

Surface Mount Fast Recovery Rectifier

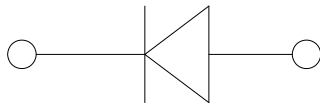


Features

- 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 (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	F15A	F15B	F15D	F15G	F15J	F15K	F15M
Device marking code			F15A	F15B	F15D	F15G	F15J	F15K	F15M
Repetitive peak reverse voltage	VRRM	V	50	100	200	400	600	800	1000
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	IO	A	1.5						
Surge(non-repetitive)forward current @ 60Hz half-sine wave,1 cycle, Ta=25°C	IFSM	A	45						
Storage temperature	Tstg	°C	-55 ~+150						
Junction temperature	Tj	°C	-55 ~+150						

■ Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	F15A	F15B	F15D	F15G	F15J	F15K	F15M
Maximum instantaneous forward voltage drop per diode	VF	V	IFM=1.5A	1.3						
Maximum reverse recovery time	t _{rr}	ns	IF=0.5A,IR=1.0A, IRR=0.25A	150			250		500	
Maximum DC reverse current at rated DC blocking voltage per diode	IRRM	μA	Ta=25°C	5						
			Ta=125°C	100						



F15A THRU F15M

■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	F15A	F15B	F15D	F15G	F15J	F15K	F15M
Typical Thermal resistance	R _{θJ-A} ⁽¹⁾	°C/W	65						
	R _{θJ-L} ⁽¹⁾		30						

Note:
 (1) Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm*3mm copper pad areas.

■ Characteristics (Typical)

