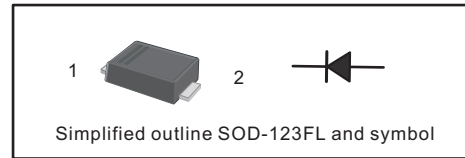


**Surface Mount Superfast Recovery Rectifier**
**Reverse Voltage – 50 to 600 V**
**Forward Current – 1 A**
**PINNING**

PIN	DESCRIPTION
1	Cathode
2	Anode


**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 0.00053oz

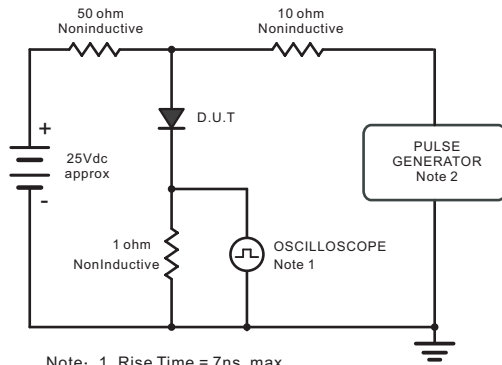
**Absolute Maximum Ratings and Characteristics**

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%.

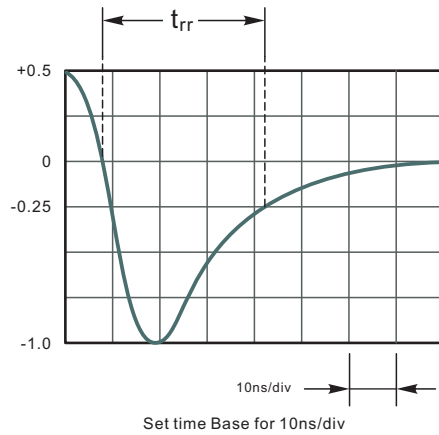
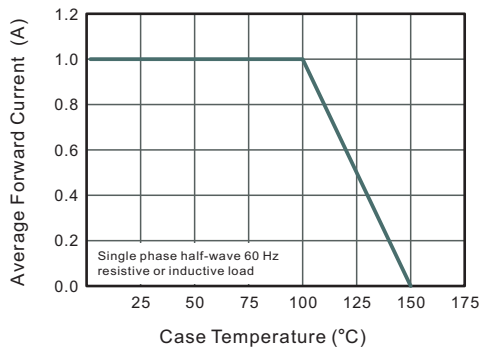
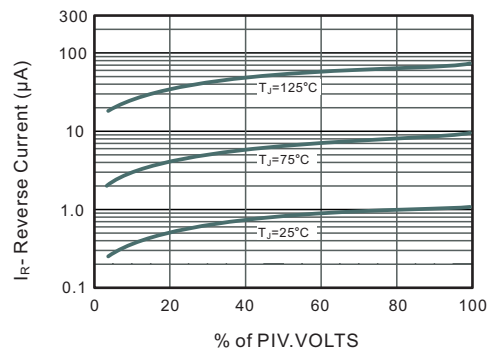
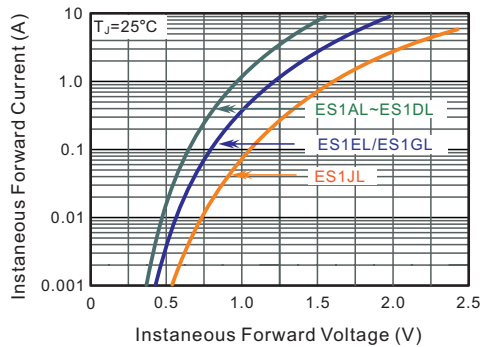
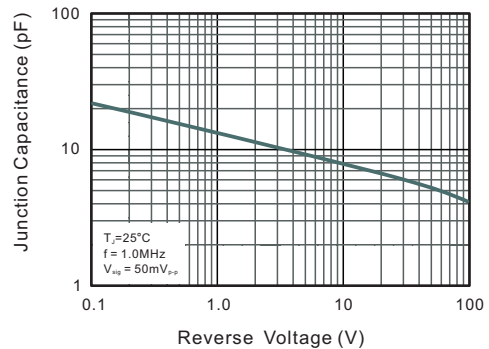
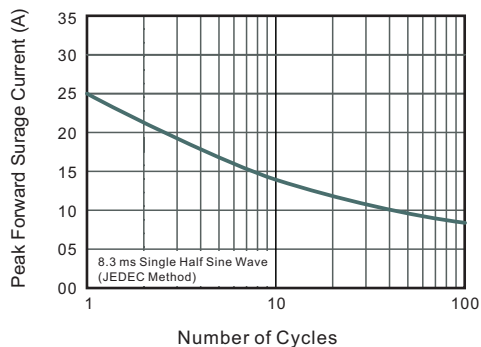
Parameter	Symbols	ES1AL	ES1BL	ES1CL	ES1DL	ES1EL	ES1GL	ES1JL	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current at $T_c = 100\text{ }^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	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 $T_a = 25\text{ }^\circ\text{C}$ $T_a = 125\text{ }^\circ\text{C}$	$I_R$	5 50							$\mu\text{A}$
Typical Junction Capacitance at $V_R = 4\text{V}$ , $f = 1\text{MHz}$	$C_j$	12							pF
Maximum Reverse Recovery Time <sup>(1)</sup>	$t_{rr}$	35							ns
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$	110							$^\circ\text{C/W}$
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.

