

ES1AW-ES1JW

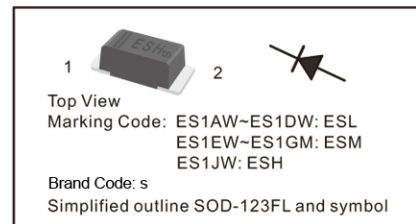
● Surface Mount Superfast Recovery Rectifier

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



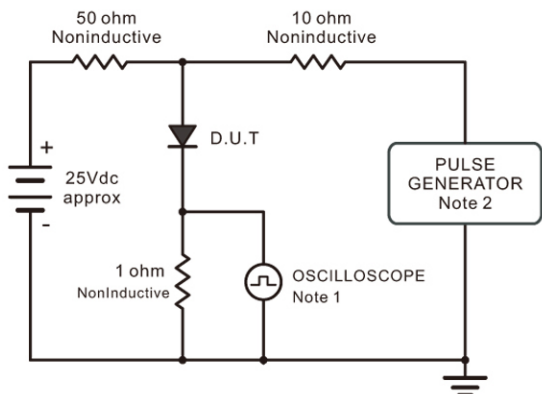
● Absolute Maximum Ratings and Characteristics

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 $T_L = 100\text{ °C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	25							A
Maximum Forward Voltage at 1 A	V_F	1				1.25		1.7	V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25\text{ °C}$ $T_a = 125\text{ °C}$	I_R					5 100			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

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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.

