

## Features

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

## Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer, automotive, 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

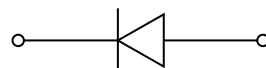
## Reverse Voltage

50-600 V

## Forward Current

1 Ampere

## SOD-123FL



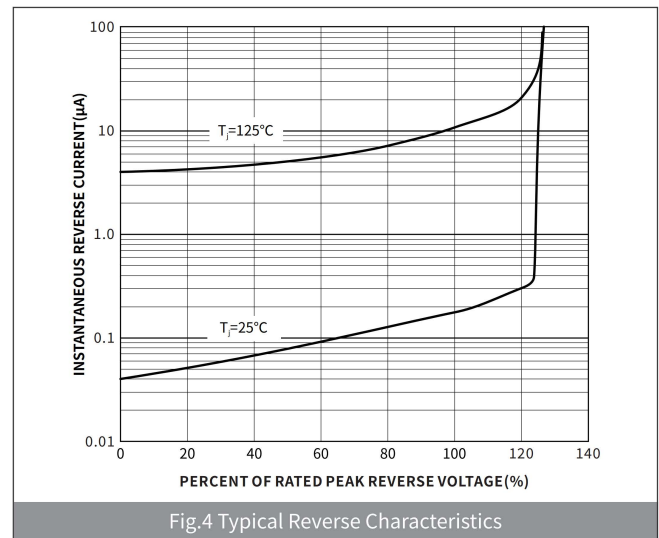
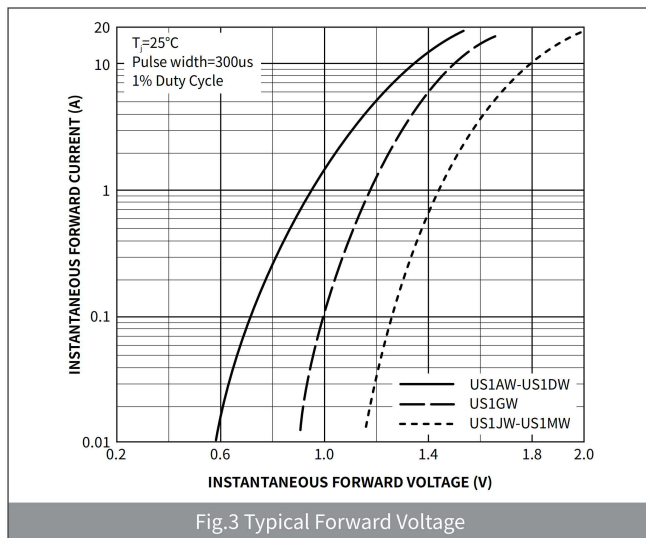
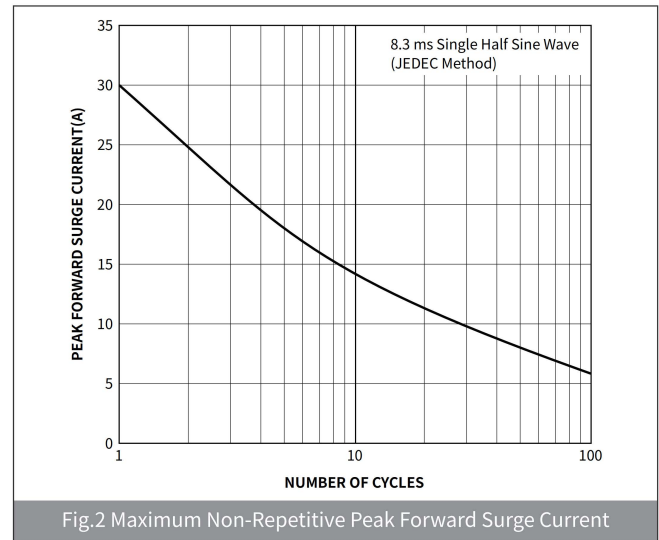
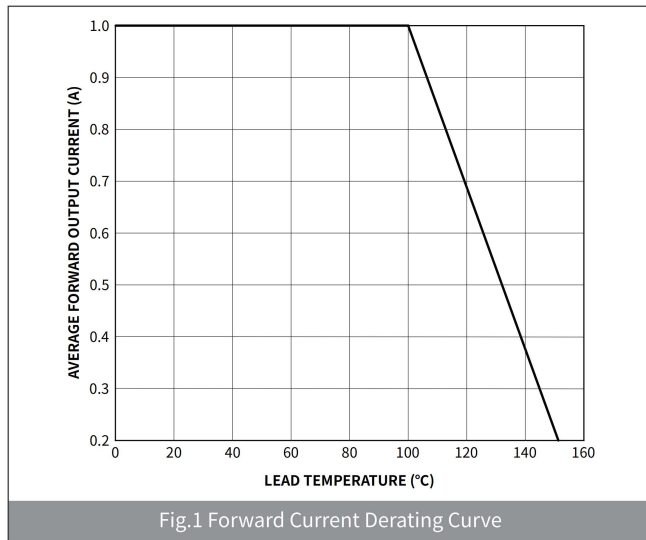
## Maximum Ratings ( Ta=25℃ Unless otherwise specified)

