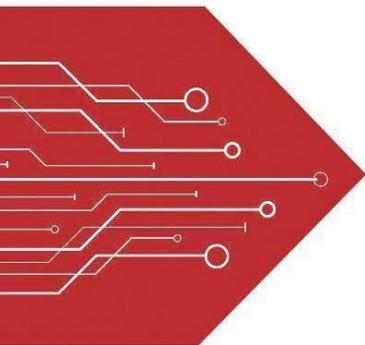


# MSKSEMI

SEMICONDUCTOR



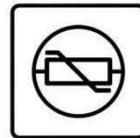
ESD



TVS



TSS



MOV



GDT



PLED

Product data sheet



SOD-123FL

## FEATURES

- \* Ideal for surface mount applications
- \* Easy pick and place
- \* Built-in strain relief
- \* Fast switching speed

## MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Metallurgically bonded construction
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any

### Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	P/N	FR10W F1	FR10W F2	FR103W F3	FR10W F4	FR105W F5	FR10W F6	FR10W F7	Units
	MARK	F1	F2	F3	F4	F5	F6	F7	
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at $T_a = 65\text{ °C}$	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	30							A
Maximum Instantaneous Forward Voltage at 1 A	$V_F$	1.3							V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25\text{ °C}$ $T_a = 125\text{ °C}$	$I_R$	1 50							$\mu\text{A}$
Maximum Reverse Recovery Time <sup>1)</sup>	$t_{rr}$	150				250	500		ns
Typical Junction Capacitance <sup>2)</sup>	$C_j$	15							pF
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150							°C

1) Measured with  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $t_{rr} = 0.25\text{ A}$

2) Measured at 1MHz and applied reverse voltage of 4V D.C

FIG.1-TYPICAL FORWARD CHARACTERISTICS

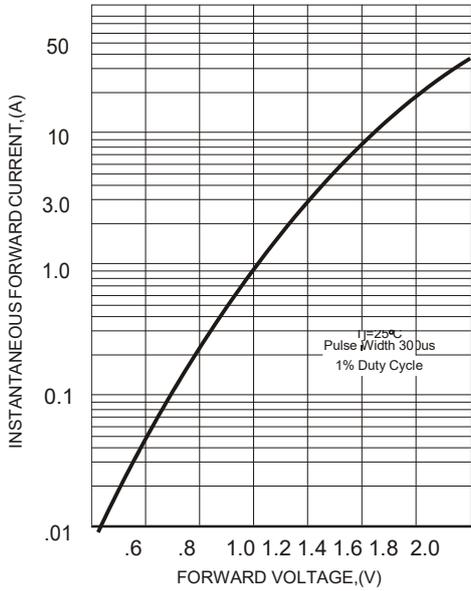


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

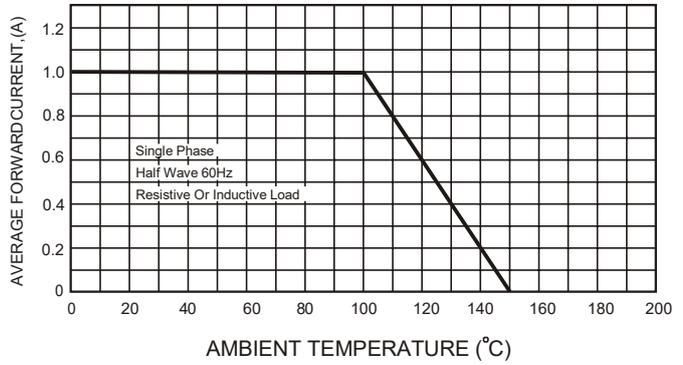
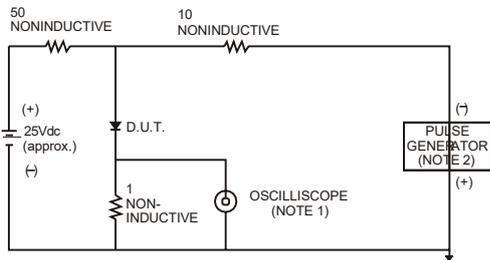


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm, 22pF.  
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

