



ES1JW

Surface Mount Superfast Rectifiers

Reverse Voltage 600 V

Forward Current – 1 A

FEATURES

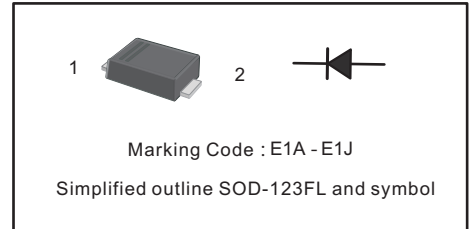
- Easy pick and place
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Superfast recovery times for high efficiency

MECHANICAL DATA

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 15mg 0.00048oz

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 | ES1JW | Units |
|--|-----------------|------------|--------------------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 600 | V |
| Maximum RMS voltage | V_{RMS} | 420 | V |
| Maximum DC Blocking Voltage | V_{DC} | 600 | V |
| Maximum Average Forward Rectified Current at $T_c = 125\text{ }^\circ\text{C}$ | $I_{F(AV)}$ | 1 | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load | I_{FSM} | 30 | A |
| Maximum Forward Voltage at 1 A | V_F | 1.65 | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25\text{ }^\circ\text{C}$ $T_a = 125\text{ }^\circ\text{C}$ | I_R | 5 100 | μA |
| Typical Junction Capacitance at $V_R = 4\text{V}$, $f = 1\text{MHz}$ | C_j | 15 | pF |
| Maximum Reverse Recovery Time ⁽¹⁾ | t_{rr} | 35 | ns |
| Typical Thermal Resistance ⁽²⁾ | $R_{\theta JA}$ | 85 | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55 ~ +150 | $^\circ\text{C}$ |

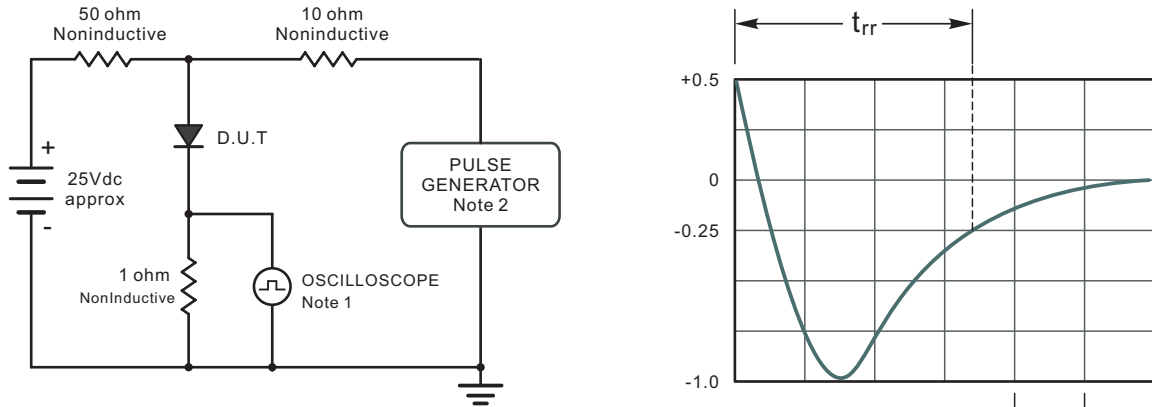
(1) Measured with $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$.

(2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



Characteristic Curves ($T_A=25\text{ }^\circ\text{C}$ unless otherwise noted)

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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

