



US1AU THRU US1MU

1.0 AMP Surface Mount High Efficient Rectifier

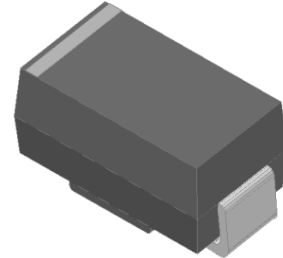
1. Features

- Glass passivated chip junction
- For surface mounted application.
- Low forward voltage drop.
- High current capability.
- Fast switching for high efficiency
- High reliability.
- Meets MSL level 1, per J-STD-020.

2. Mechanical Data

- Case:Molded Plastic,SMA(DO-214AC) .
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750,Method-2026.
- Marking:marked on body.

SMA(DO-214AC)



Cathode —|◀— Anode

3. Maximum Ratings and Electrical Characteristics

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

PARAMETER	SYMBOL	US1AU	US1BU	US1DU	US1GU	US1JU	US1KU	US1MU	UNIT
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	1000	V
Average Rectified Output Current @T _L =100°C	I _{F(AV)}	1.0							A
Peak Forward Surge Current 8.3ms @T _j =25°C	I _{FSM}	35							A
Single half sine-wave superimposed @T _j =125°C on rated load (JEDEC Method)		28							
I ² t Rating for Fusing (t < 8.3ms)	I ² t	5.08							A ² S
Maximum Instantaneous Forward Voltage @I _F =1A	V _{FM}	1.0			1.3	1.7			V
Maximum DC reverse current @T _j =25°C	I _R	5.0							uA
at rated DC blocking voltage @T _j =125°C		100							
Maximum Reverse Recovery Time (Note 1)	T _{RR}	50				75			ns
Typical Junction Capacitance (Note 2)	C _j	18			12	8			pF
Typical Thermal Resistance (Note 3)	R _{θJA}	70							°C/W
	R _{θJL}	20							
	R _{θJC}	18							
Operating Temperature Range	T _j	-55 to+150							°C
Storage Temperature Range	T _{STG}	-55 to+150							°C

Note:

1. Reverse Recovery Test Conditions:IF=0.5A,IR=1.0A,IRR=0.25A.
2. Measured at 1.0 MHz and Applied reverse Voltage of 4.0V D.C
3. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas.



