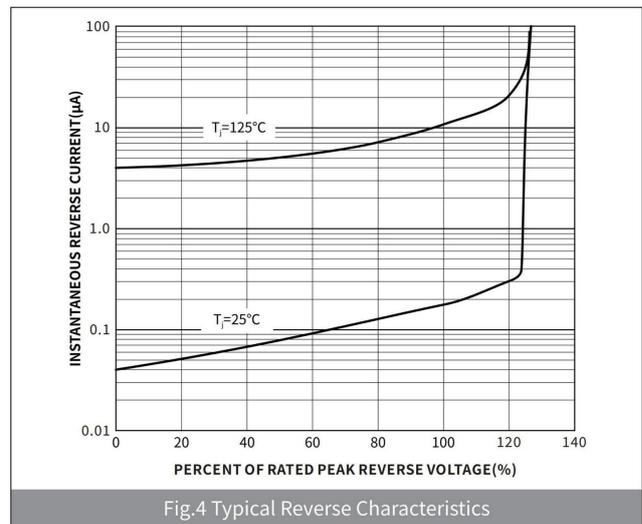
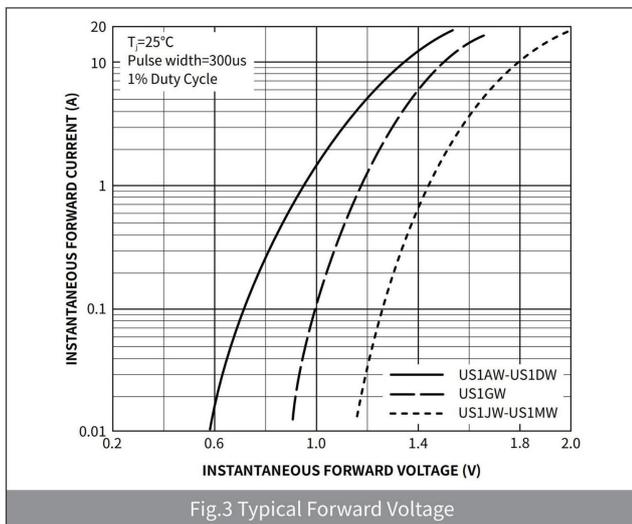
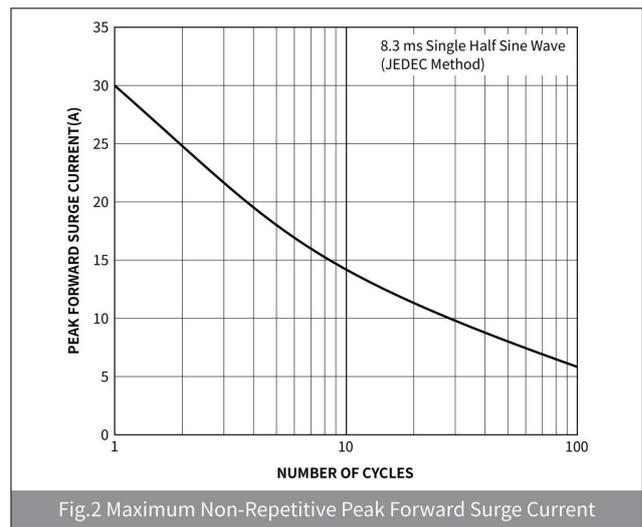
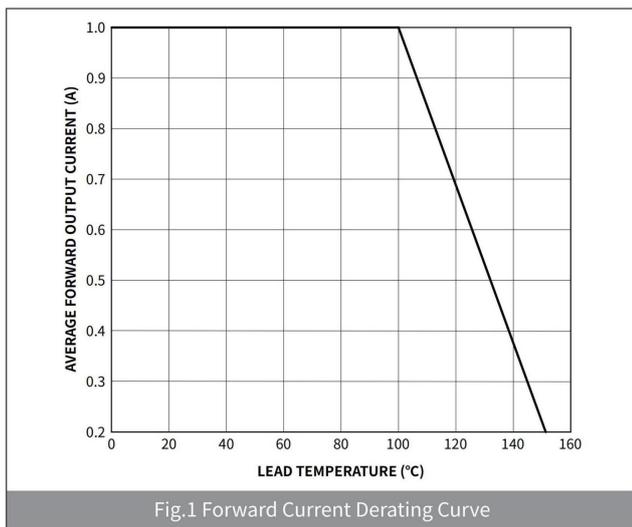
PARAMETER	SYMBOL	UNIT	US1AW	US1BW	US1DW	US1GW	US1JW	US1KW	US1MW
Device marking code			U1	U2	U3	U4	U5	U6	U7
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	50	100	200	400	600	800	1000
Maximum RMS Voltage	V_{RMS}	V	35	70	140	280	420	560	700
Maximum DC blocking Voltage	V_{DC}	V	50	100	200	400	600	800	1000
Maximum Average Forward Rectified Current @ 60Hz sinewave, Resistance load, TL (Fig.1)	$I_{F(AV)}$	A	1.0						
Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave	I_{FSM}	A	30						
Storage temperature	T_{stg}	°C	-55 ~ +150						
Junction temperature	T_j	°C	-55 ~ +150						
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	85						
	$R_{\theta J-L}$	°C /W	30						

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Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	US1AW	US1BW	US1DW	US1GW	US1JW	US1KW	US1MW
Maximum instantaneous forward voltage	$I_F=1.0A$	V_F	V	1.0			1.4	1.7		
Maximum reverse recovery time	$I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$	T_{rr}	ns	50				75		
Maximum DC reverse current at rated DC blocking voltage	$V_R=V_{DC}, T_A=25^\circ C$	I_{R1}	μA	2.0						
	$V_R=V_{DC}, T_A=125^\circ C$	I_{R2}		200						
Typical junction capacitance	4.0V DC, 1MHz	C_j	pF	9.0						

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



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Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOD-123FL	R1	0.0169	3000	45000	180000	7"

Package Outline Dimensions (SOD -123FL)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.10	0.035	0.430
B	2.55	2.85	0.100	0.111
C	1.60	1.90	0.063	0.074
D	3.60	3.90	0.031	0.043
E	1.00	1.20	0.031	0.035
F	0.40	0.90	0.047	0.055
G	0.10	0.25	0.003	0.007

Suggested Pad Lavout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	1.00	-	0.040	-
K	-	1.90	-	0.074
M	1.50	-	0.059	-