

Surface Mount Superfast Recovery Rectifier

Reverse Voltage - 50 to 600 V

Forward Current - 1 A

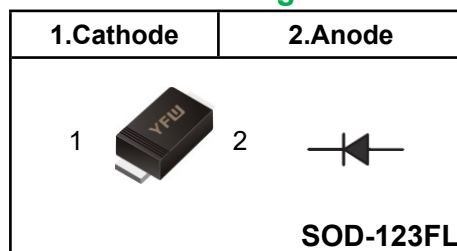
FEATURES

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

MECHANICAL DATA

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

Pinning



Marking Code

ES1AW	YFW E1A
ES1BW	YFW E1B
ES1DW	YFW E1D
ES1GW	YFW E1G
ES1JW	YFW E1J

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	ES1AW	ES1BW	ES1DW	ES1GW	ES1JW	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 $T_c = 125\text{ }^{\circ}\text{C}$	$I_{F(AV)}$	1					A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30					A
Peak Forward Surge Current, 1.0ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	60					A
I^2t Rating for fusing ($3\text{ms} \leq t \leq 8.3\text{ms}$)	I^2t	3.7					A ² S
Maximum Instantaneous Forward Voltage at 1 A	V_F	1			1.25	1.68	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 ⁽¹⁾	C_j	22			14	12	pF
Maximum Reverse Recovery Time ⁽²⁾	T_{rr}	35					nS
Typical Thermal Resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	105 25 32					$^{\circ}\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{stg}	-55 ~ +150					$^{\circ}\text{C}$

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

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

(3) 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

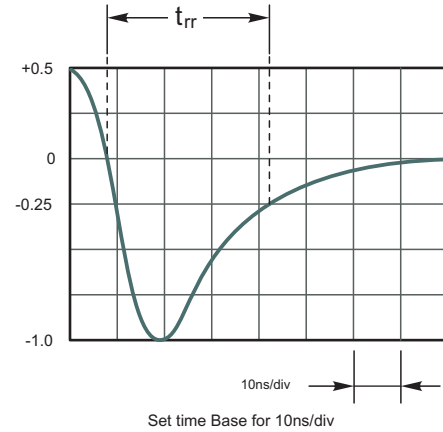
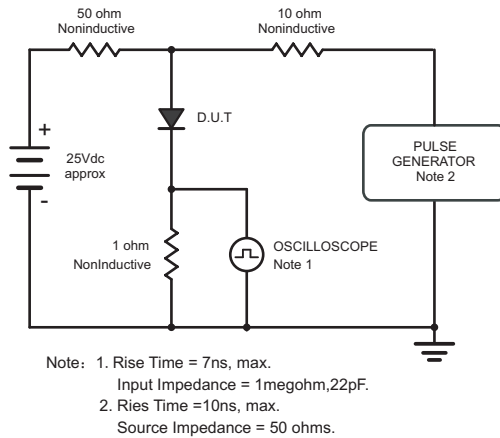


Fig.2 Maximum Average Forward Current Rating

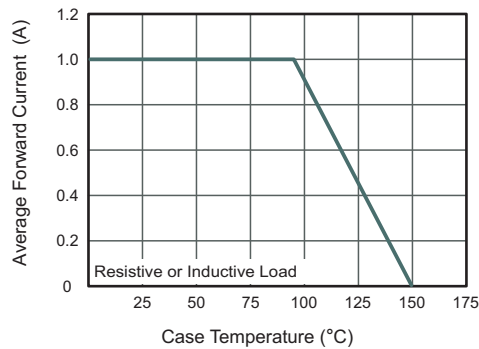


Fig.3 Typical Reverse Characteristics

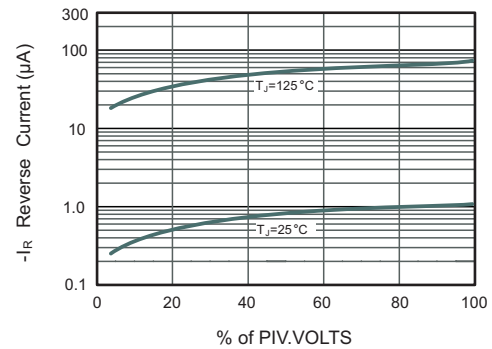


Fig.4 Typical Forward Characteristics

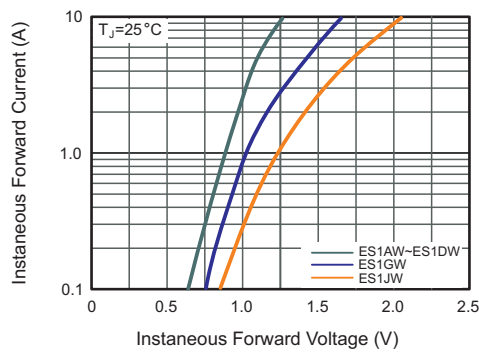


Fig.5 Typical Junction Capacitance

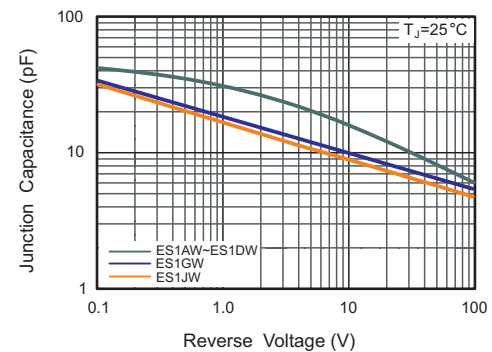
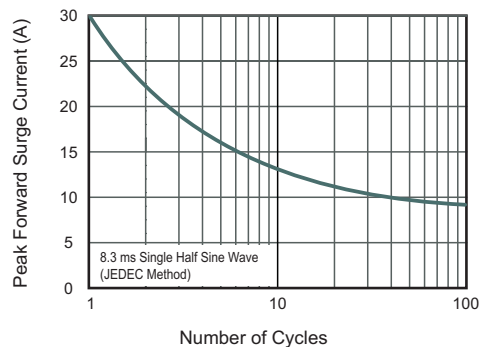
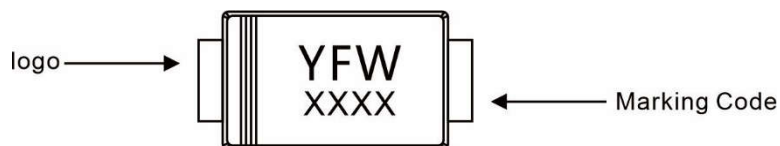


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



Marking Diagram



Ordering information

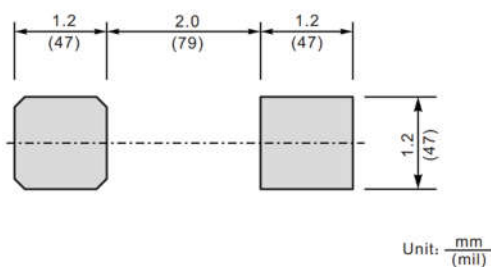
Package	Packing Description	Packing Quantity
SOD-123FL	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

Package Dimensions

SOD-123FL

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.3	35	43
C	0.12	0.20	4.7	7.9
D	2.6	2.9	102	114
E	1.7	1.9	67	75
e	0.8	1.1	31	43
g	0.7	0.9	28	35
HE	3.5	3.8	138	150
∠	7°			

The recommended mounting pad size



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