4. Rating And Characteristic Curves

Fig. 1 Forward Current Derating Curve

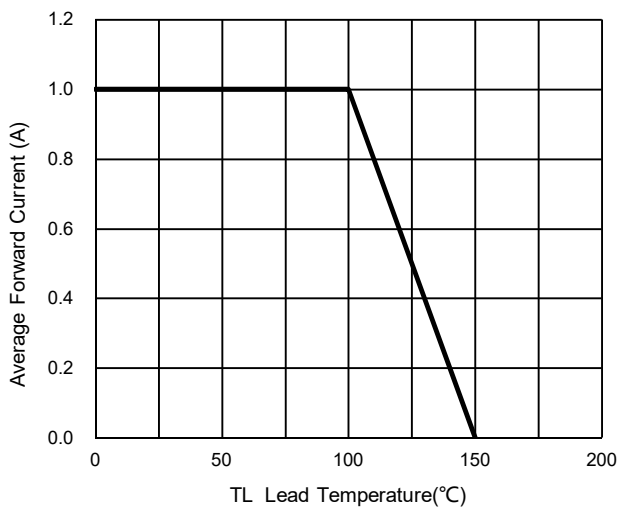


Fig. 2 Typical Forward Characteristics

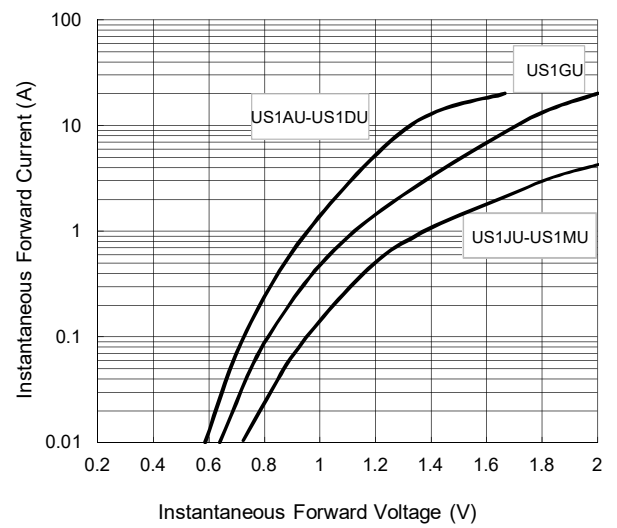


Fig. 3 Forward Surge Current Capability

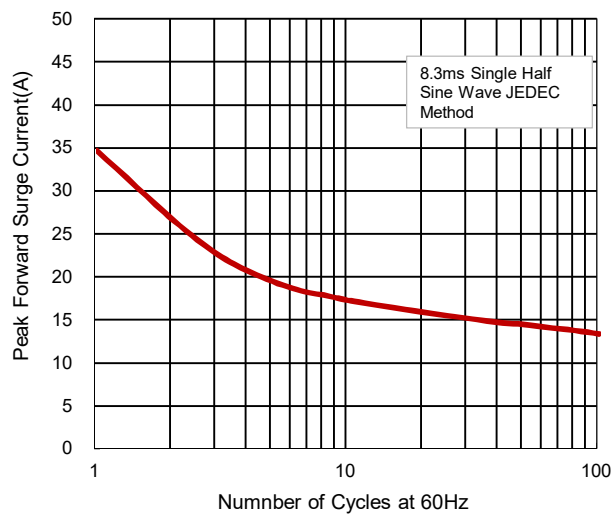
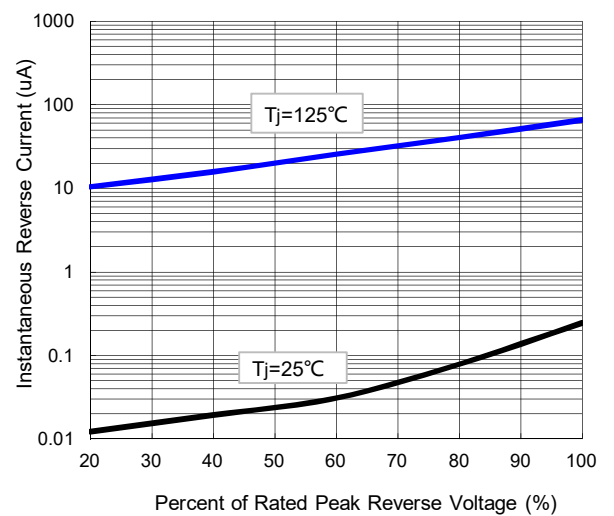


Fig.4 Typical Reverse Characteristics

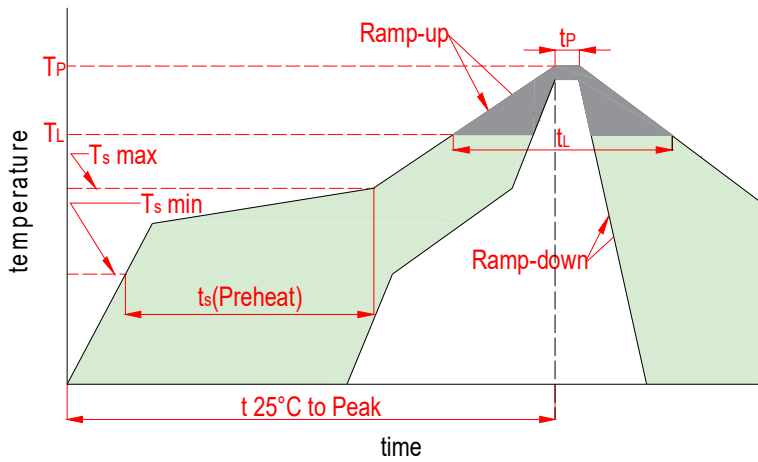




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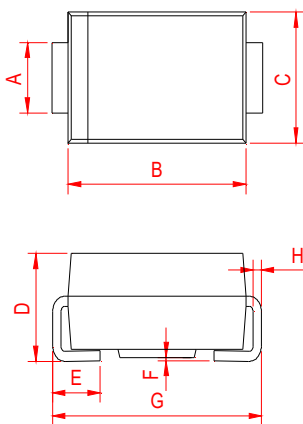
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5. Soldering Parameters



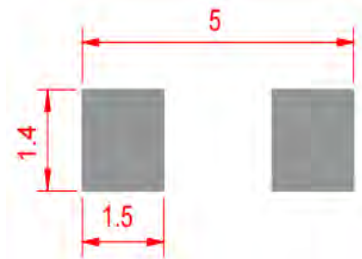
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s (min))	150℃
	Temp. max(T_s (min))	200℃
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3℃/s max
T_s (max) to T_L -Ramp-up Rate		3℃/s max
Reflow	Temp. (T_L)(Liquidus)	217℃
	Temp. (t_L)(Liquidus)	60~150s
Peak Temp. (T_P)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

6. Dimensions

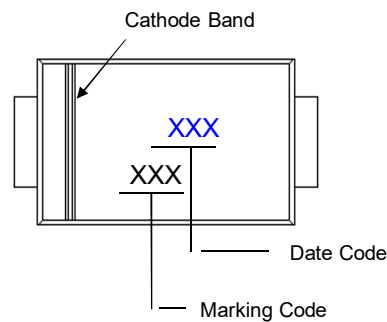
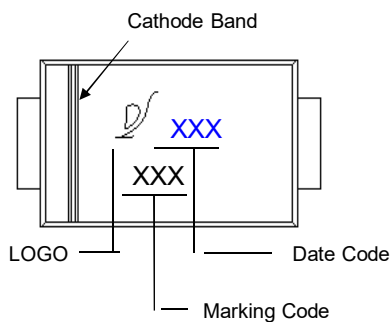


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.051	0.059	1.30	1.50
B	0.157	0.181	4.00	4.60
C	0.094	0.110	2.40	2.80
D	0.079	0.103	2.00	2.62
E	0.030	0.060	0.76	1.52
F	0.002	0.008	0.05	0.20
G	0.189	0.208	4.80	5.28
H	0.006	0.012	0.15	0.31

Mounting PAD Layout



7. Part Marking System



8. Package Information

Package	Tape Width (mm)	Reel Size		Quantity(pcs)
		mm	inch	
SMA(DO-214AC)	12	330	13	5000
SMA(DO-214AC)	12	330	13	7500



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