



S3AQ THRU S3MQ

3.0AMP 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

2. Mechanical Data

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

SMB(DO-214AA)



Cathode  Anode

3. Maximum Ratings and Electrical Characteristics

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

PARAMETER	SYMBOL	S3AQ	S3BQ	S3DQ	S3GQ	S3JQ	S3KQ	S3MQ	UNIT
	Code	S3A	S3B	S3D	S3G	S3J	S3K	S3M	
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)}	3.0							A
Peak Forward Surge Current 8.3ms @T _J =25°C	I _{FSM}	100							A
Single half sine-wave superimposed @T _J =125°C on rated load (JEDEC Method)		80							
I ² t Rating for Fusing (t < 8.3ms)	I ² t	41.5							A ² S
Maximum Instantaneous Forward Voltage @I _F =3A	V _{FM}	1.0							V
Maximum DC reverse current @T _J =25°C	I _R	5.0							uA
at rated DC blocking voltage @T _J =125°C		100							
Typical Junction Capacitance (Note 1)	C _j	22							pF
Typical Thermal Resistance	R _{θJA}	80							°C/W
	R _{θJL}	15							
	R _{θJC}	10							
Operating Temperature Range	T _J	-55 to+150							°C
Storage Temperature Range	T _{STG}	-55 to+150							°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

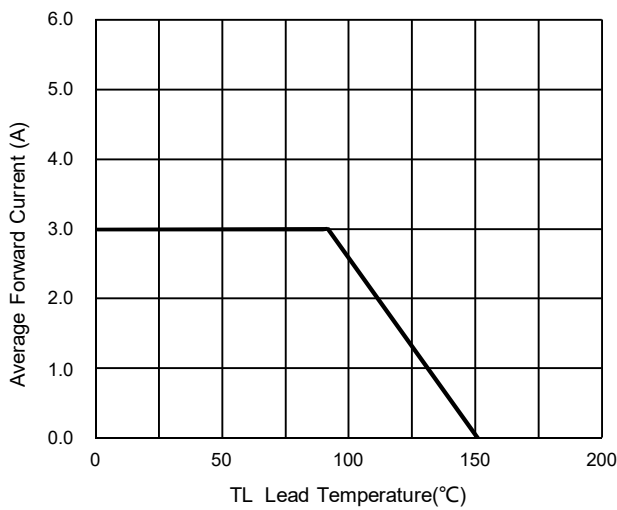


Fig. 2 Typical Forward Characteristics

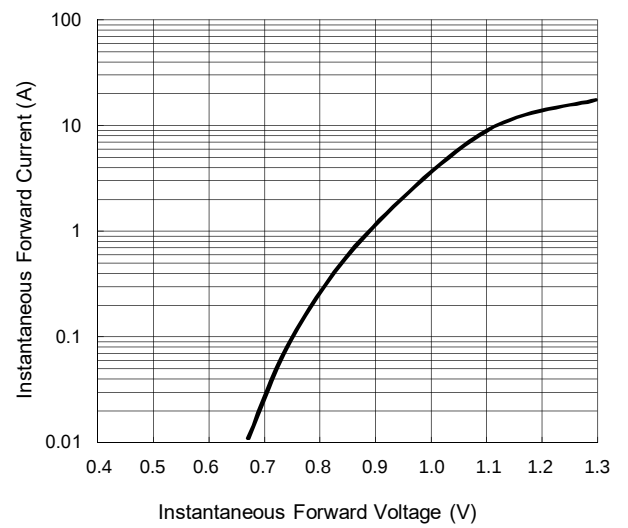


Fig. 3 Forward Surge Current Capability

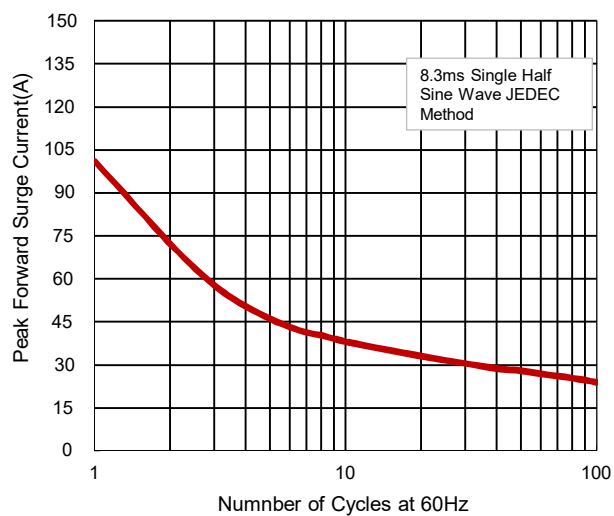
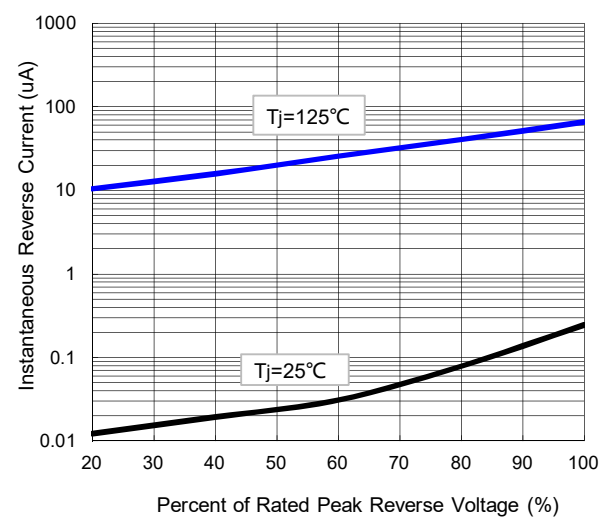