FIG1: I_o-T_L Curve

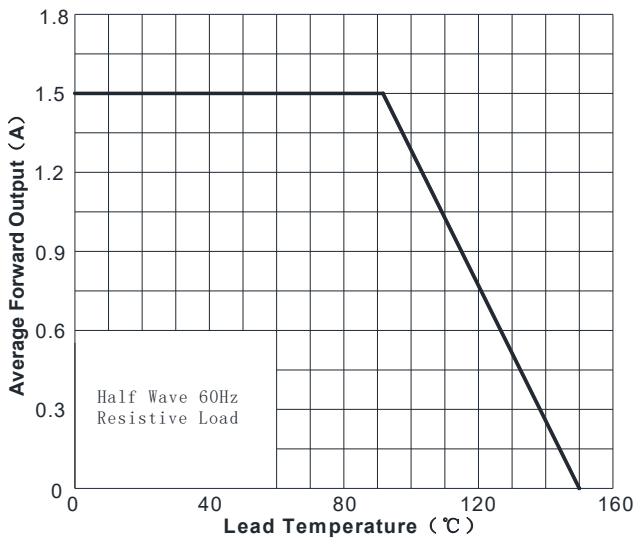


FIG2: Surge Forward Current Capability

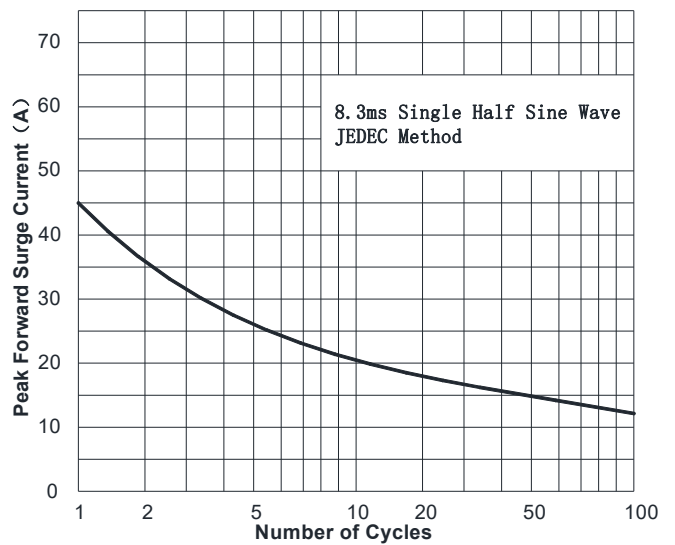


FIG3: Forward Voltage

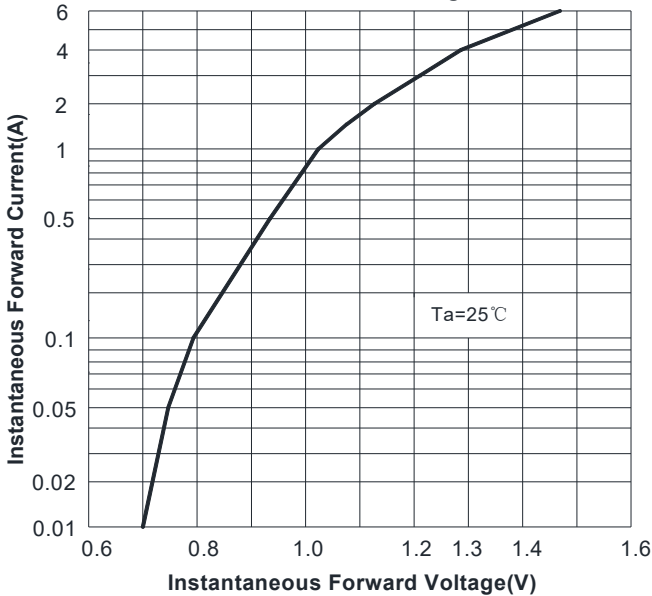
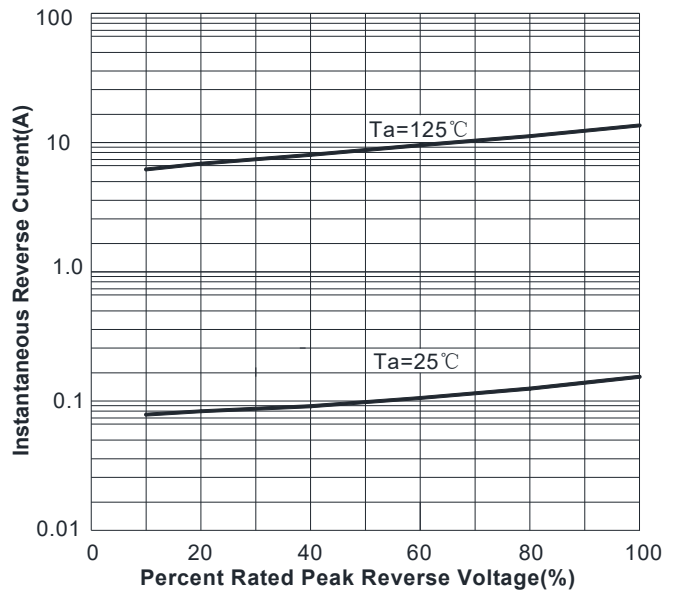


