

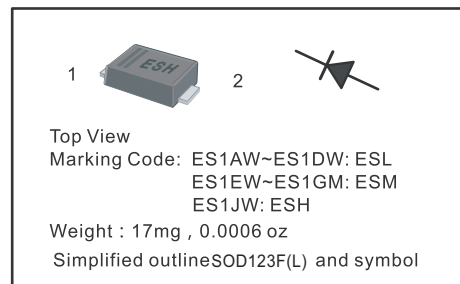
Surface Mount Superfast Recovery Rectifier
Reverse Voltage – 50 to 600 V Forward Current – 1 A

FEATURES

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

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



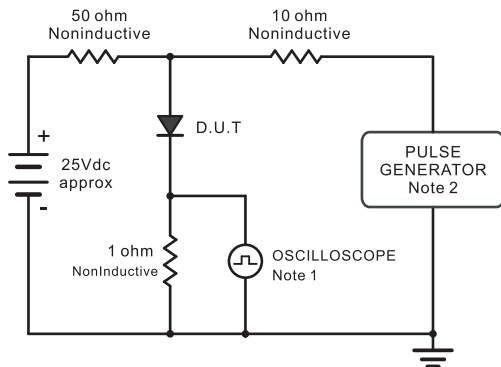
Absolute Maximum Ratings and Characteristics

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}	25							A
Typical Current Squarad Time	I ² t	2.5							A ² S
Maximum Forward Voltage at 1 A	V _F	1				1.25		1.7	V
Maximum DC Reverse Current at Rated DC Blocking Voltage Ta = 25 °C Ta =150 °C	I _R	5 200							μA
Typical Junction Capacitance at V _R =4V, f=1MHz	C _j	10							pF
Maximum Reverse Recovery Time at I _F =0.5A, I _R =1A, I _{rr} =0.25A	t _{rr}	35							ns
Operating and Storage Temperature Range	T _j , T _{stg}	-55 ~ +150							°C

RATING AND CHARACTERISTICS CURVES (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.