Set time Base for 10ns/div

Fig.2 Maximum Average Forward Current Rating

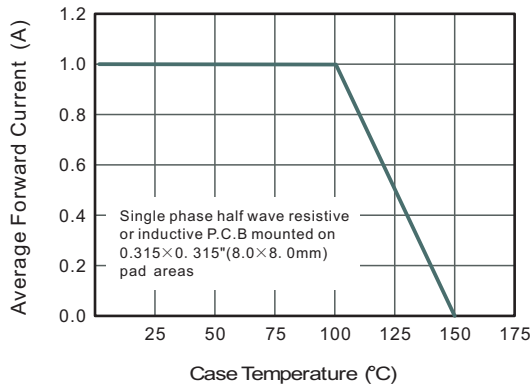


Fig.3 Typical Reverse Characteristics

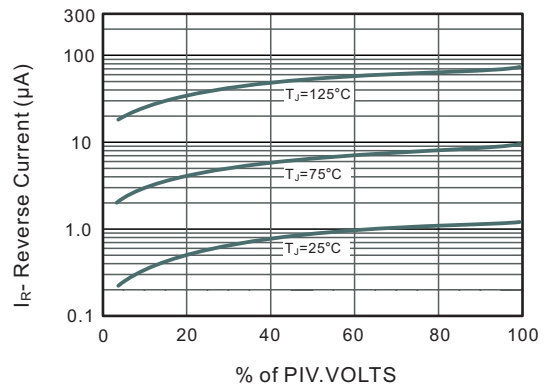


Fig.4 Typical Forward Characteristics

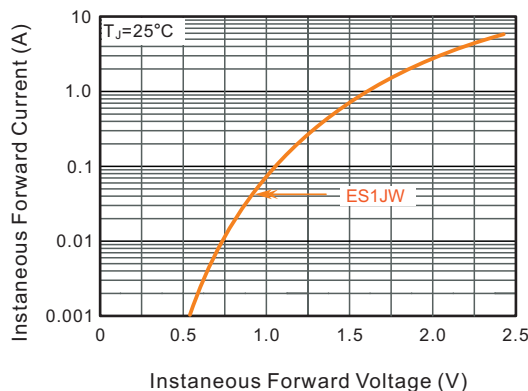
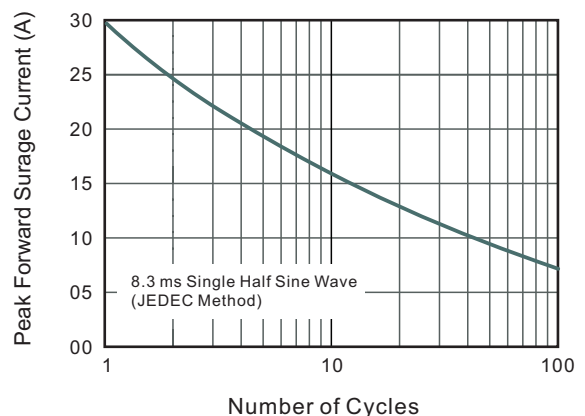


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

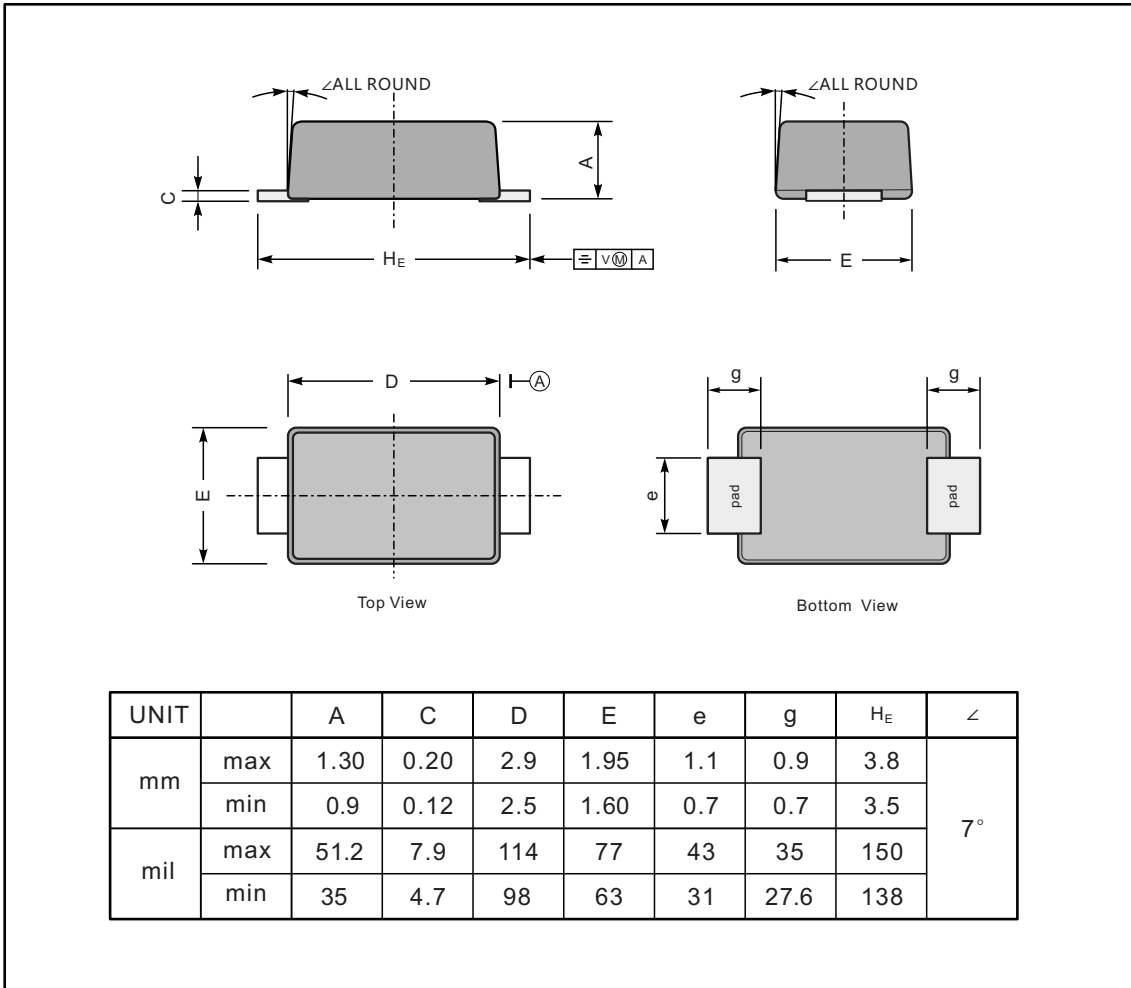




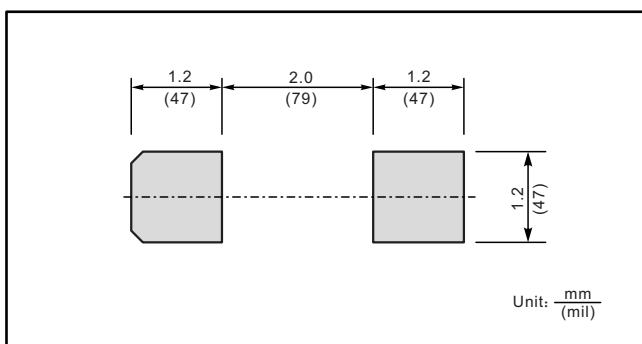
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123FL



The recommended mounting pad size



Marking

| | |
|-------------|--------------|
| Type number | Marking code |
| ES1JW | E1J |

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