



# ES1AL THRU ES1JL

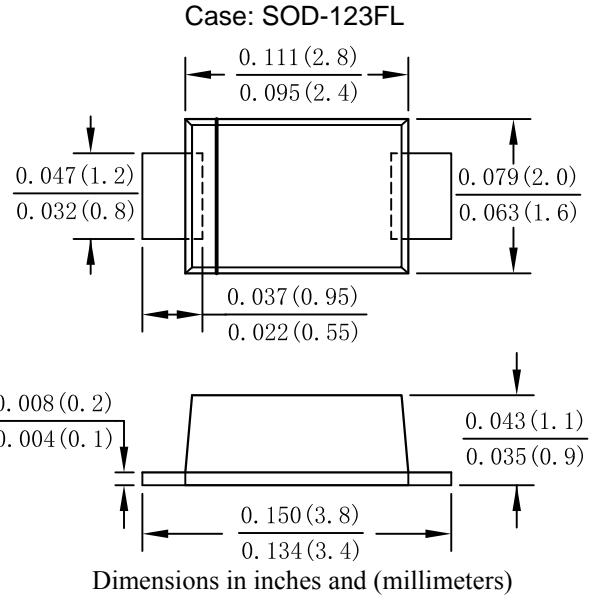
## Single Phase 1.0AMP Surface Mount Super Fast Recovery Rectifier

### Features

- Glass passivated device
- Ideal for surface mouted applications
- Low reverse leakage
- Metallurgically bonded construction
- High temperature soldering guaranteed:  
260°C/10 seconds,0.375"(9.5mm) lead length,  
5 lbs. (2.3kg) tension
- Plastic material-UL flammability 94V-0

### Mechanical Data

- Case: SOD-123FL, molded plastic
- Terminals: plated leads solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting position: Any



### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.  
Single Phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

TYPE NUMBER	SYMBOL	ES1AL	ES1BL	ES1DL	ES1GL	ES1JL	UNITS
	Code	EA	EB	ED	EG	EJ	
Peak Repetitive Reverse Voltage	$V_{RRM}$	50	100	200	400	600	V
Working Peak Reverse Voltage	$V_{RWM}$						
DC Blocking Voltage	$V_{DC}$						
RMS Reverse Voltage	$V_{RMS}$	35	70	140	280	420	V
Average Rectified Output Current @ $T_L = 90^\circ C$	$I_{F(AV)}$	1.0					A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave @ $T_j = 125^\circ C$ Superimposed On Rated Load (JEDEC Method)	$I_{FSM}$	30 24					A
Non-Repetitive Peak Forward Surge Current 1.0ms Single half sine-wave @ $T_j = 125^\circ C$ Superimposed On Rated Load (JEDEC Method)	$I_{FSM}$	60 48					A
10000 times of the wave surge current (time width 1ms, time interval 3s)	$I_{FSM}$	22.5					A
$I^2t$ Rating for Fusing ( $t < 8.3ms$ )	$I^2t$	3.735					A <sup>2</sup> s
Forward Voltage per element @ $I_F = 1.0A$	$V_{FM}$	0.95			1.3	1.7	V
Peak Reverse Current @ $T_A = 25^\circ C$ At Rated DC Blocking Voltage @ $T_A = 125^\circ C$	$I_R$	5.0 100					uA
Maximum reverse recovery time (NOTE 1) @ $T_A = 25^\circ C$ @ $T_A = 125^\circ C$	$T_{rr}$	35 200					ns
Typical Junction Capacitance (Note 2)	$C_J$	10					pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$	60					°C/W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55to+150					°C

Note:1.Measured with  $I_F = 0.5A$ ,  $I_R = 1A$ ,  $I_{rr} = 0.25A$ .

2.Measured at 1.0 MHz and Applied reverse Voltage of 4.0V D.C.