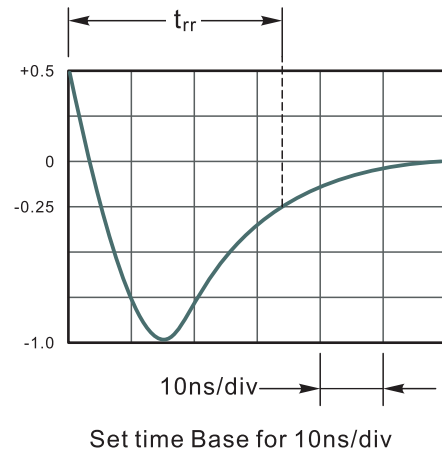


Fig.2 Maximum Average Forward Current Rating

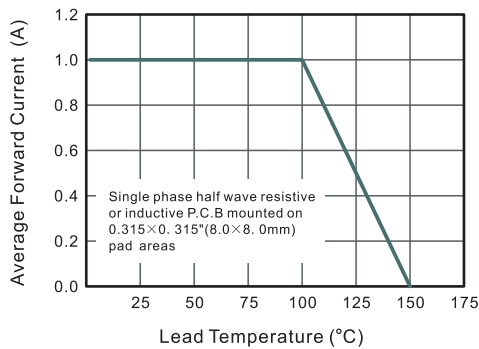


Fig.3 Typical Reverse Characteristics

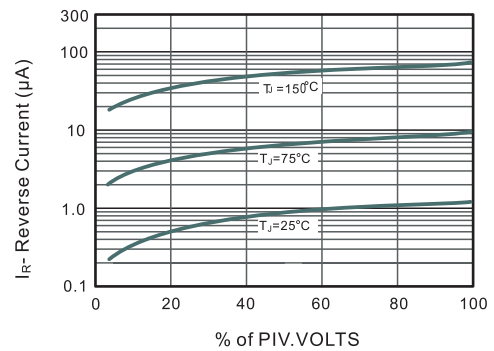


Fig.4 Typical Forward Characteristics

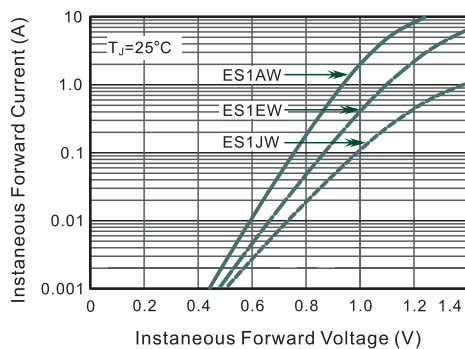
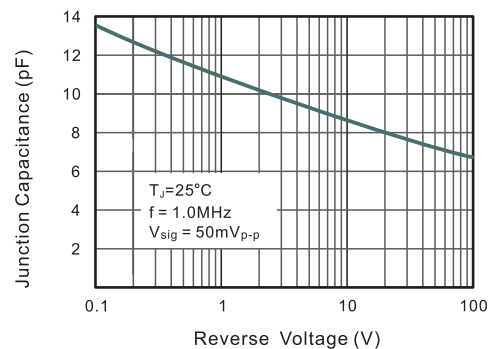


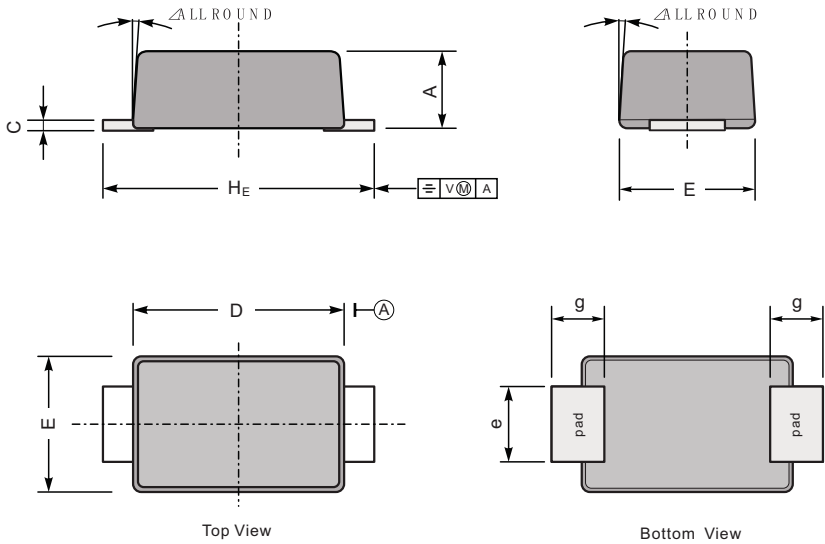
Fig.5 Typical Junction Capacitance



PACKAGE OUTLINE

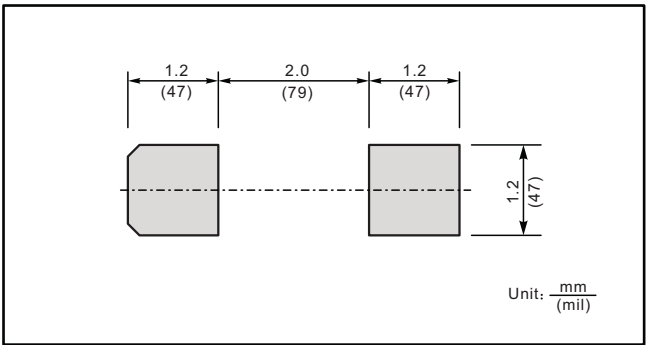
Plastic surface mounted package; 2 leads

SOD123F(L)



