



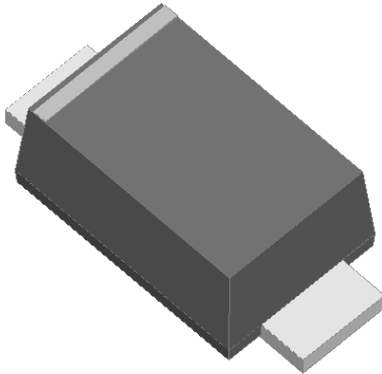
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## Surface Mount Fast Recovery Rectifier

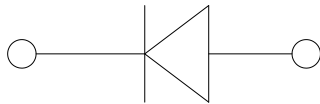


### Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Fast switching for fast recovery
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

### Typical Applications

For use in fast switching rectification of power supply, inverters, converters, and freewheeling diodes for consumer, and telecommunication.



### Mechanical Date

- **Package:** SOD-123FL  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

### ■ Maximum Ratings ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	F1A	F1B	F1D	F1G	F1J	F1K	F1M
Device marking code			F1A	F1B	F1D	F1G	F1J	F1K	F1M
Repetitive peak reverse voltage	VRRM	V	50	100	200	400	600	800	1000
Average rectified output current @60Hz sine wave, Resistance load, $T_a$ (FIG.1)	$I_O$	A	1.0						
Surge(non-repetitive)forward current @ 60Hz half-sine wave, 1 cycle, $T_j=25^\circ\text{C}$	IFSM	A	30						
Storage temperature	$T_{stg}$	$^\circ\text{C}$	-55 ~ +150						
Junction temperature	$T_j$	$^\circ\text{C}$	-55 ~ +150						

### ■ Electrical Characteristics ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	F1A	F1B	F1D	F1G	F1J	F1K	F1M
Maximum instantaneous forward voltage drop per diode	$V_F$	V	$I_{FM}=1.0A$	1.3						
Maximum reverse recovery time	$t_{rr}$	ns	$I_F=0.5A, I_R=1.0A, I_{RR}=0.25A$	150			250		500	
Maximum DC reverse current at rated DC blocking voltage per diode	IRRM	$\mu\text{A}$	$T_a=25^\circ\text{C}$	5						
			$T_a=125^\circ\text{C}$	100						



# F1A THRU F1M

## ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	F1A	F1B	F1D	F1G	F1J	F1K	F1M
Thermal resistance	R <sub>θJ-A</sub>	°C/W	68 <sup>(1)</sup>						
	R <sub>θJ-L</sub>		20 <sup>(1)</sup>						

Note:

(1) Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm\*3mm.