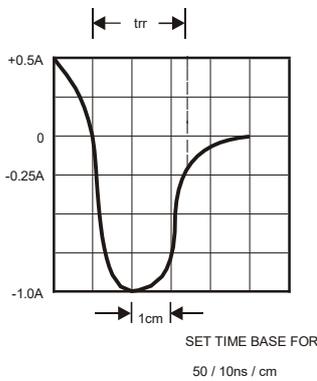


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

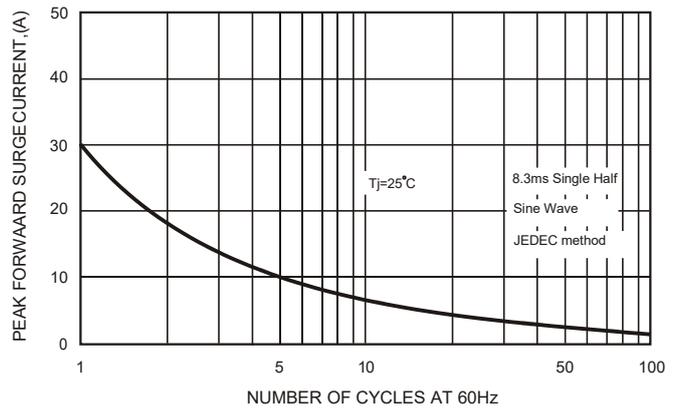
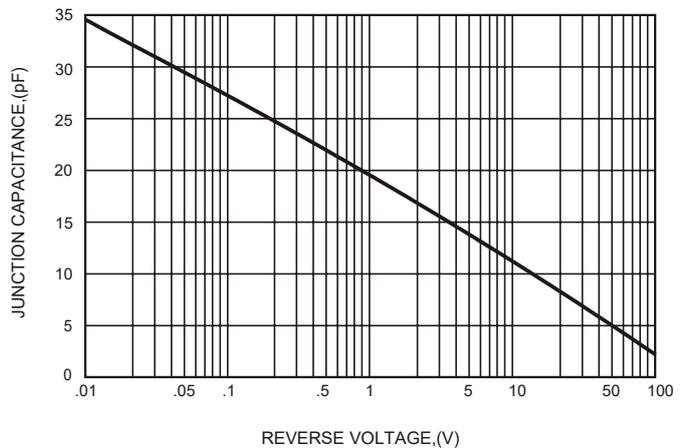
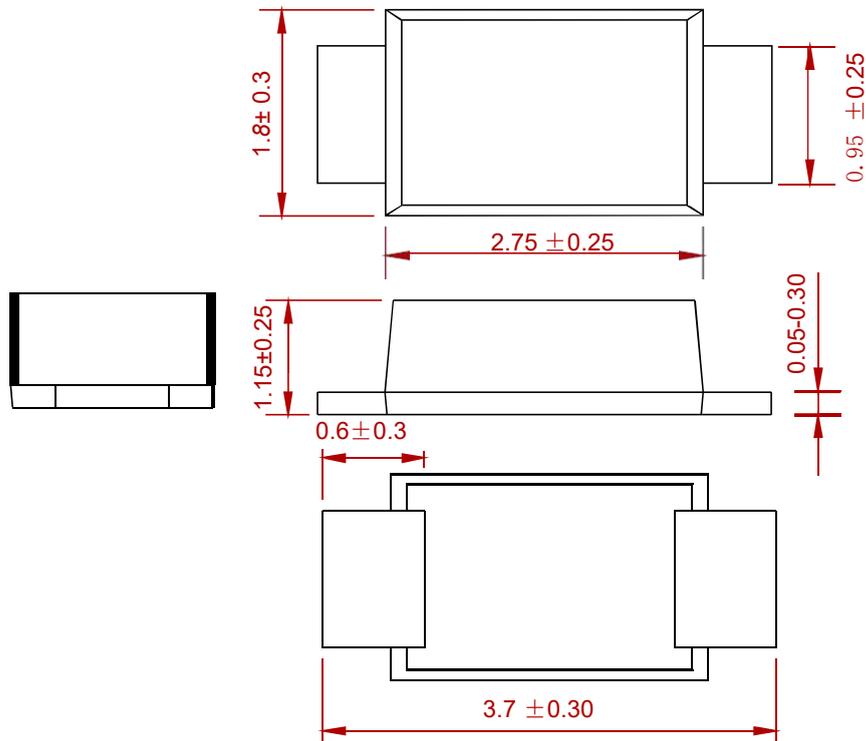


FIG.5-TYPICAL JUNCTION CAPACITANCE

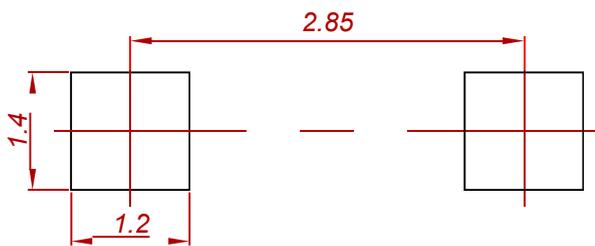


**PACKAGE MECHANICAL DATA**



*Dimensions in millimeters*

**Suggested Pad Layout**



**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$  mm.
3. The pad layout is for reference purposes only.

**REEL SPECIFICATION**

P/N	PKG	QTY
FR101W THRU FR107W	SOD-123FL	3000

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