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

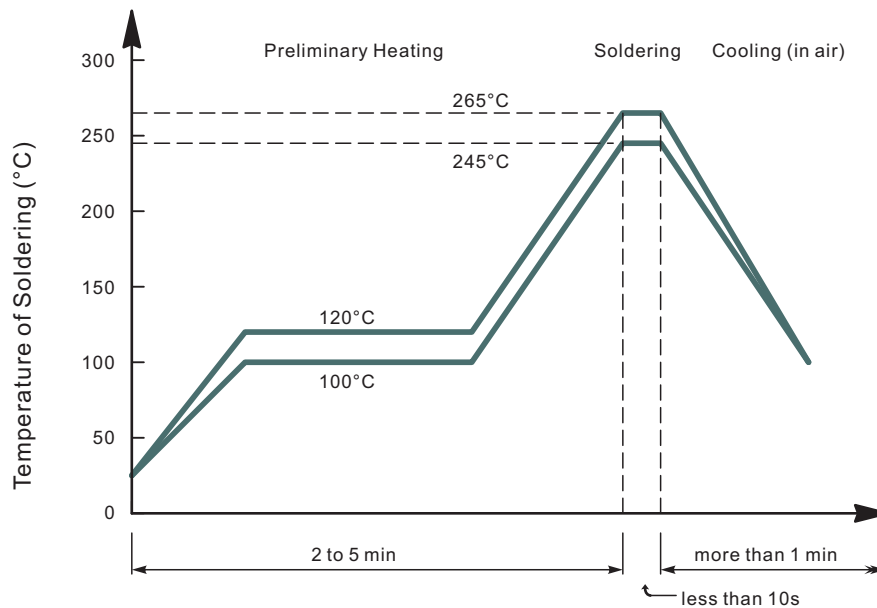


PACKAGING OF DIODE AND BRIDGE RECTIFIERS

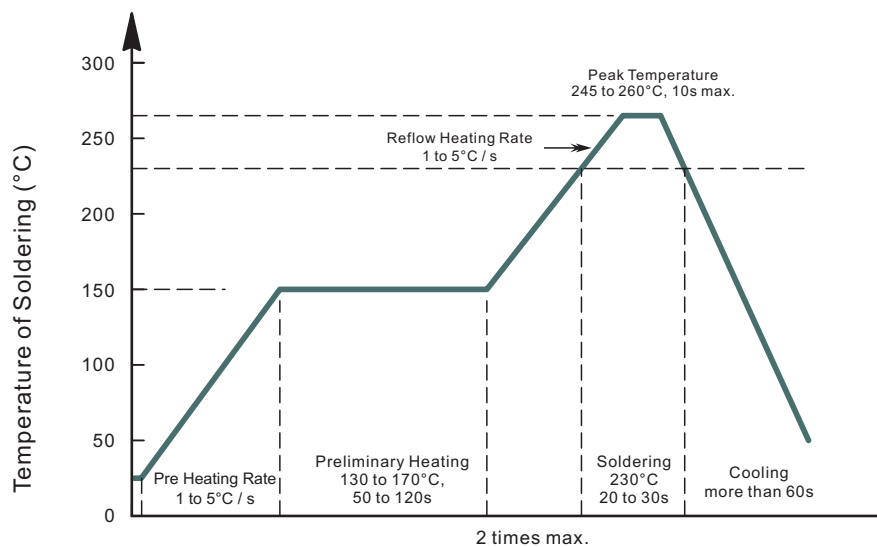
REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SOD-123F(L)	-W/T	3,000	15,000	---	---	178	390*205*31	120,000	6.964

- **Recommended condition of flow soldering**



- **Recommended condition of reflow soldering**



Recommended peak temperature is over 245 °C. If peak temperature is below 245 °C, you may adjust the following parameters; time length of peak temperature (longer), time length of soldering (longer), thickness of solder paste (thicker)

- **Condition of hand soldering**

Temperature: 370°C

Time: 3s max.

Times: one time

- **Remark:**

Lead free solder paste (96.5Sn/3.0Ag/0.5Cu)

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