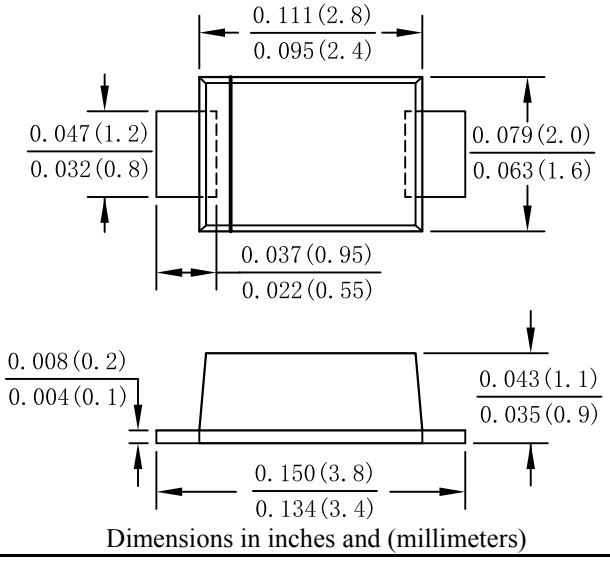
ES1AL THRU ES1JL

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℃/10 seconds,0.375"(9.5mm) lead length, 5 lbs. (2.3kg) tension
- Plastic material-UL flammability 94V-0

Case: SOD-123FL



Dimensions in inches and (millimeters)

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℃ 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 Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_{DC}	50	100	200	400	600	V
RMS Reverse Voltage	V_{RMS}	35	70	140	280	420	V
Average Rectified Output Current @T_L =90℃	$I_{F(AV)}$	1.0					A
Non-Repetitive Peak Forward Surge @$T_{j=25}$ ℃ Current 8.3ms Single half sine-wave @$T_{j=125}$ ℃ Superimposed On Rated Load (JEDEC Method)	I_{FSM}	30 24					A
Non-Repetitive Peak Forward Surge @$T_{j=25}$ ℃ Current 1.0ms Single half sine-wave @$T_{j=125}$℃ 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^2s
Forward Voltage per element @IF=1.0A	V_{FM}	0.95			1.3	1.7	V
Peak Reverse Current @T_A =25℃ At Rated DC Blocking Voltage @T_A =125 ℃	I_R	5.0 100					uA
Maximum reverse recovery time @T_A =25℃ (NOTE 1) @T_A =125 ℃	Trr	35 200					ns
Typical Junction Capacitance (Note 2)	C_J	10					pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$	60					℃/W
Operating and Storage Temperature Range	T_J,T_{STG}	-55to+150					℃

Note:1.Measured with IF=0.5A, IR=1A, Irr=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

FIG. 1- FORWARD CURRENT DERATING CURVE

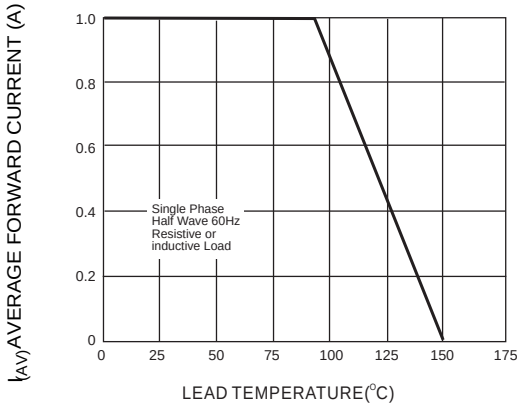


FIG. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

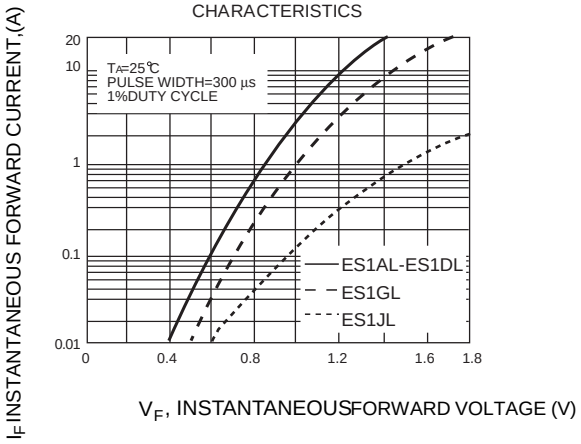


FIG. 3-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

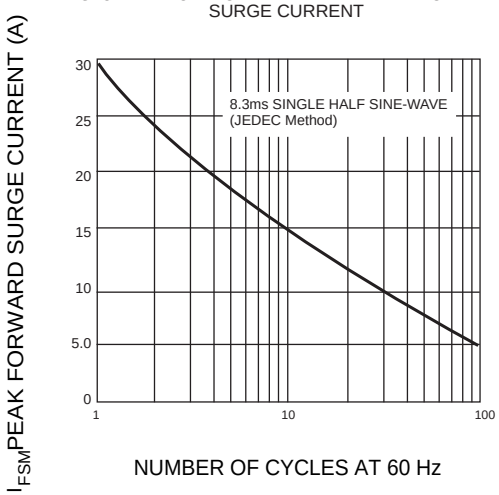


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

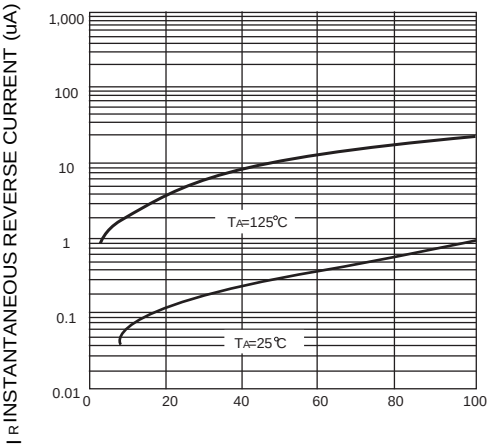
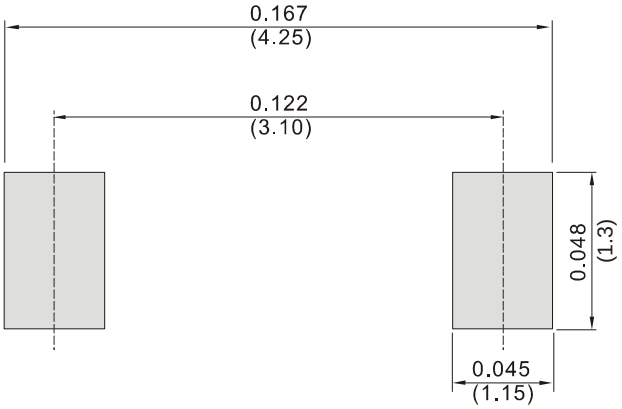


Fig.5 TYPICAL CAPACITANCE



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