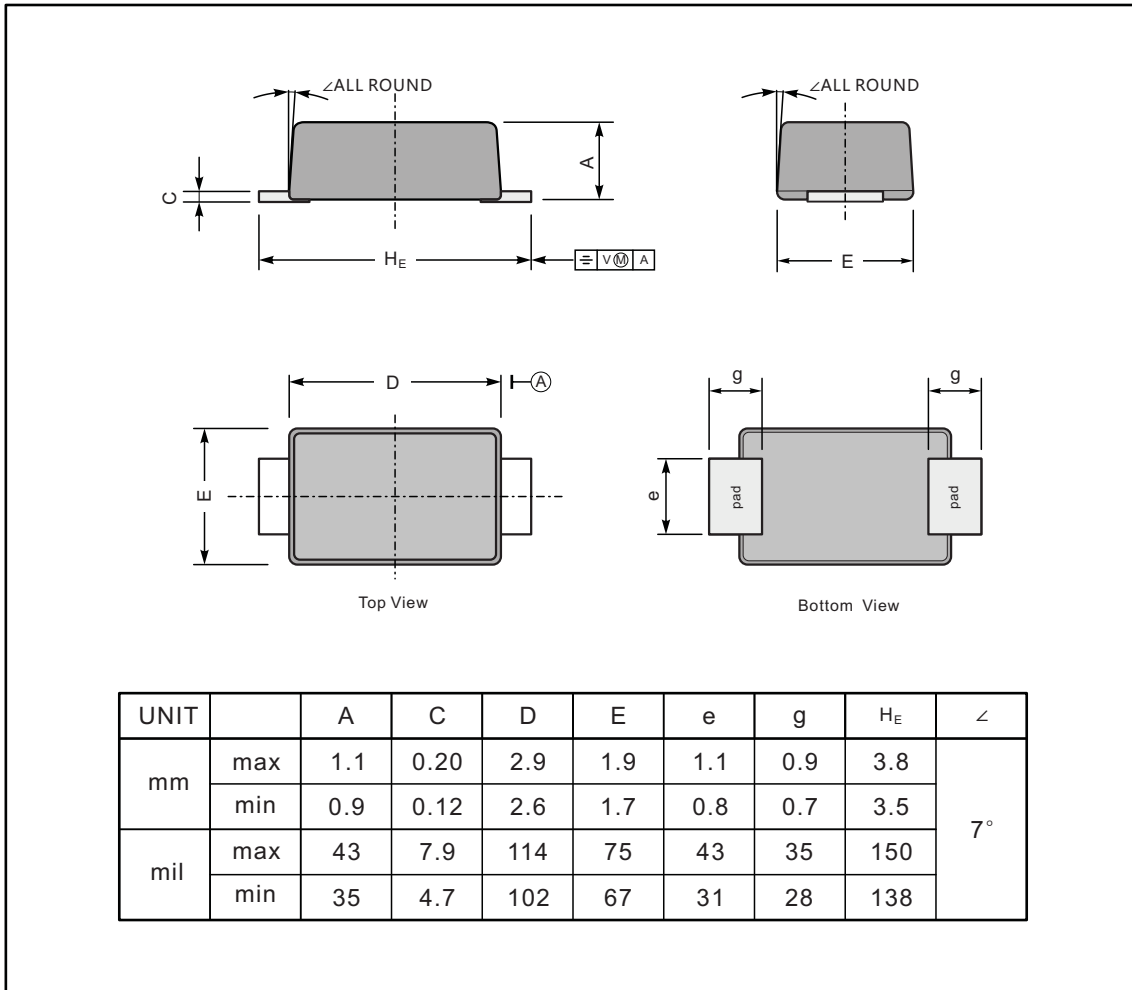
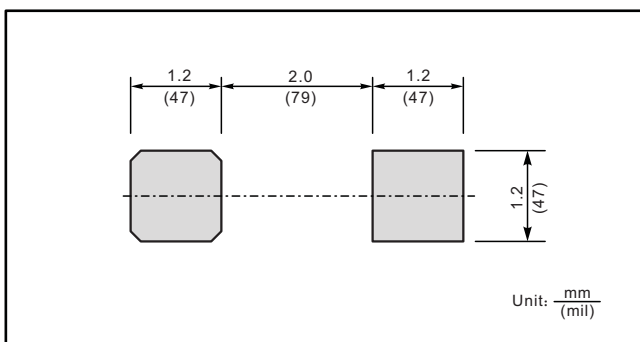
**Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram**


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**


**PACKAGE OUTLINE**

Plastic surface mounted package; 2 leads

**SOD-123FL**

**The recommended mounting pad size**

**Marking**

Type number	Marking code
ES1AL	ES1AL
ES1BL	ES1BL
ES1CL	ES1CL
ES1DL	ES1DL
ES1EL	ES1EL
ES1GL	ES1GL
ES1JL	ES1JL