## ■ Characteristics (Typical)

FIG1: I<sub>o</sub>-T<sub>L</sub> Curve

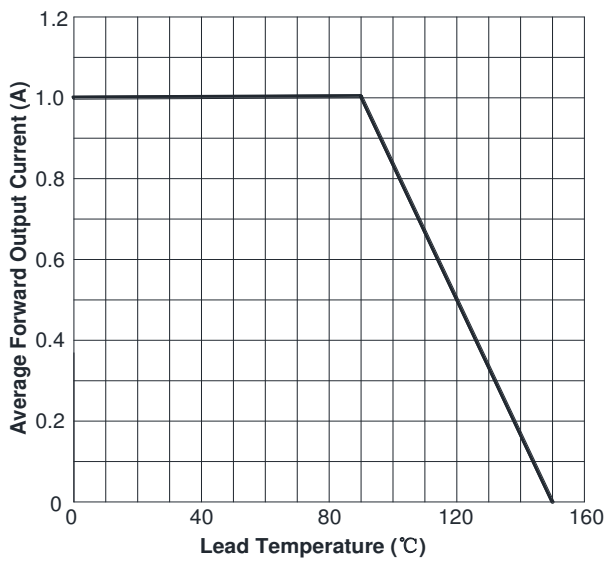


FIG2: Surge Forward Current Capability

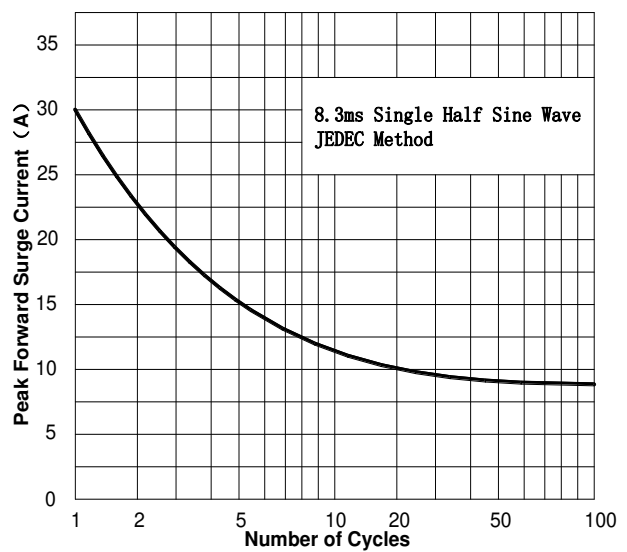


FIG3: Forward Voltage

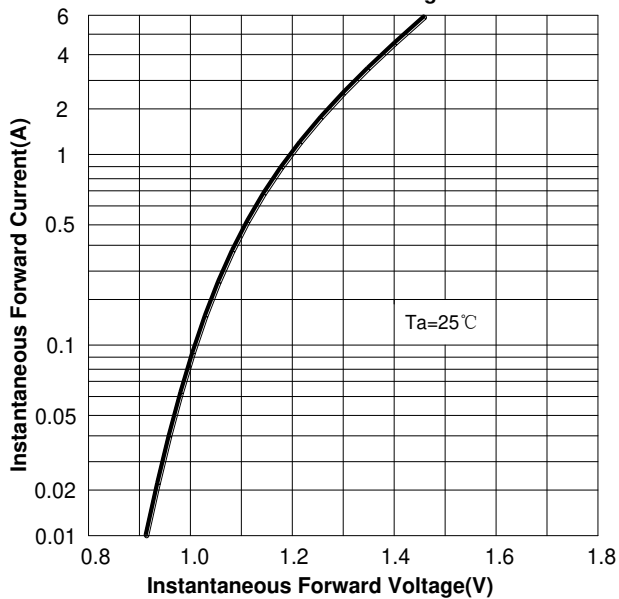
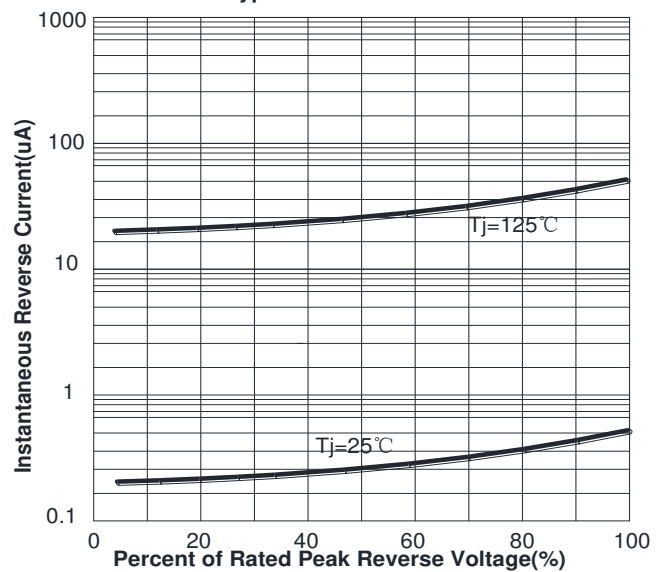


