



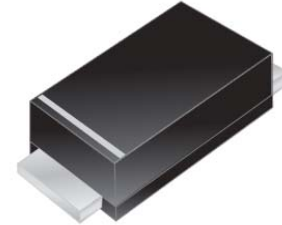
# A1UQ THRU A7UQ

## 1.0AMP Surface Mount General Purpose Rectifier

### 1. Features

- Glass passivated chip junction
- For surface mounted application.
- Low forward voltage drop.
- High current capability.
- High reliability.
- Meets MSL level 1, per J-STD-020.
- AEC-Q101 qualified available

SOD-123FL



Cathode —|◀— Anode

### 2. Mechanical Data

- Case: Molded plastic SOD-123FL
- Terminals: Plated leads solderable per MIL-STD-750, Method 2026 guaranteed
- Polarity: Color band dentes cathode end
- Mounting Position: Any
- Making: Type Number

### 3. Maximum Ratings and Electrical Characteristics

Electrical Characteristics Rating at 25°C ambient temperature unless otherwise specified.

PARAMETER	SYMBOL	A1UQ	A2UQ	A3UQ	A4UQ	A5UQ	A6UQ	A7UQ	UNIT
	Code	A1U	A2U	A3U	A4U	A5U	A6U	A7U	
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Average Rectified Output Current @T <sub>L</sub> =100°C	I <sub>F(AV)</sub>	1.0							A
Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	35							A
I <sup>2</sup> t Rating for Fusing (t < 8.3ms)	I <sup>2</sup> t	5.08							A <sup>2</sup> S
Maximum Instantaneous Forward Voltage @IF=1A	V <sub>FM</sub>	1.0							V
Maximum DC reverse current @T <sub>j</sub> =25°C at rated DC blocking voltage @T <sub>j</sub> =125°C	I <sub>R</sub>	5.0 100							uA
Typical Junction Capacitance (Note 1)	C <sub>j</sub>	8							pF
Typical Thermal Resistance	R <sub>θJA</sub>	120							°C/W
	R <sub>θJL</sub>	15							
	R <sub>θJC</sub>	27							
Operating Temperature Range	T <sub>j</sub>	-55 to+175							°C
Storage Temperature Range	T <sub>STG</sub>	-55 to+175							°C

Note:

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



### 4. Rating And Characteristic Curves

Fig. 1 Forward Current Derating Curve

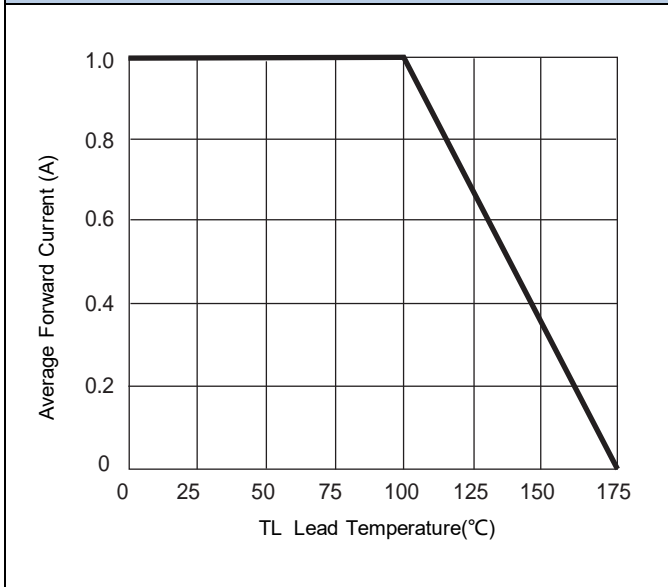


Fig. 2 Typical Forward Characteristics

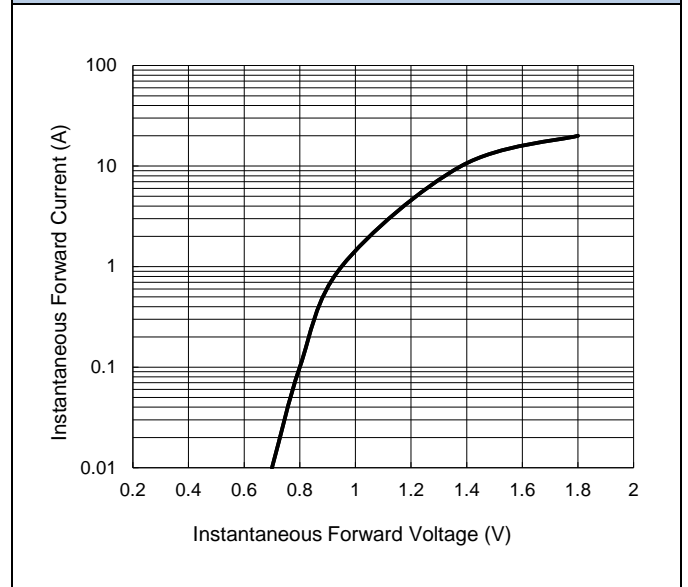


Fig. 3 Forward Surge Current Capability

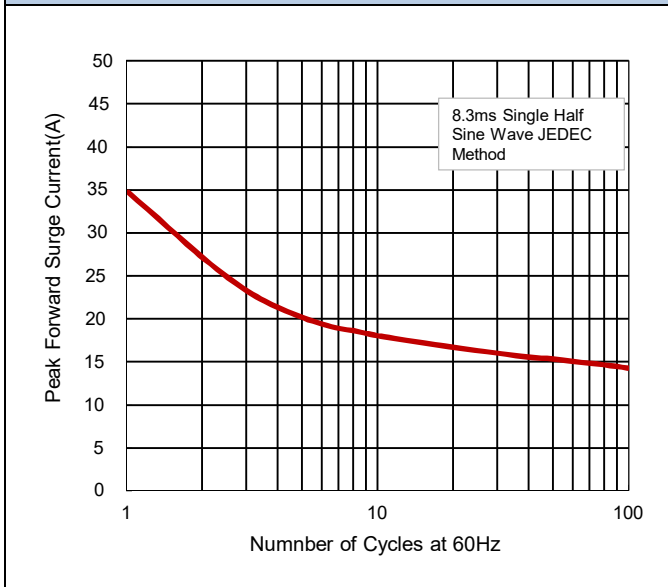
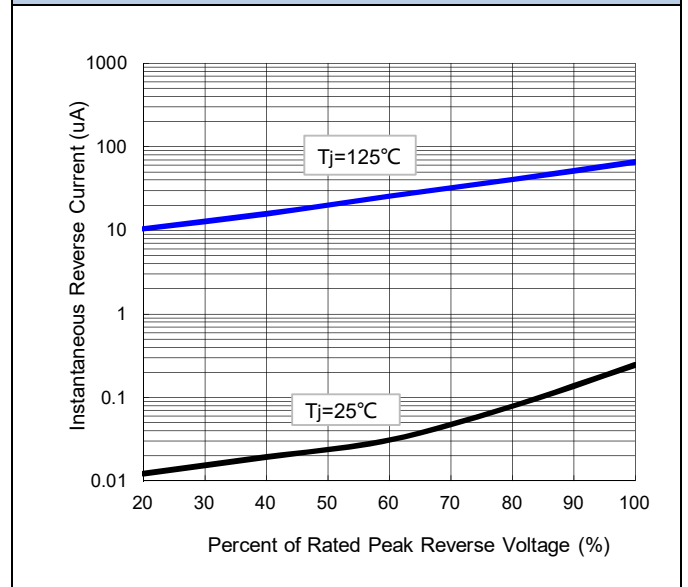


Fig.4 Typical Reverse Characteristics

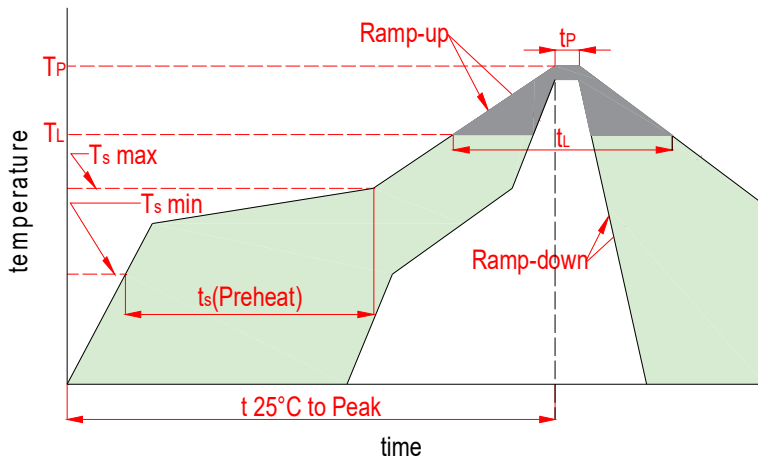




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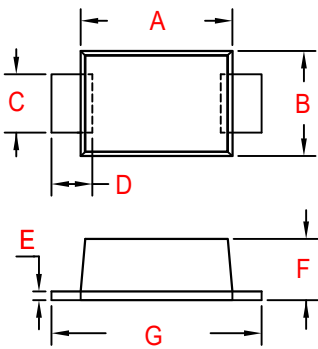
## 1.0AMP Surface Mount General Purpose Rectifier

### 5. Soldering Parameters



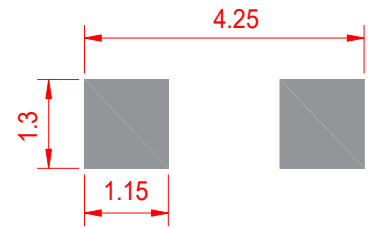
Reflow Condition		Lead-free
Pre Heat	Temp. min( $T_s$ (min))	150°C
	Temp. max( $T_s$ (min))	200°C
	Time(min to max)( $t_s$ )	60~120s
Aver. ramp up rate(Liquidus Temp.)( $T_L$ )to peak		3°C/s max
$T_s$ (max) to $T_L$ -Ramp-up Rate		3°C/s max
Reflow	Temp. ( $T_L$ )(Liquidus)	217°C
	Temp. ( $t_L$ )(Liquidus)	60~150s
Peak Temp. ( $T_p$ )		260 <sup>+0/-5</sup> °C
Time within actual peak Temp. ( $t_p$ )		30s max
Ramp-down Rate		6°C/s max
Time 25°C to peak Tempe. ( $T_p$ )		8 minutes max
Do not exceed		260°C

### 6. Dimensions

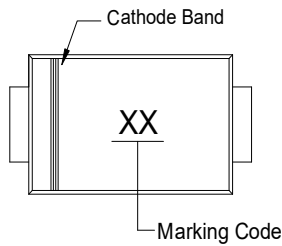


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.094	0.110	2.4	2.8
B	0.063	0.079	1.6	2.0
C	0.031	0.047	0.8	1.2
D	0.022	0.037	0.55	0.95
E	0.004	0.008	0.1	0.2
F	0.035	0.043	0.9	1.1
G	0.134	0.150	3.4	3.8

Mounting PAD Layout



### 7. Part Marking System



### 8. Package Information

Package	Tape Width (mm)	Reel Size		Quantity(pcs)	AEC-Q101	LOGO
		mm	inch			
SOD-123FL	8	178	7	3000	Yes	XN



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