

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



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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

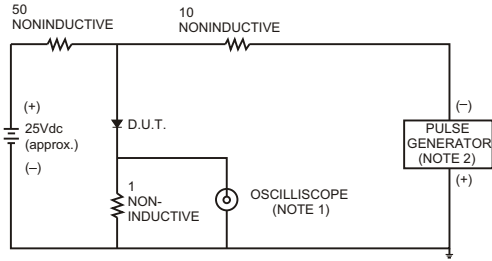
Rating 25°C ambient temperature unless otherwise specified.  
Single phase half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

P/N	ES1AW	ES1BW	ES1CW	ES1DW	ES1EW	ES1GW	ES1JW	UNITS
MARK	E1A	E1B	E1C	E1D	E1E	E1G	E1J	V
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	600	V
Maximum RMS Voltage	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	600	
Maximum Average Forward Rectified Current at Ta=25°C	1.0							A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	30							A
Maximum Instantaneous Forward Voltage at 1.0A	0.95			1.25		1.7		V
Maximum DC Reverse Current Ta=25°C	5.0							µA
at Rated DC Blocking Voltage Ta=100°C	500							µA
Maximum Reverse Recovery Time (Note 1)	35							nS
Typical Junction Capacitance (Note 2)	15							pF
Typical Thermal Resistance R JA (Note 3)	80							°C/W
Operating and Storage Temperature Range Tj, Tstg	-65 — +150							°C

**NOTES:**

- Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
- Measured at 1MHz and applied reverse voltage of 4.0V D.C.
- Thermal Resistance from Junction to Ambient.

