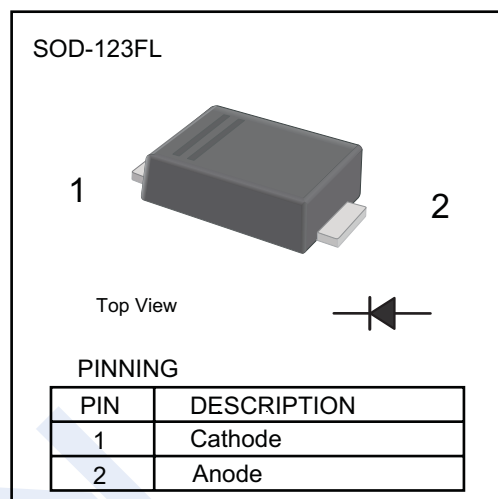


Superfast Recovery Rectifier

ES1AFL ~ ES1JFL

■ Features

- Reverse Voltage – 50 to 600 V
- Forward Current – 1 A
- Easy pick and place
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Superfast recovery times for high efficiency



■ 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	Symbol	ES 1AFL	ES 1BFL	ES 1CFL	ES 1DFL	ES 1EFL	ES 1GFL	ES 1JFL	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	V
Surge Peak Reverse Voltage	V_{RSM}	35	70	105	140	210	280	420	
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	
Instantaneous Forward Voltage at 1A	V_F	1			1.25		1.68		A
Averaged Forward Current $T_C=125^\circ\text{C}$	$I_{F(AV)}$	1							
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	30							μA
Maximum DC Reverse Current $T_a=25^\circ\text{C}$ at rated DC blocking voltage $T_a=125^\circ\text{C}$	I_R	5			100				
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							$^\circ\text{C/W}$
Junction Temperature	T_j	150							$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to 150							

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

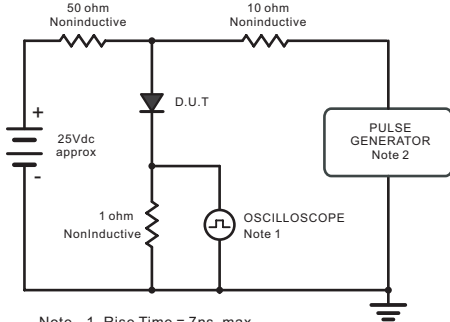
* 2 P.C.B mounted with 2" x 2" (5x5 cm) copper pad areas.

Superfast Recovery Rectifier

ES1AFL ~ ES1JFL

■ Typical Characteristics

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.