Fig.4 Typical Reverse Characteristics

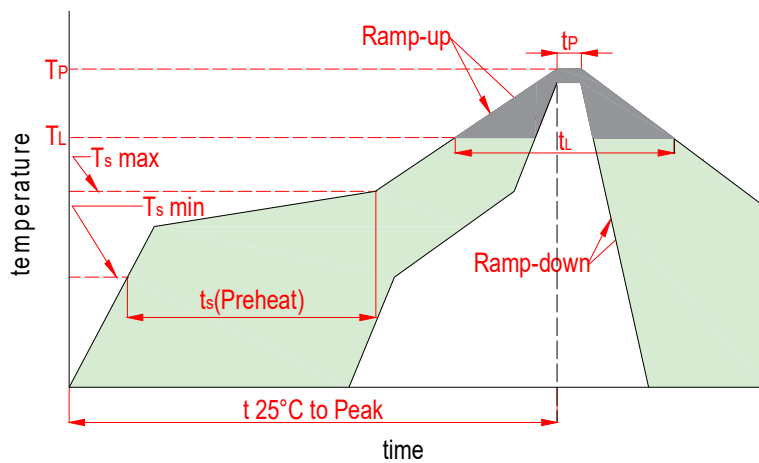




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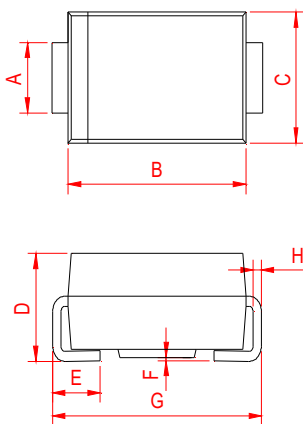
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5. Soldering Parameters



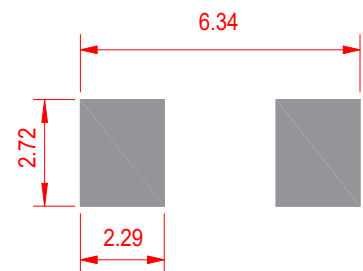
Reflow Condition		Lead-free
Pre Heat	Temp. min($T_s(\min)$)	150℃
	Temp. max($T_s(\min)$)	200℃
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3℃/s max
$T_s(\max)$ to T_L -Ramp-up Rate		3℃/s max
Reflow	Temp. (T_L)(Liquidus)	217℃
	Temp. (t_L)(Liquidus)	60~150s
Peak Temp. (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

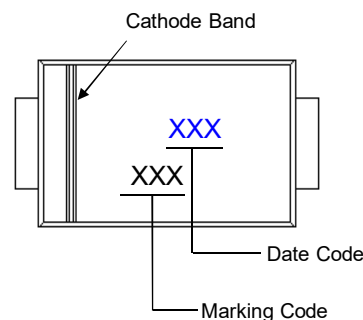
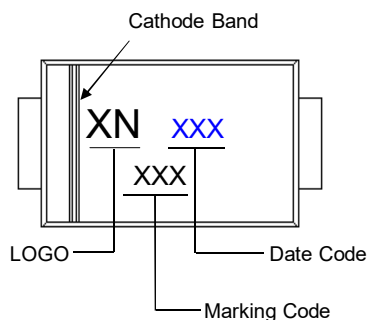


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.071	0.087	1.8	2.2
B	0.163	0.187	4.15	4.75
C	0.130	0.154	3.3	3.9
D	0.084	0.102	2.13	2.6
E	0.033	0.057	0.85	1.45
F	0.000	0.008	0.0	0.2
G	0.197	0.217	5.0	5.5
H	0.004	0.012	0.1	0.3

Mounting PAD Layout



7. Part Marking System



8. Package Information

Package	Tape Width (mm)	Reel Size		Quantity(pcs)	AEC-Q101	LOGO
		mm	inch			
SMB	12	330	13	3000	Yes	XN



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