FIG.1- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

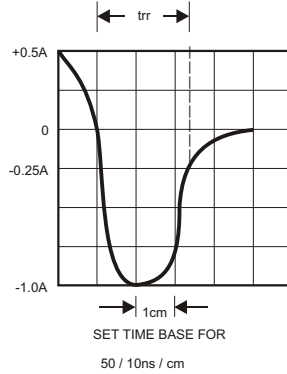


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

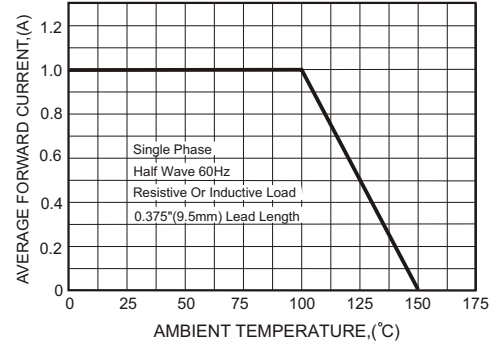


FIG.3-TYPICAL FORWARD CHARACTERISTICS

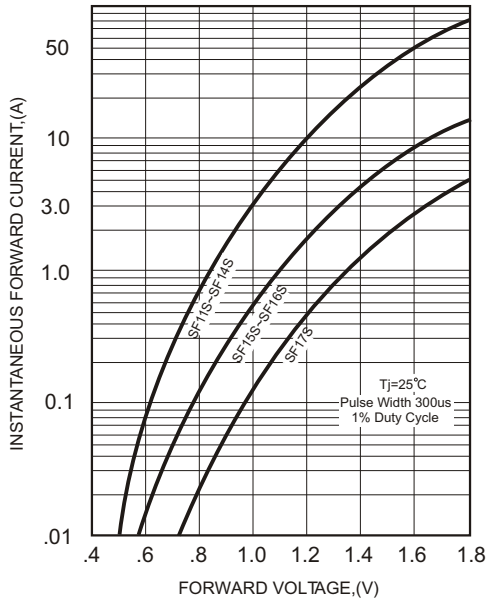


FIG.4-TYPICAL REVERSE CHARACTERISTICS

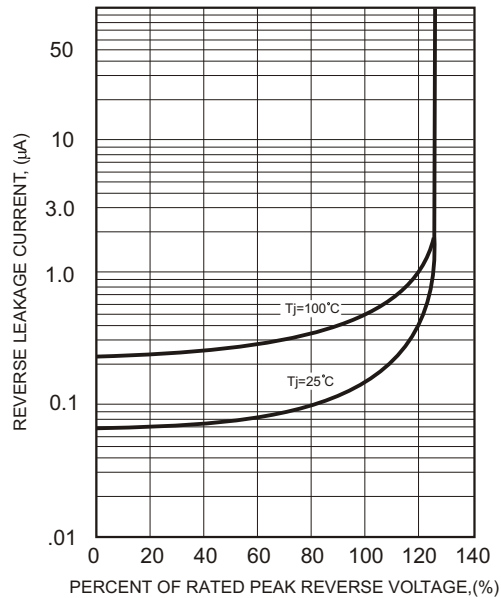


FIG.5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

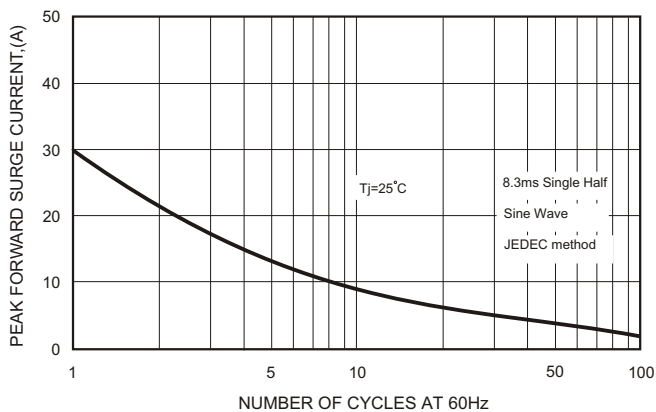
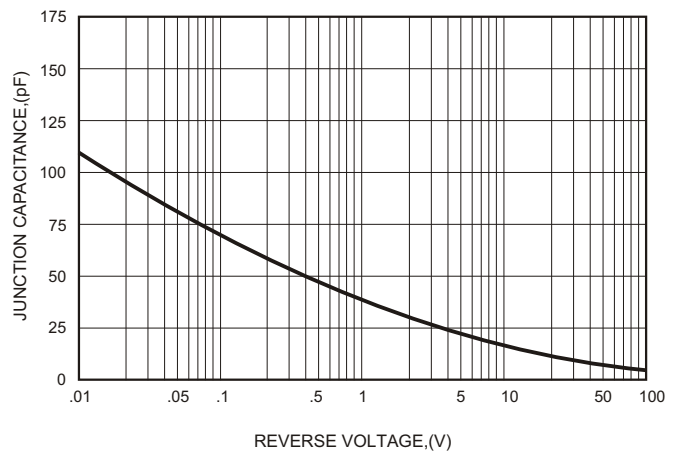
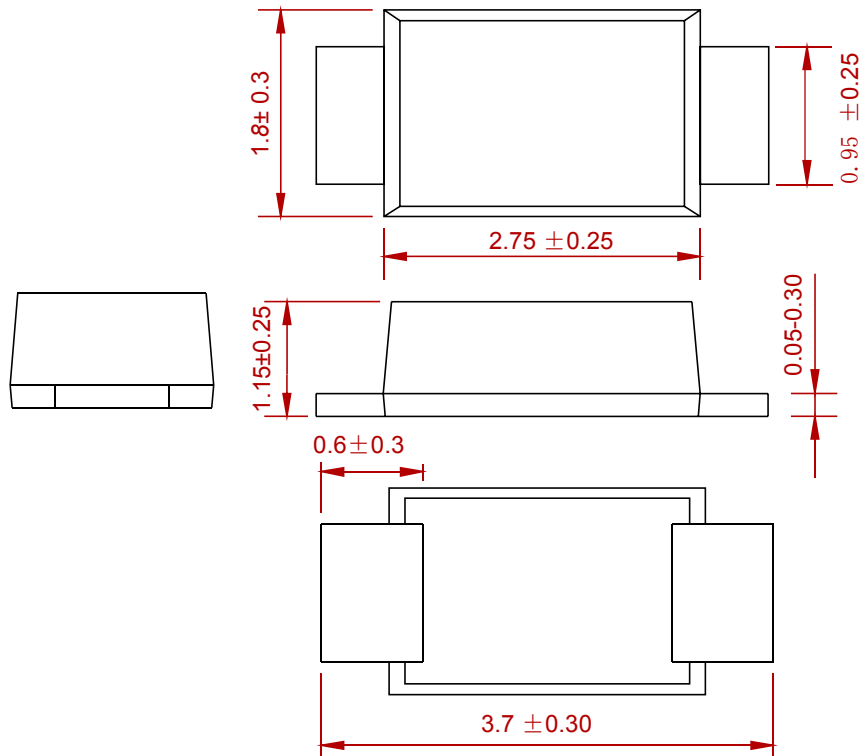


FIG.6-TYPICAL JUNCTION CAPACITANCE

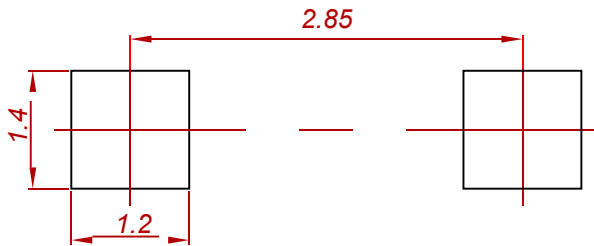


**PACKAGE MECHANICAL DATA**



*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
ES1AW THRU ES1JW	SOD-123FL	3000

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