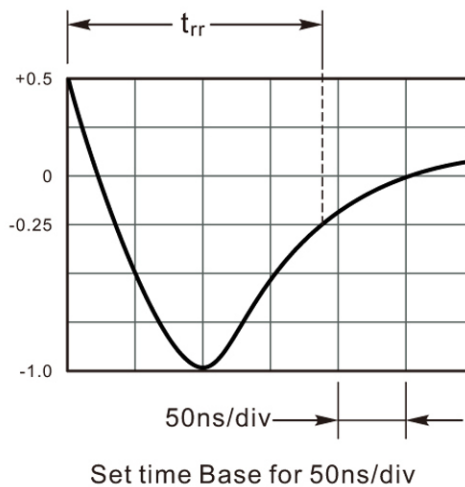


Fig.2 Maximum Average Forward Current Rating

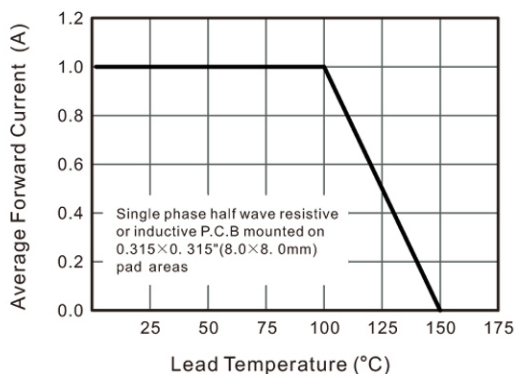


Fig.3 Typical Reverse Characteristics

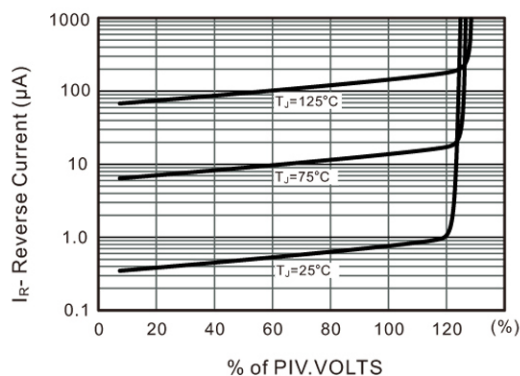


Fig.4 Typical Forward Characteristics

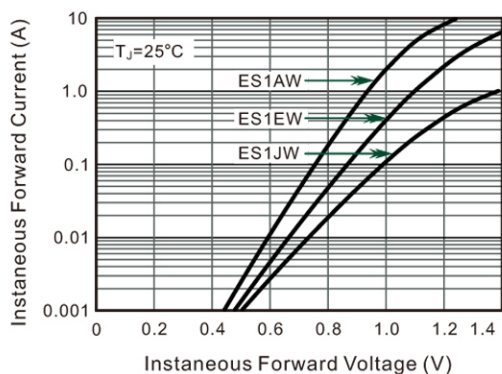
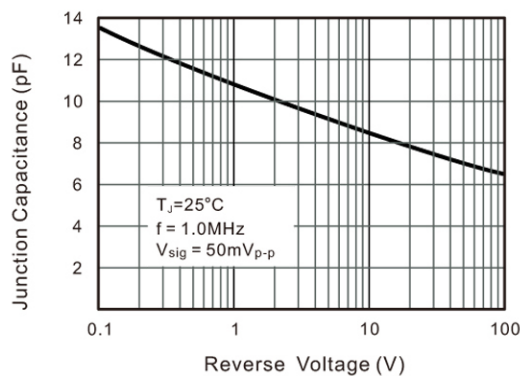


