



US1AL THRU US1ML

Single Phase 1.0AMP Surface Mount Ultra Fast Recovery Rectifier

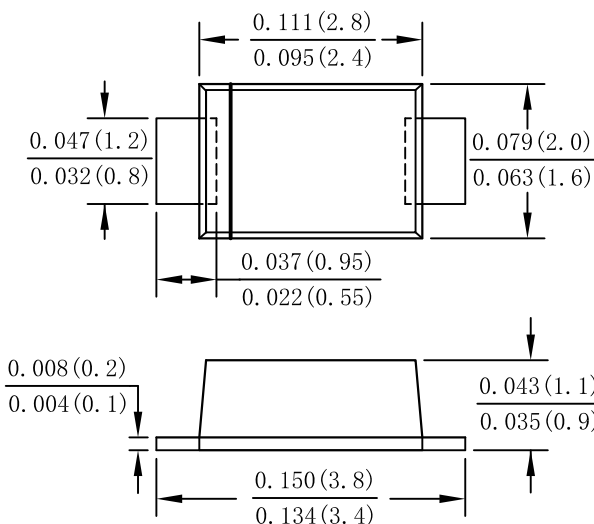
Features

- 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

Case: SOD-123FL



Dimensions in inches and (millimeters)

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	US1AL	US1BL	US1DL	US1GL	US1JL	US1KL	US1ML	UNITS
	Code	UA	UB	UD	UG	UJ	UK	UM	
Peak Repetitive Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	V _{RWM}								
DC Blocking Voltage	V _{DC}								
RMS Reverse Voltage	V _{RMS}	35	70	140	280	420	560	700	V
Average Rectified Output Current @T _L =90 °C	I _{F(AV)}	1.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	30							A
I ² t Rating for Fusing (t < 8.3ms)	I ² t	3.735							A ² s
Forward Voltage per element @IF=1.0A	V _{FM}	1.0			1.3	1.7			V
Peak Reverse Current @T _A =25 °C At Rated DC Blocking Voltage @T _A =125 °C	I _R	5.0 100							uA
Maximum reverse recovery time (NOTE 1)	trr	50				75			ns
Typical Junction Capacitance (Note 2)	C _J	8							pF
Typical thermal resistance (Note 3)	R _{θJA}	70							°C/W
Operating and Storage Temperature Range	T _J ,T _{STG}	-55to+150							°C

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

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 pad.



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FIG. 1- FORWARD CURRENT DERATING CURVE

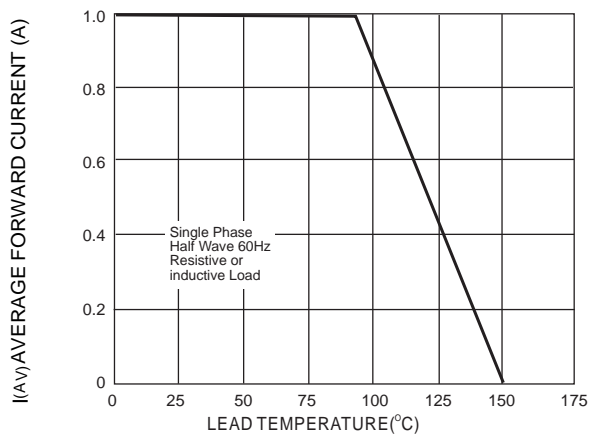


FIG. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

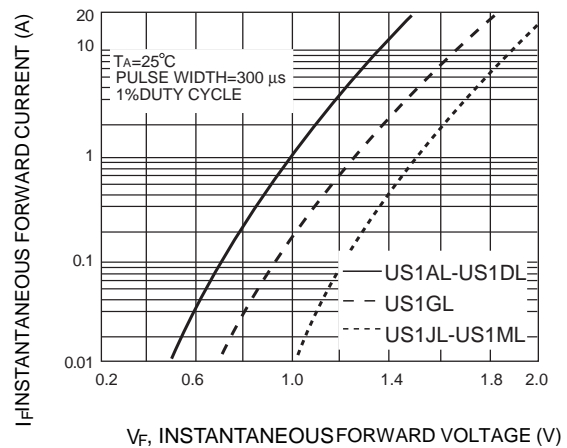


FIG. 3-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

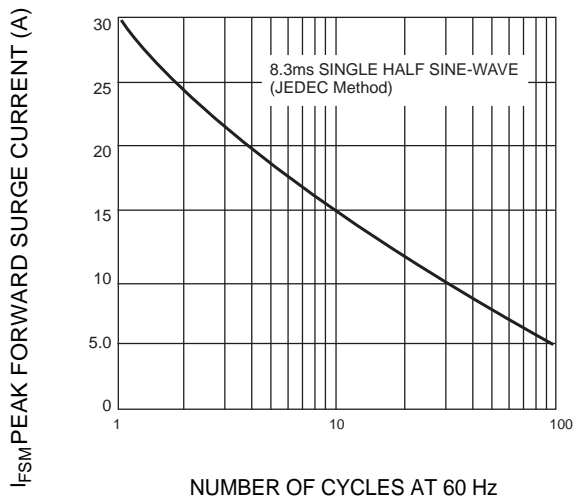


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

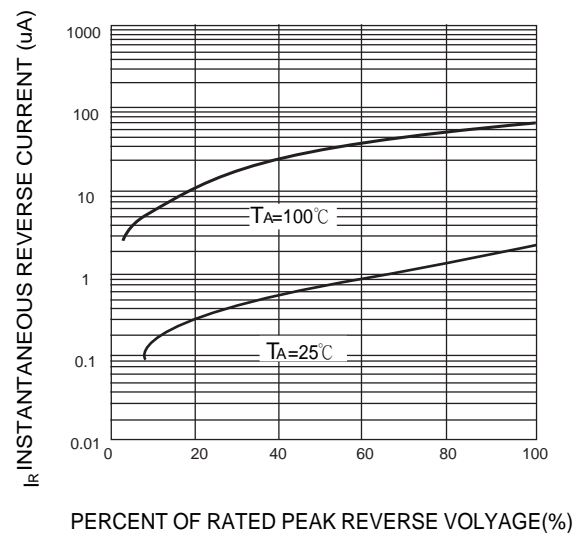
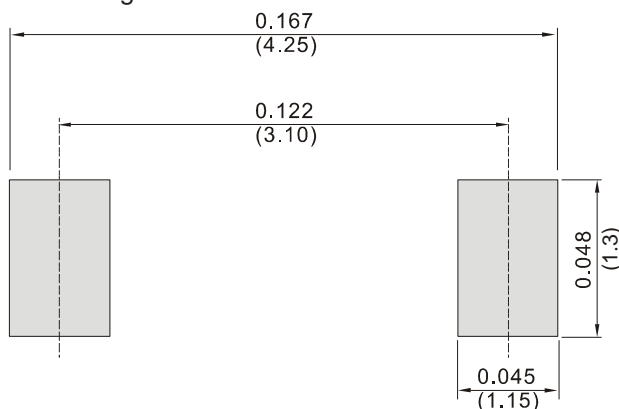


Fig.5 TYPICAL CAPACITANCE





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