

Surface Mount Superfast Recovery Rectifier

Reverse Voltage - 50 to 600 V

Forward Current - 2 A

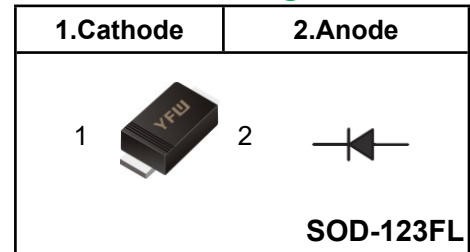
FEATURES

- ◆ Easy pick and place
- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Built-in strain relief
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- ◆ Case: SOD-123FL
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 15mg / 0.00053oz

Pinning



Marking Code

ES2AW	E2A
ES2BW	E2B
ES2DW	E2D
ES2GW	E2G
ES2JW	E2J

Absolute Maximum Ratings and characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

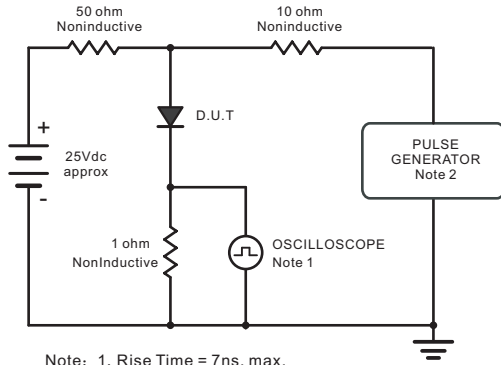
Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbols	ES2AW	ES2BW	ES2DW	ES2GW	ES2JW	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	V
Maximum Average Forward Rectified Current at $T_c = 125\text{ }^\circ\text{C}$	$I_{F(AV)}$	2					A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	50					A
Maximum Instantaneous Forward Voltage at 2 A	V_F	0.95			1.25	1.65	V
Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$	I_R	5 100					μA
Typical Junction Capacitance at $V_R = 4\text{V}$, $f = 1\text{MHz}$	C_j	30					pF
Maximum Reverse Recovery Time ⁽¹⁾	T_{rr}	35					nS
Typical Thermal Resistance ⁽²⁾	$R_{\theta JA}$ / $R_{\theta JC}$	75/22					$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j , T_{stg}	-55 ~ +150					$^\circ\text{C}$

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

(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. Rises Time = 10ns, max.
Source Impedance = 50 ohms.

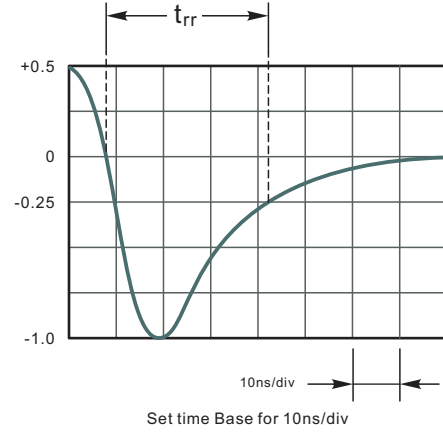


Fig.2 Maximum Average Forward Current Rating

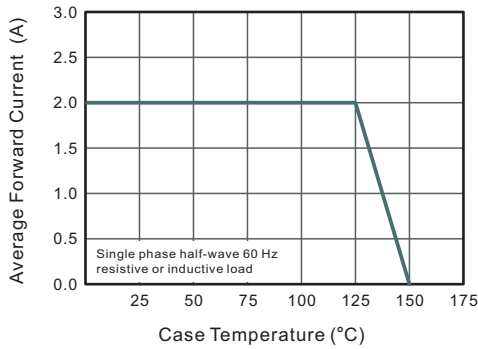


Fig.3 Typical Reverse Characteristics

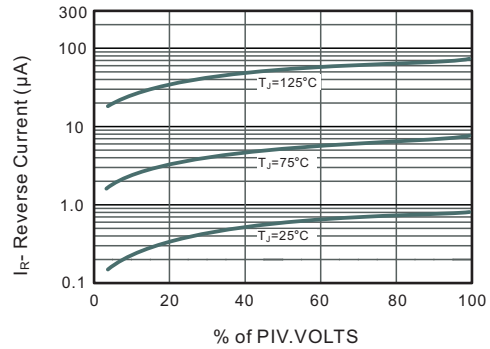


Fig.4 Typical Forward Characteristics

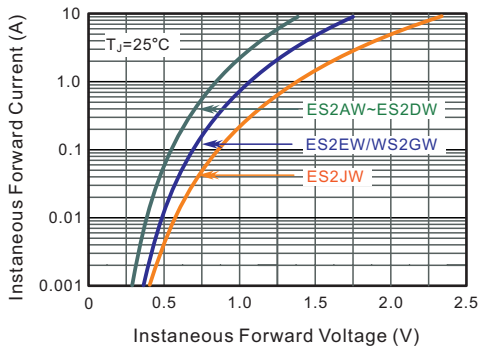


Fig.5 Typical Junction Capacitance

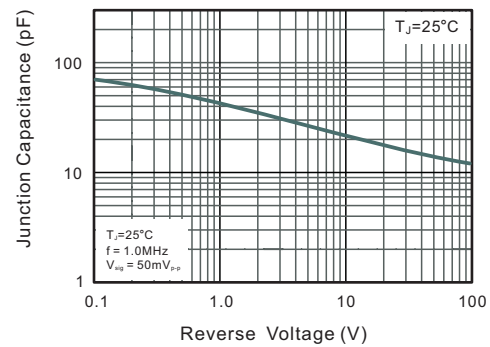
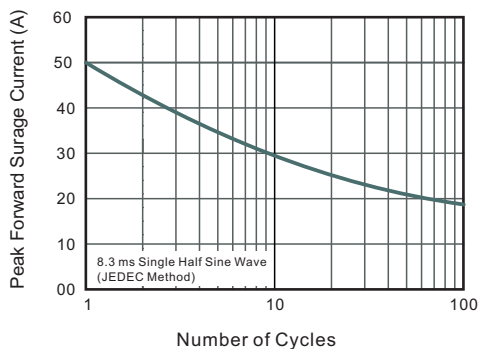


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



Package Outline SOD-123FL

Plastic surface mounted package; 2 leads



UNIT		A	C	D	E	e	g	H _E	\angle
mm	max	1.3	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



Unit: $\frac{\text{mm}}{\text{mil}}$

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOD-123FL	Tape/Reel, 13" reel	10000	EIA-481-1
	Tape/Reel, 7" reel	3000	EIA-481-1