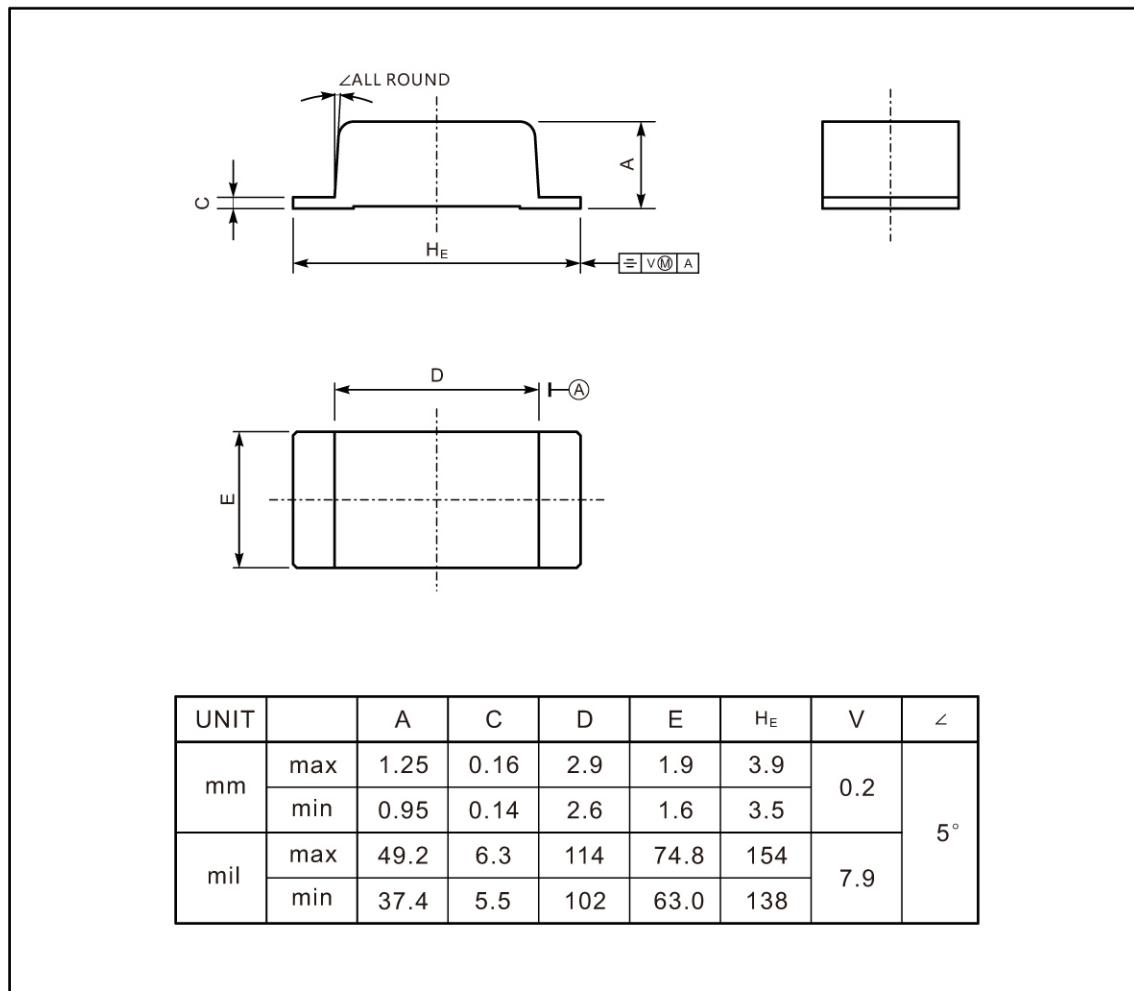
Fig.5 Typical Junction Capacitance



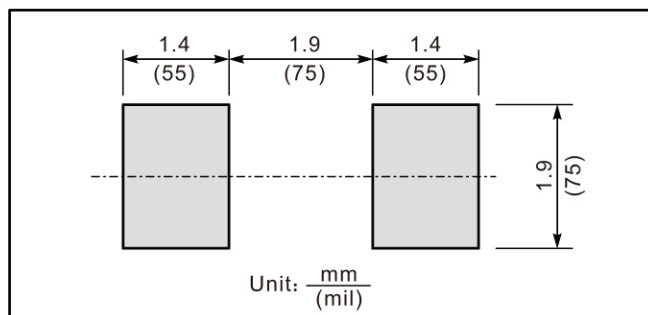
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PACKAGE OUTLINE

Plastic surface mounted package; 2 leads



The recommended mounting pad size

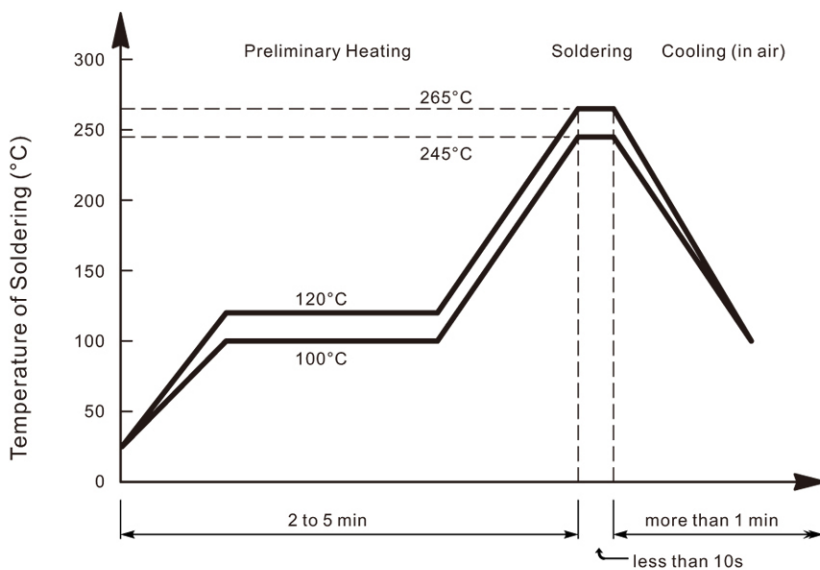


Marking

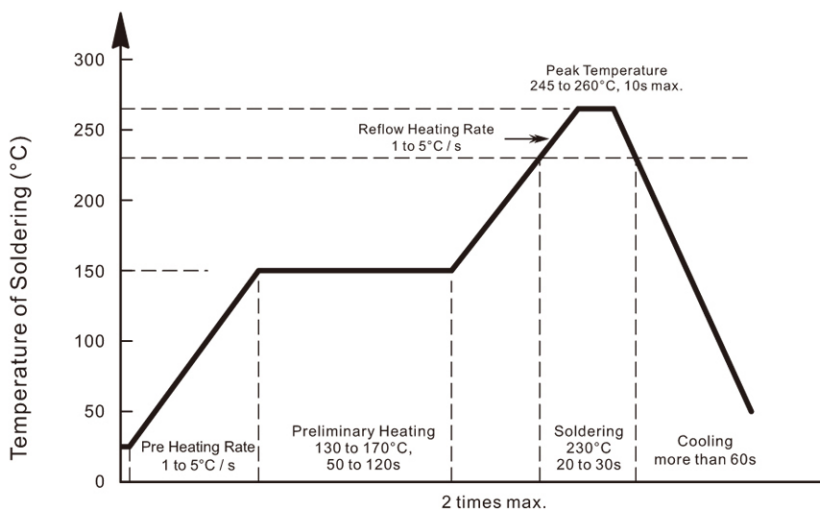
Type number	Marking code
ES1AW	ESL
ES1BW	
ES1CW	
ES1DW	
ES1EW	ESM
ES1GW	
ES1JW	ESH

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• 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)