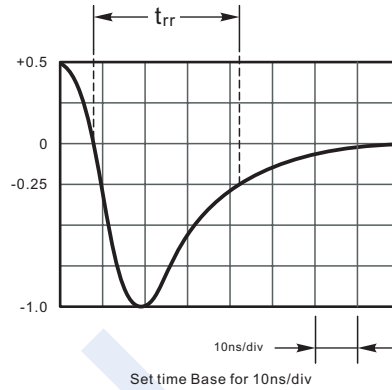


Fig.2 Maximum Average Forward Current Rating

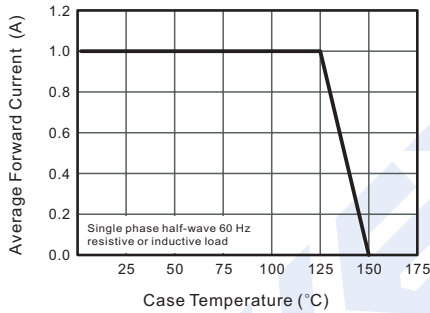


Fig.3 Typical Reverse Characteristics

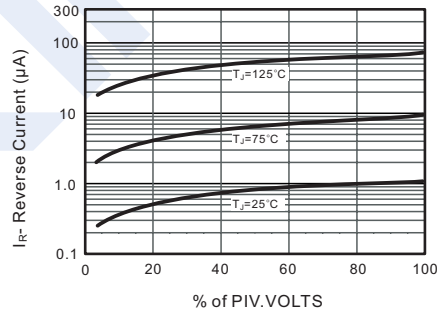


Fig.4 Typical Forward Characteristics

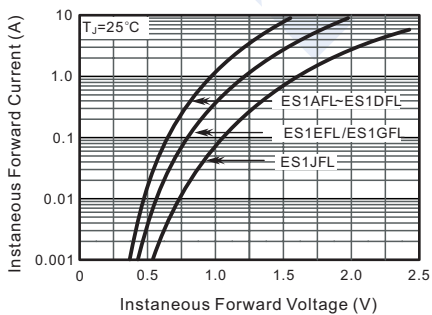


Fig.5 Typical Junction Capacitance

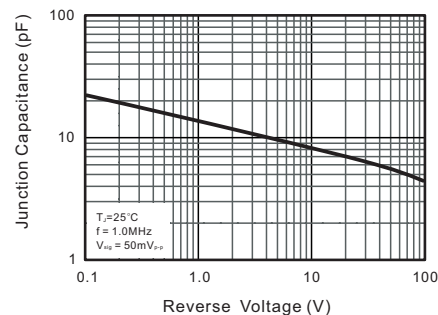
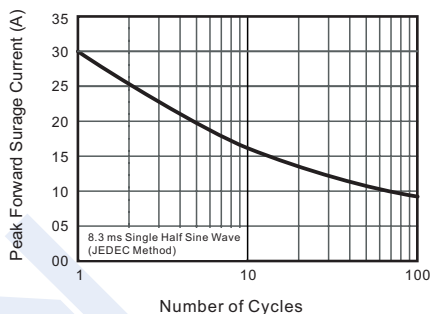


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



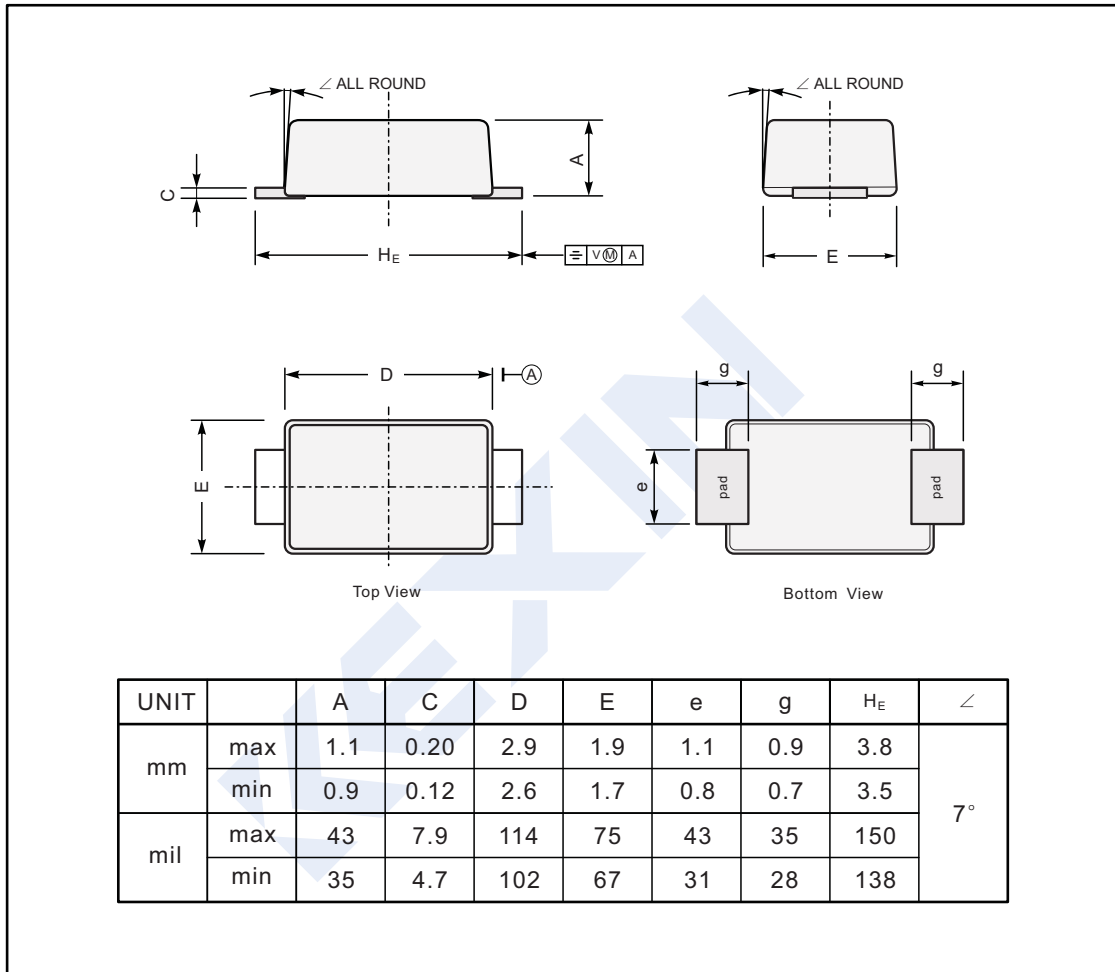
Superfast Recovery Rectifier

ES1AFL ~ ES1JFL

■ Package Outline Dimensions

Plastic surface mounted package; 2 leads

SOD-123FL



■ The Recommended Mounting Pad Size

