

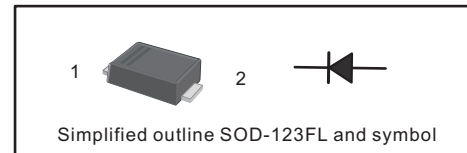
Surface Mount Superfast Recovery Rectifier

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	AS1F600T	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	600.0	V
Maximum RMS voltage	V_{RMS}	420.0	V
Maximum DC Blocking Voltage	V_{DC}	600.0	V
Maximum Average Forward Rectified Current at $T_c = 125\text{ °C}$	$I_{F(AV)}$	1.0	A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	30.0	A
Maximum Forward Voltage at 1 A	V_F	1.70	V
Maximum DC Reverse Current $T_a = 25\text{ °C}$ at Rated DC Blocking Voltage $T_a = 125\text{ °C}$	I_R	5.0 100.0	μA
Typical Junction Capacitance at $V_R = 4V$, $f = 1MHz$	C_j	15.0	pF
Maximum Reverse Recovery Time ⁽¹⁾	t_{rr}	35.0	ns
Typical Thermal Resistance ⁽²⁾	$R_{\theta JA}$	85	°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150	°C

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

(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

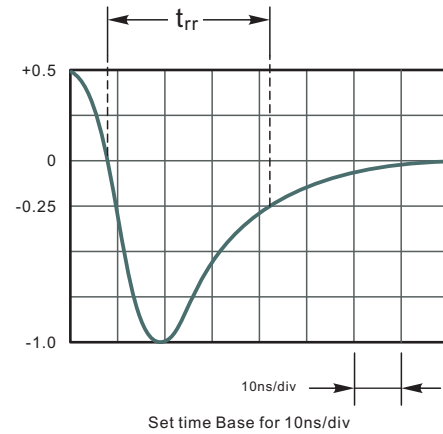
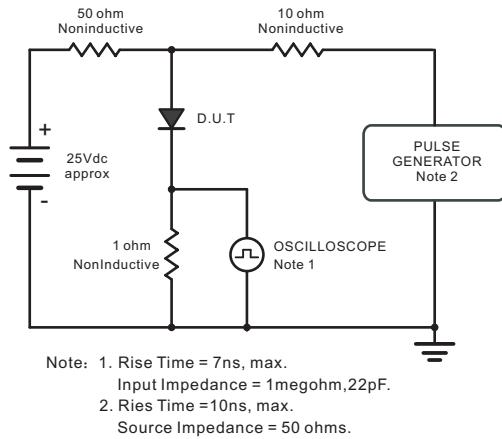


