

ES1AW THRU ES1JW

Surface Mount Superfast Recovery Rectifier

Reverse Voltage – 50 to 600 V

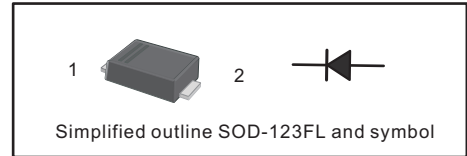
Forward Current – 1 A

FEATURES

- Easy pick and place
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Superfast recovery times for high efficiency

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



MECHANICAL DATA

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 15mg 0.00053oz

Absolute Maximum Ratings and Characteristics

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

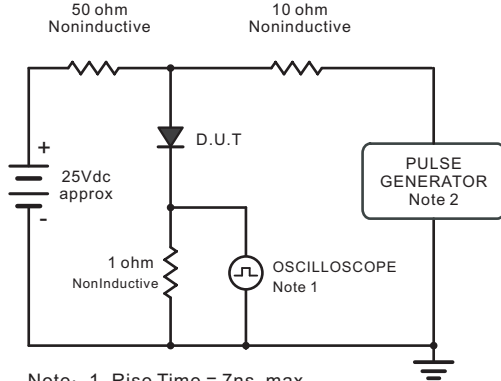
Parameter	Symbols	ES1AW	ES1BW	ES1CW	ES1DW	ES1EW	ES1GW	ES1JW	Units
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	600	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current at T _L = 100 °C	I _{F(AV)}	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	30							A
Maximum Forward Voltage at 1 A	V _F	1				1.25		1.68	V
Maximum DC Reverse Current Ta = 25 °C at Rated DC Blocking Voltage Ta =125 °C	I _R	5 100							μA
Typical Junction Capacitance at V _R =4V, f=1MHz	C _j	10							pF
Maximum Reverse Recovery Time ¹⁾	t _{rr}	35							ns
Typical Thermal Resistance ²⁾	R _{θJA}	120							°C/W
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) P.C.B. mounted with 0.2 X 0.2" (5 X 5 mm) copper pad areas.

ES1AW THRU ES1JW

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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

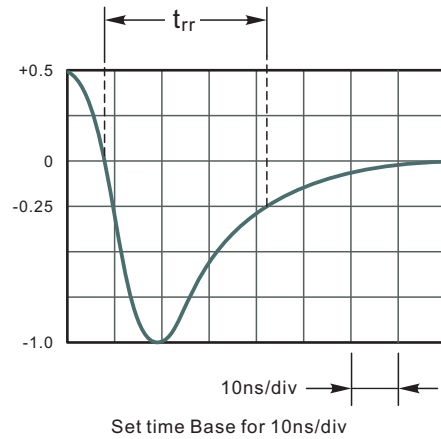


Fig.2 Maximum Average Forward Current Rating

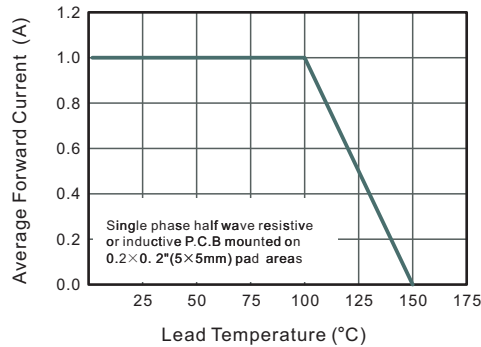


Fig.3 Typical Reverse Characteristics

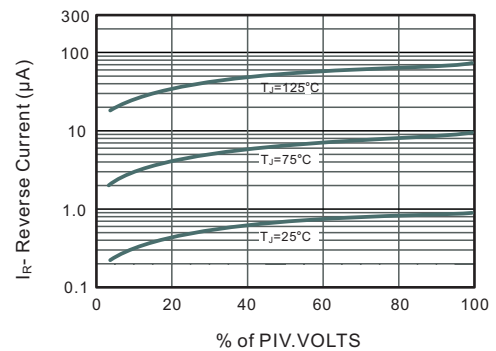


Fig.4 Typical Forward Characteristics

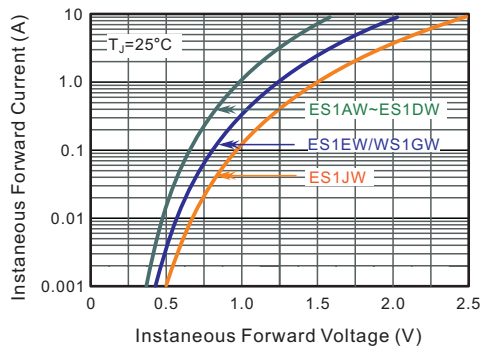


Fig.5 Typical Junction Capacitance

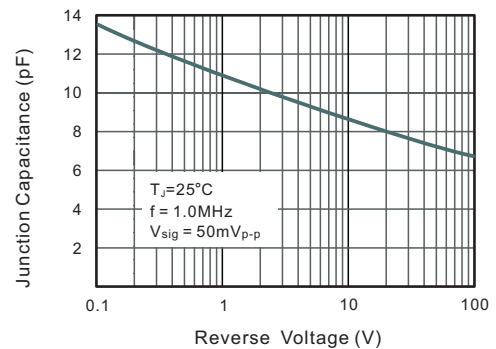
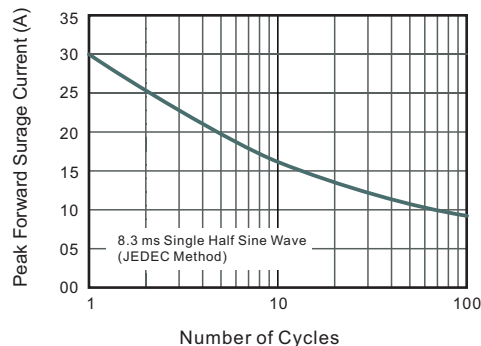


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current

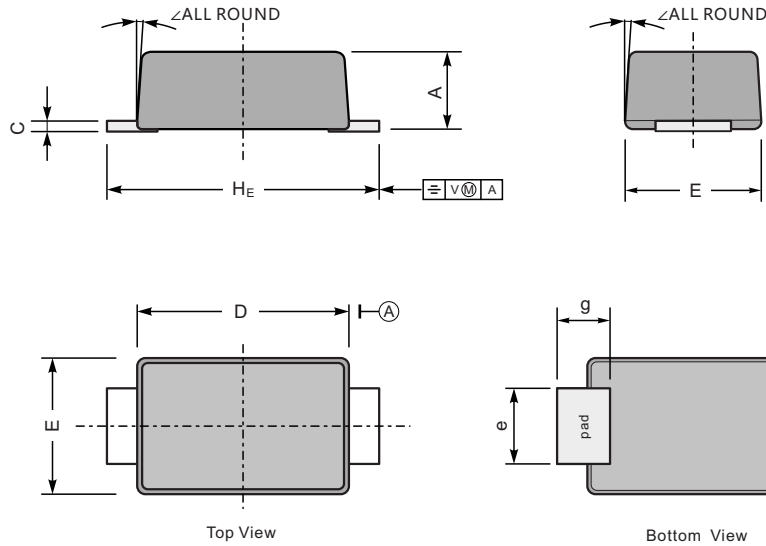


ES1AW THRU ES1JW

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123FL



UNIT		A	C	D	E	e	g	H _E	∠
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	

The recommended mounting pad size