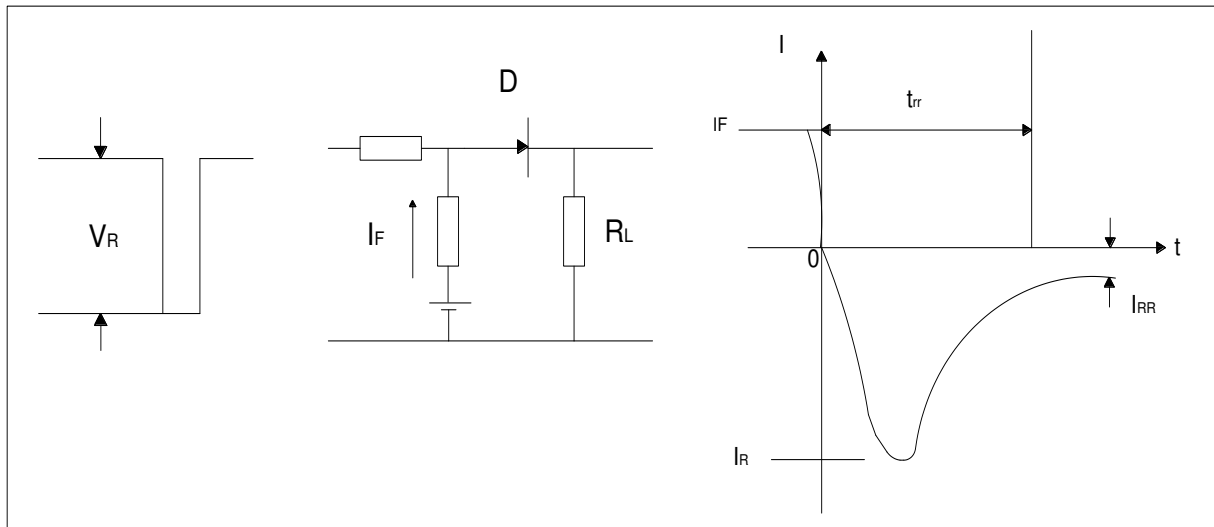
FIG4: Typical Reverse Characteristics





# F1A THRU F1M

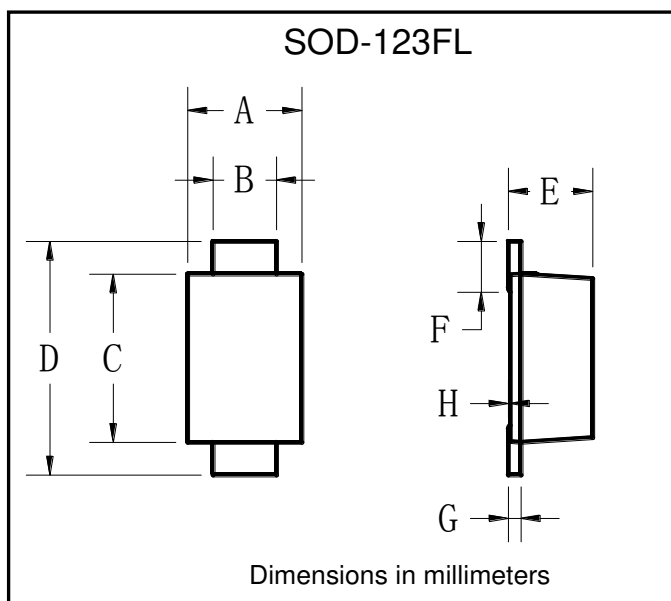
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



## Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
F1A THRU F1M	F1	Approximate 0.0169	3000	15000	120000	7" reel
F1A THRU F1M	F2	Approximate 0.0169	2500	12500	100000	7" reel
F1A THRU F1M	F3	Approximate 0.0169	10000	30000	210000	13" reel
F1A THRU F1M	F4	Approximate 0.0169	3000	27000	108000	7" reel
F1A THRU F1M	F5	Approximate 0.0169	10000	20000	160000	13" reel
F1A THRU F1M	F6	Approximate 0.0169	3000	12000	60000	7" reel

## Outline Dimensions

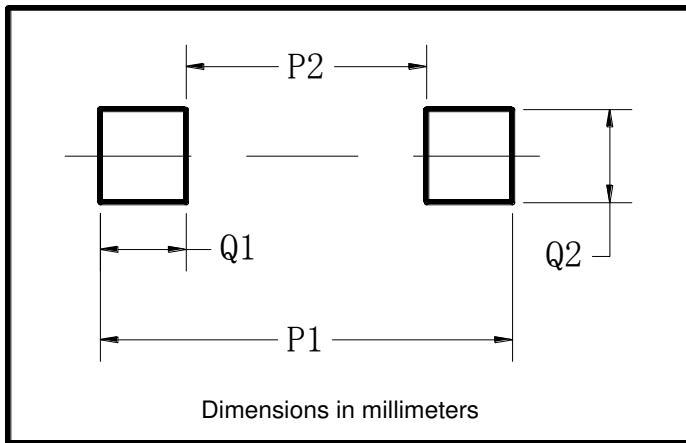


SOD-123FL		
Dim	Min	Max
A	1.60	1.90
B	0.90	1.10
C	2.55	2.85
D	3.60	3.90
E	1.00	1.20
F	0.40	0.90
G	0.10	0.25
H	0.02	0.05



## F1A THRU F1M

### ■ Suggested pad layout



SOD-123FL	
Dim	Millimeters
P1	3.90
P2	1.90
Q1	1.00
Q2	1.50



## F1A THRU F1M

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