



US1AL THRU US1ML

Single Phase 1.0AMP Surface Mount Ultra Fast Recovery Rectifier

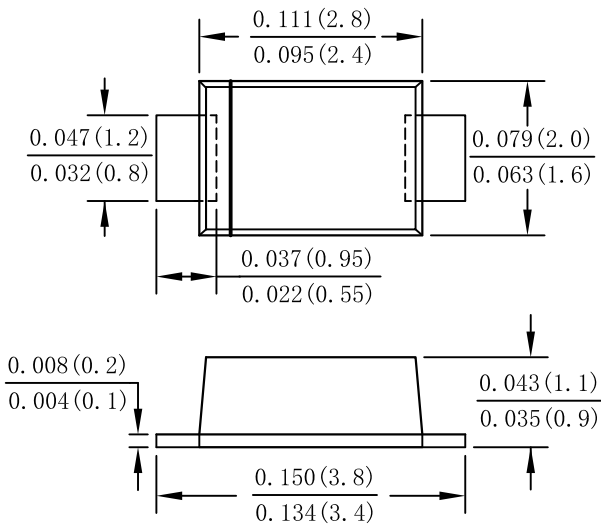
Features

- 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



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}								V	
Working Peak Reverse Voltage	V_{RWM}	50	100	200	400	600	800	1000		
DC Blocking Voltage	V_{DC}									
RMS Reverse Voltage	V_{RMS}	35	70	140	280	420	560	700	V	
Average Rectified Output Current @ $T_L=90^\circ C$	$I_{F(AV)}$	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^2t Rating for Fusing ($t < 8.3ms$)	I^2t	3.735							A^2s	
Forward Voltage per element @ $I_F=1.0A$	V_{FM}	1.0		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		μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	50				75		ns		
Typical Junction Capacitance (Note 2)	C_J	8							pF	
Typical thermal resistance (Note 3)	$R_{\theta JA}$	70							$^\circ C/W$	
Operating and Storage Temperature Range	T_J, T_{STG}	-55to+150							$^\circ C$	

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 pad.



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FIG. 1- FORWARD CURRENT DERATING CURVE

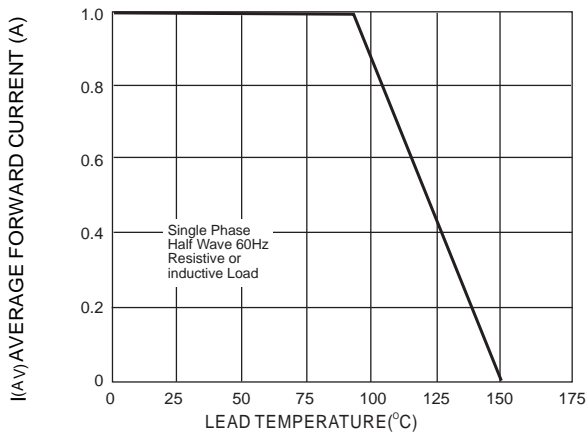


FIG. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

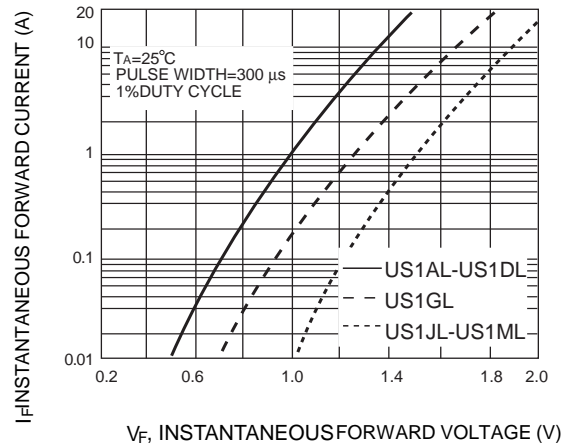


FIG. 3-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

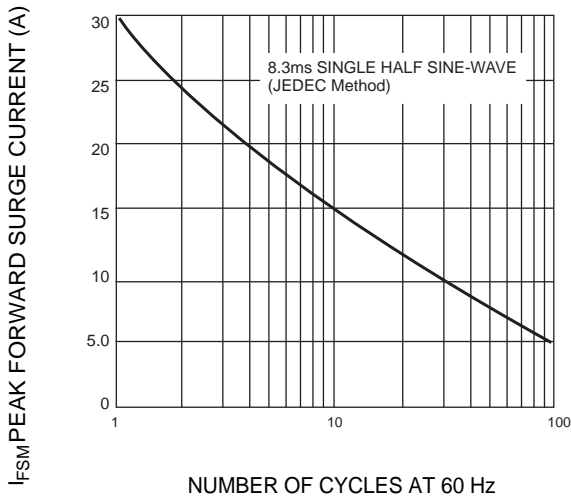


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

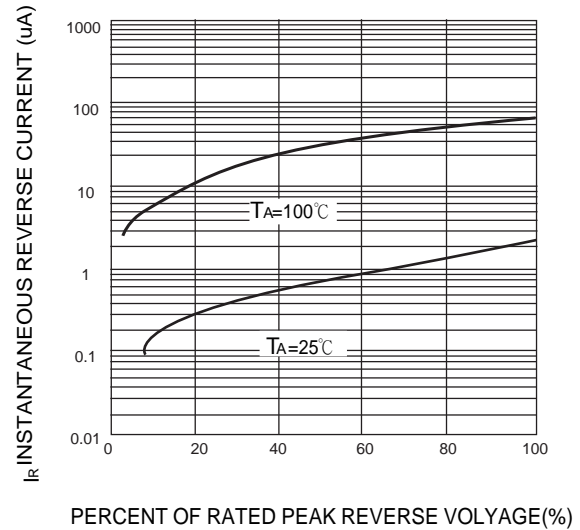
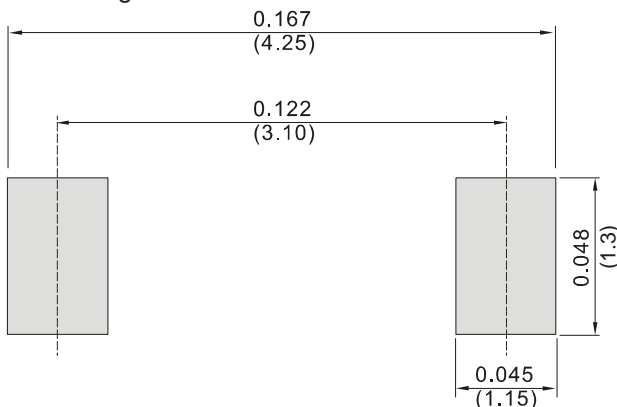


Fig.5 TYPICAL CAPACITANCE





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