

SOD-123FL Surface Mount Fast Recovery Rectifier

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

Applications

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

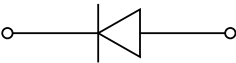
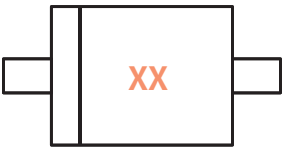
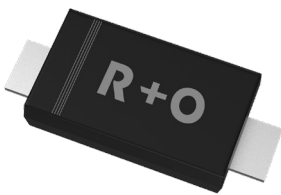
Mechanical Data

- 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

Reverse Voltage
50-1000 V
Forward Current
1 Ampere

SOD-123FL



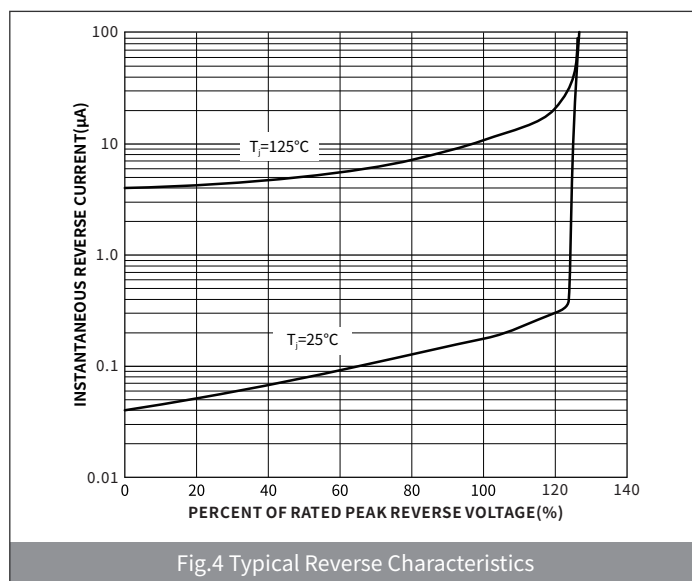
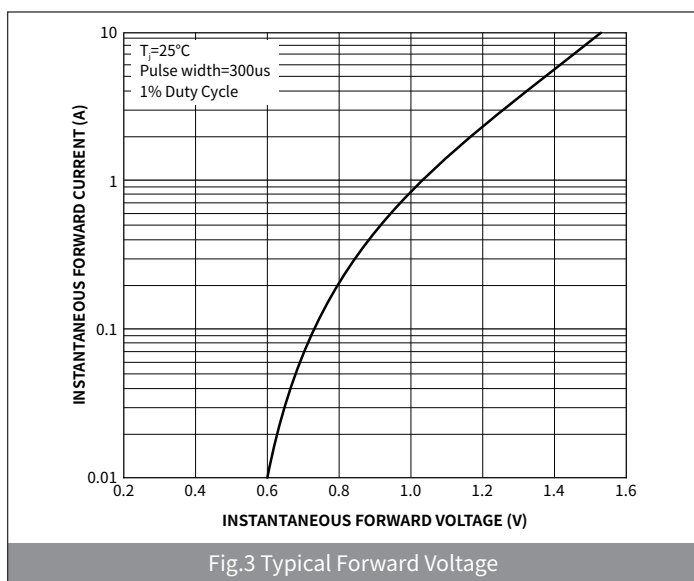
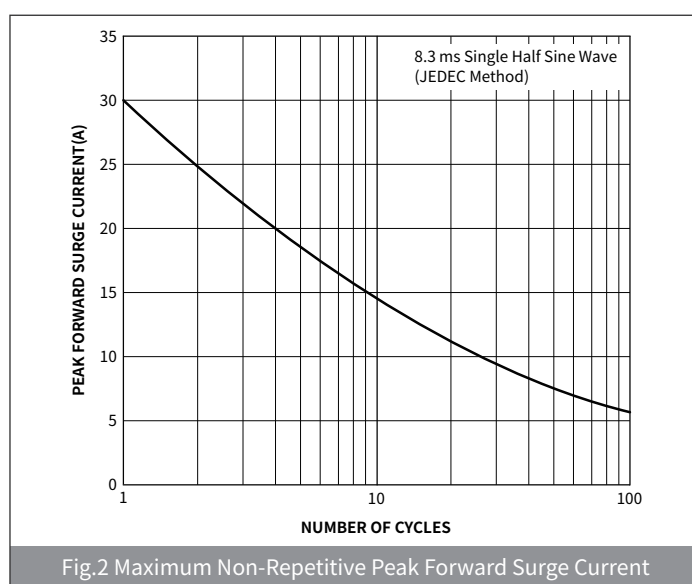
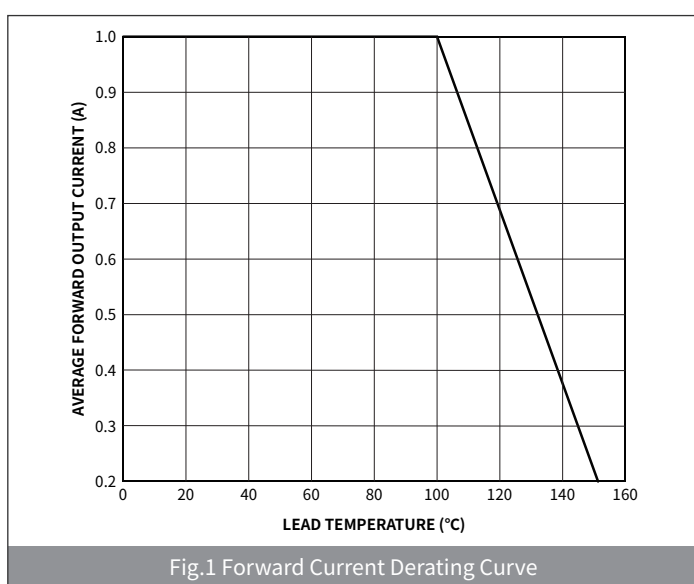
Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	FR101W	FR102W	FR103W	FR104W	FR105W	FR106W	FR107W
Device marking code			F1	F2	F3	F4	F5	F6	F7
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	30.0						
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	28						