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	$T_{stg}$	℃	-55 ~ +150						
Junction temperature	$T_j$	℃	-55 ~ +150						
Typical Thermal Resistance	$R_{\theta J-A}$	℃ /W	85						
	$R_{\theta J-L}$	℃ /W	30						

**Electrical Characteristics** ( $T_a=25^\circ\text{C}$  Unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	US1AW	US1BW	US1DW	US1GW	US1JW	US1KW	US1MW
Maximum instantaneous forward voltage	I <sub>F</sub> =1.0A	V <sub>F</sub>	V	1.0			1.4	1.7		
Maximun reverse recovery time	I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>rr</sub> =0.25A	T <sub>rr</sub>	ns	50				75		
Maximum DC reverse currentat rated DC blocking voltage	V <sub>R</sub> =V <sub>DC</sub> , T <sub>A</sub> =25°C	I <sub>R1</sub>	μA	2.0						
	V <sub>R</sub> =V <sub>DC</sub> , T <sub>A</sub> =125°C	I <sub>R2</sub>		200						
Typical junction capacitance	4.0V DC, 1MHz	C <sub>J</sub>	pF	9.0						

**Ratings And Characteristics Curves** ( $T_a=25^\circ\text{C}$  Unless otherwise specified)

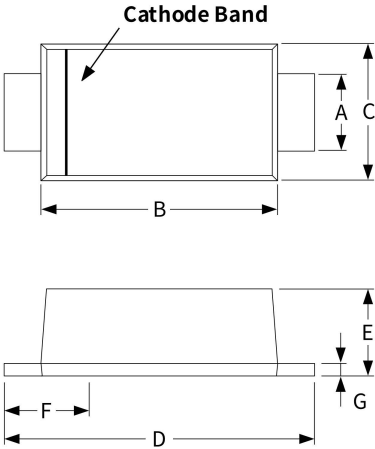


Ordering Information

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)

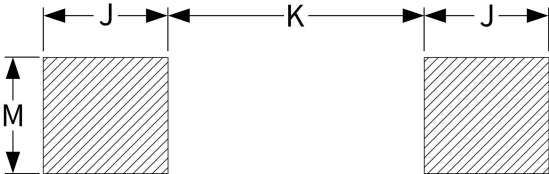
Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.10	0.035	0.430
B	2.55	2.85	0.100	0.111
C	1.60	1.90	0.063	0.074
D	3.60	3.90	0.031	0.043
E	1.00	1.20	0.031	0.035
F	0.40	0.90	0.047	0.055
G	0.10	0.25	0.003	0.007



The diagram shows two views of the SOD-123FL package. The top view is a rectangle with dimensions B (width) and C (height). A vertical line on the left side is labeled 'Cathode Band'. The bottom view is a perspective drawing showing the package's profile with dimensions D (total width), E (height), F (lead width), and G (lead thickness).

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 rectangular pads, each with a width of J and a height of M. The distance between the centers of the two pads is K.