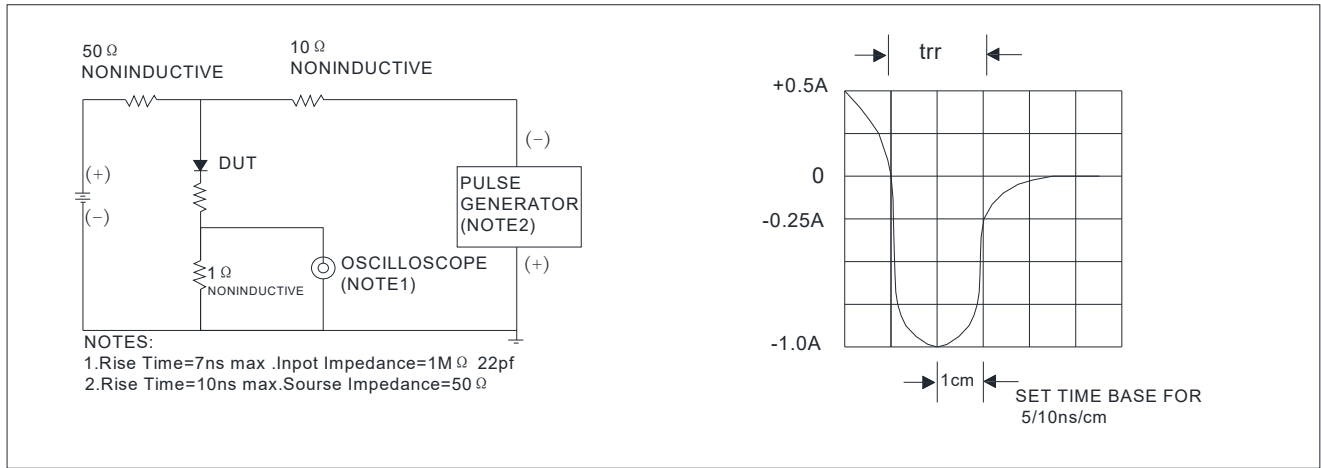
FIG4: Typical Reverse Characteristics





F15A THRU F15M

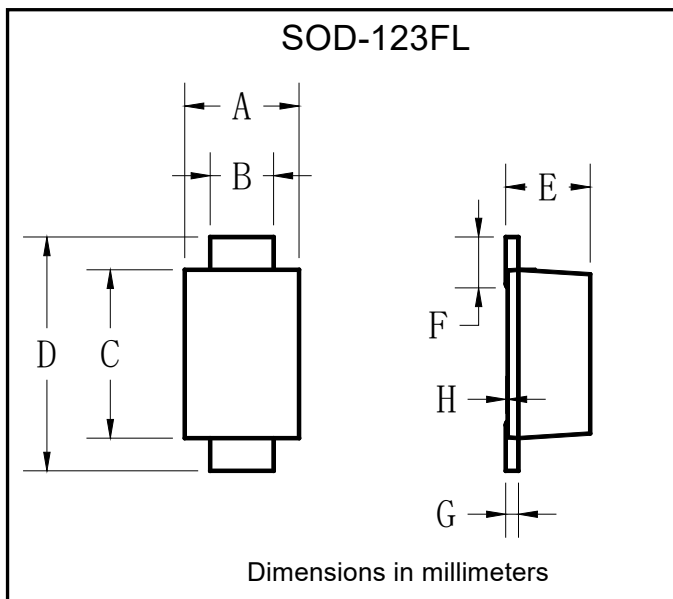
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
F15A THRU F15M	F1	Approximate 0.0169	3000	15000	120000	7" reel
F15A THRU F15M	F2	Approximate 0.0169	2500	12500	100000	7" reel
F15A THRU F15M	F3	Approximate 0.0169	10000	30000	210000	13" reel
F15A THRU F15M	F4	Approximate 0.0169	3000	27000	108000	7" reel
F15A THRU F15M	F5	Approximate 0.0169	10000	20000	160000	13" reel
F15A THRU F15M	F6	Approximate 0.0169	3000	12000	60000	7" reel

Outline Dimensions

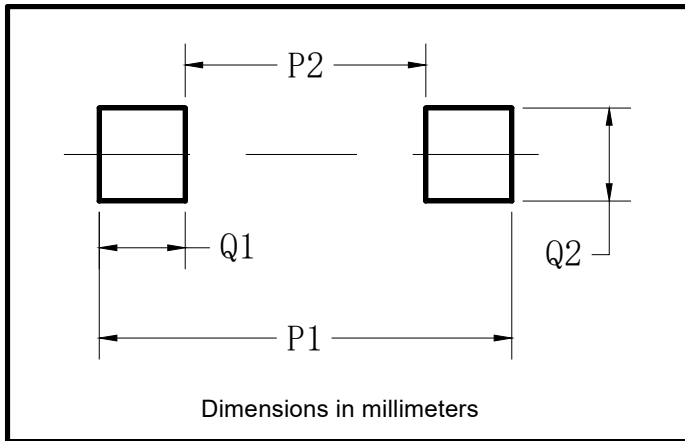


SOD-123FL		
Dim	Min	Max
A	1.60	1.90
B	0.90	1.10
C	2.55	2.85
D	3.60	3.90
E	1.00	1.20
F	0.40	0.90
G	0.10	0.25
H	0.02	0.05



F15A THRU F15M

■ Suggested pad layout



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



F15A THRU F15M

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