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	FR101W	FR102W	FR103W	FR104W	FR105W	FR106W	FR107W
Maximum instantaneous forward voltage	I _F =1.0A	V _F	V	1.3						
Maximum reverse recovery time	I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	T _{rr}	ns	150				250	500	
Maximum DC reverse current at rated DC blocking voltage	V _R =V _{DC} , T _A =25°C	I _{R1}	μA	2.0						
	V _R =V _{DC} , T _A =125°C	I _{R2}		200						
Typical junction capacitance	4.0V DC, 1MHz	C _J	pF	9						

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



FR101W THRU FR107W

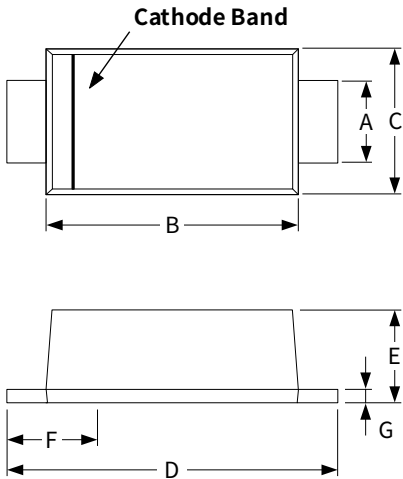
SURFACE MOUNT FAST RECOVERY RECTIFIER

● 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)

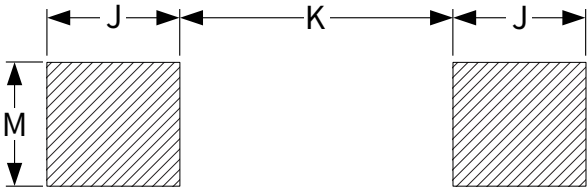
Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.10	0.035	0.430
B	2.55	2.85	0.100	0.111
C	1.60	1.90	0.063	0.074
D	3.60	3.90	0.031	0.043
E	1.00	1.20	0.031	0.035
F	0.40	0.90	0.047	0.055
G	0.10	0.25	0.003	0.007



The diagram shows two views of the SOD-123FL package. The top view is a plan view showing dimensions A (height of the cathode band), B (width of the cathode band), C (height of the package), D (total width), E (height of the package), F (width of the package), and G (height of the package). The bottom view is a side view showing dimensions A (height of the cathode band), B (width of the cathode band), C (height of the package), D (total width), E (height of the package), F (width of the package), and G (height of the package).

● Suggested Pad Layout

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



The diagram shows a suggested pad layout for the SOD-123FL package. It consists of two shaded rectangular pads. The width of each pad is dimensioned as J. The distance between the centers of the two pads is dimensioned as K. The height of each pad is dimensioned as M.