3. Device mounted on FR-4 substrate, 25.4 25.4mm,2oz,single-sided,PC boards with 2.1 2.1mm copper pac



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FIG. 1- FORWARD CURRENT DERATING CURVE

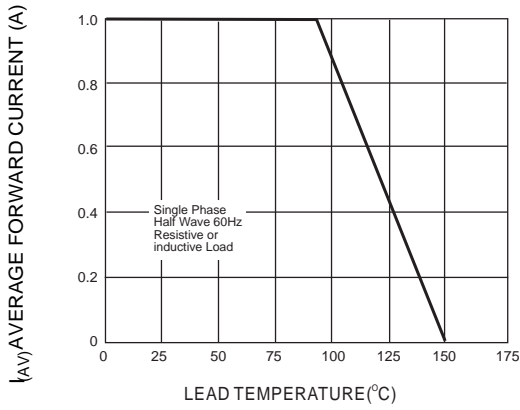


FIG. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

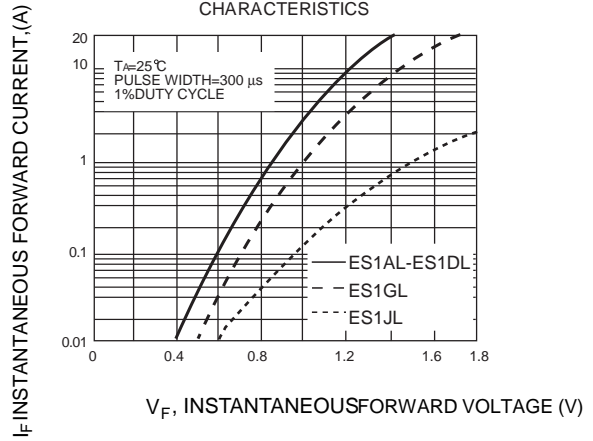


FIG. 3-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

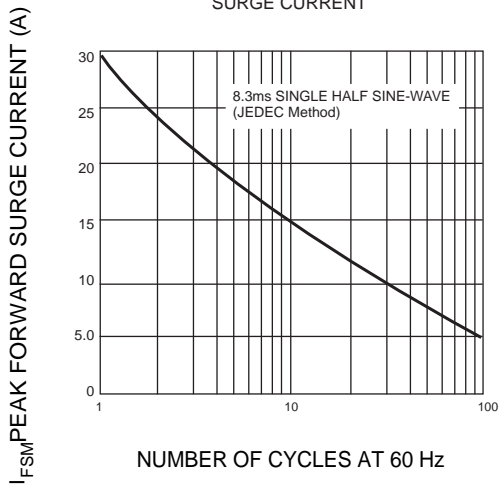


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

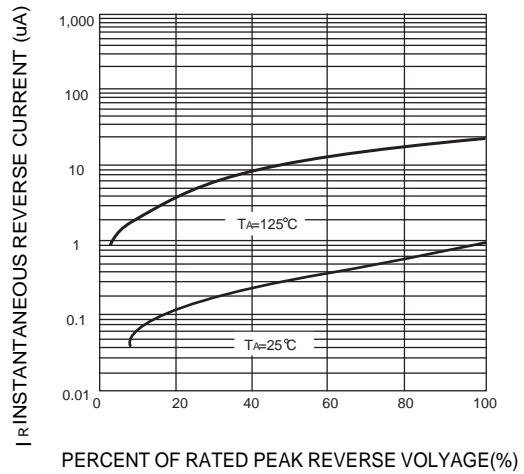
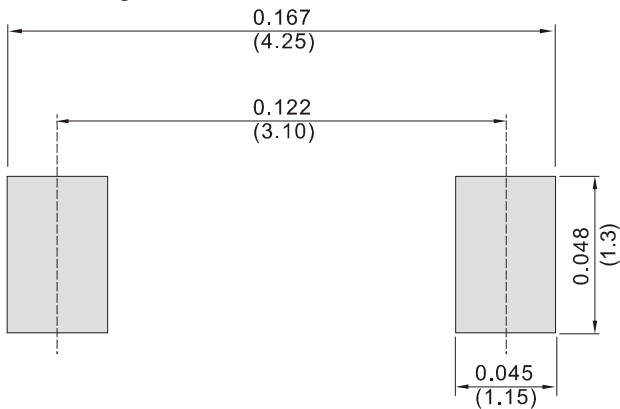


Fig.5 TYPICAL CAPACITANCE





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