Fig.2 Maximum Average Forward Current Rating

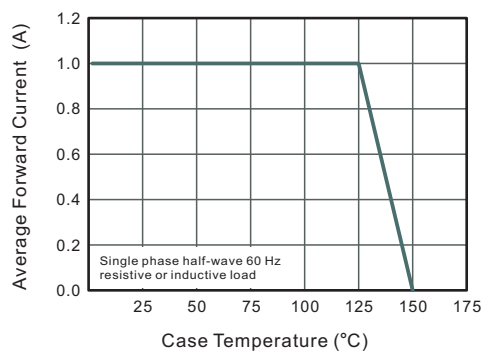


Fig.3 Typical Reverse Characteristics

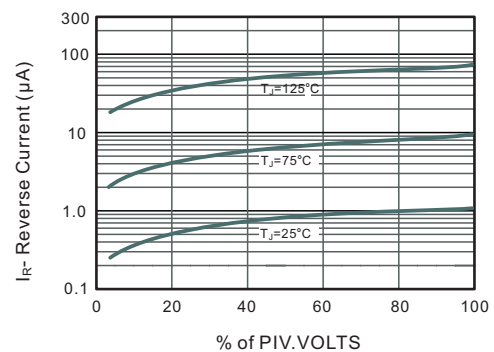


Fig.4 Typical Forward Characteristics

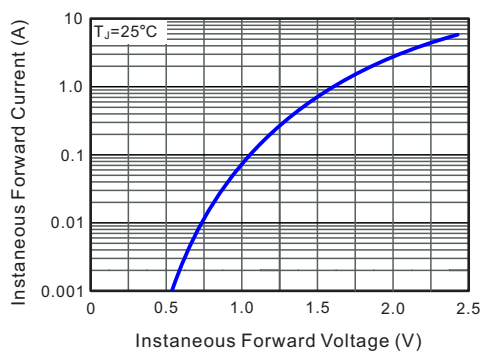


Fig.5 Typical Junction Capacitance

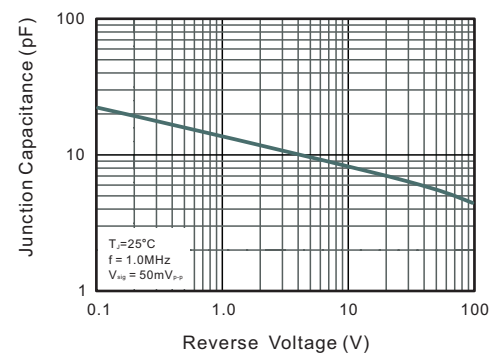
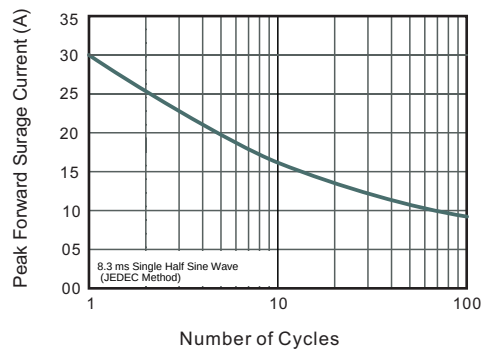


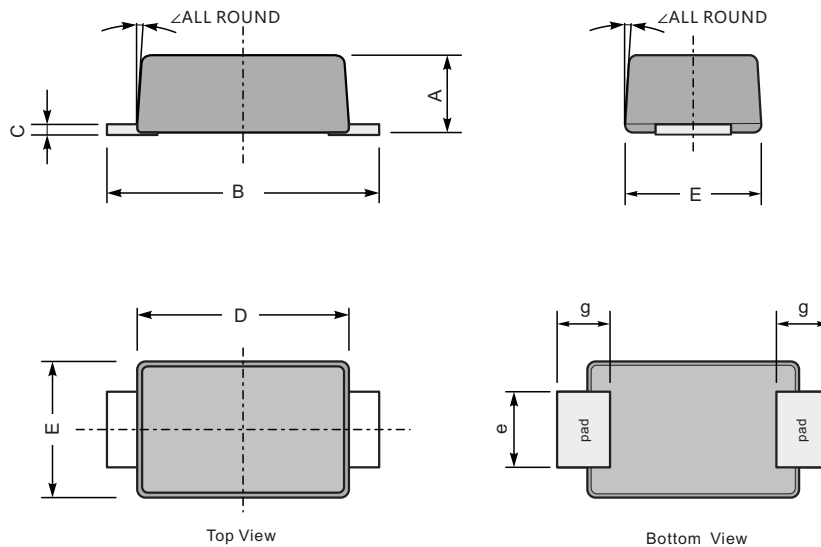
Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE

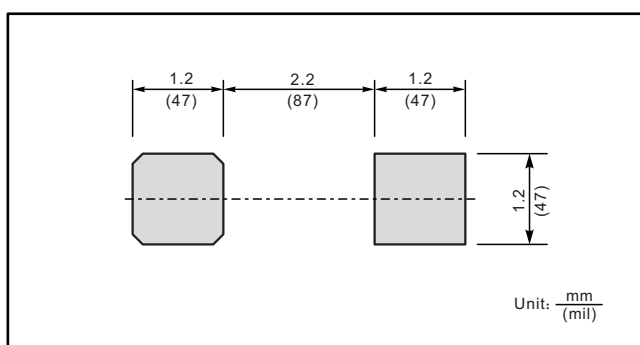
Plastic surface mounted package; 2 leads

SOD-123FL



UNIT		A	C	D	E	e	g	B	∠
mm	max	1.15	0.20	2.8	1.9	1.2	0.9	3.8	5°
	min	0.95	0.12	2.5	1.7	0.9	0.7	3.5	
mil	max	45	7.9	110	75	47	35	150	
	min	37	4.7	98	67	35	28	138	

The recommended mounting pad size



Marking

Type number	Marking code
E1A	E1A
E1B	E1B
E1C	E1C
E1D	E1D
E1E	E1E
E1G	E1G
E1J	E1J