



GS1AQ THRU GS1MQ

1.0AMP Surface Mount Glass Passivated Rectifier

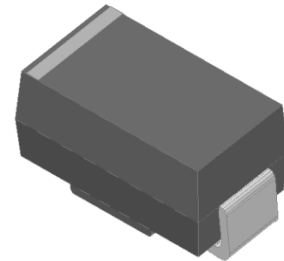
1. Features

- For surface mounted application
- Low forward voltage drop
- High current capability
- High reliability
- Classification Rating 94V-0
- AEC-Q101 qualified available

2. Mechanical Data

- Case:SMA(DO-214AC) molded plastic
- Terminals: Plated leads solderable per MIL-STD-750,Method 2026 guaranteed
- Polarity: Color band dentes cathode end
- Mounting Position: Any
- Making: Type Number

SMA(DO-214AC)



Cathode ———|<———— Anode

3. 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%

PARAMETER	SYMBOL	GS1AUQ	GS1BUQ	GS1DUQ	GS1GUQ	GS1JUQ	GS1KUQ	GS1MUQ	Unit
	Code	GS1AU	GS1BU	GS1DU	GS1GU	GS1JU	GS1KU	GS1MU	
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℃	I _{F(AV)}	1.0							A
Non-Repetitive Peak Forward Surge @T _j =25℃ Current 8.3ms Single half sine-wave @T _j =125℃ Superimposed On Rated Load (JEDEC Method)	I _{FSM}	35 28							A
Non-Repetitive Peak Forward Surge @T _j =25℃ Current 1.0ms Single half sine-wave @T _j =125℃ Superimposed On Rated Load (JEDEC Method)	I _{FSM}	70 56							A
10000 times of the wave surge current (time width 1ms, time interval 3s)	I _{FSM}	24.5							A
Rating for fusing (t<8.3ms)	I ² t	5.08							A ² s
Forward Voltage @IF=1.0A	V _{FM}	1.0							V
Peak Reverse Current @T _A =25℃	I _R	5.0							uA
At Rated DC Blocking Voltage @T _A =125℃		50							
Maximum Reverse Recovery Time (Note 1)	T _{rr}	2.0							us
Typical Junction Capacitance (Note 2)	C _J	8							pF
Typical Thermal Resistance	R _{θJA}	105							℃ /W
	R _{θJL}	18							
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to+175							℃

Note: 1. Reverse Recovery Test Conditions: $I_F=0.5A, I_R=1.0A, I_{RR}=0.25A$.
2. 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

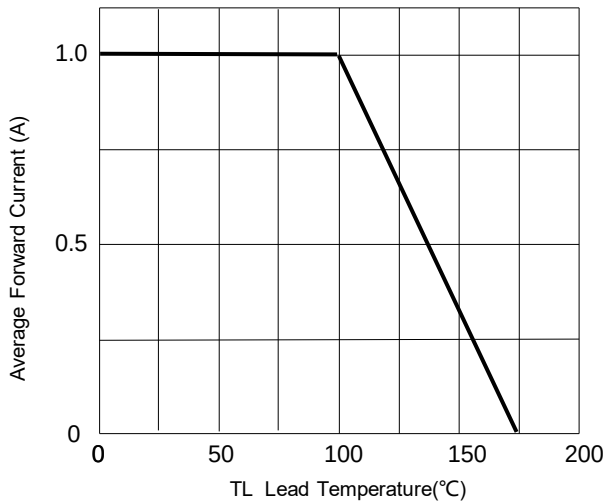


Fig. 2 Typical Forward Characteristics

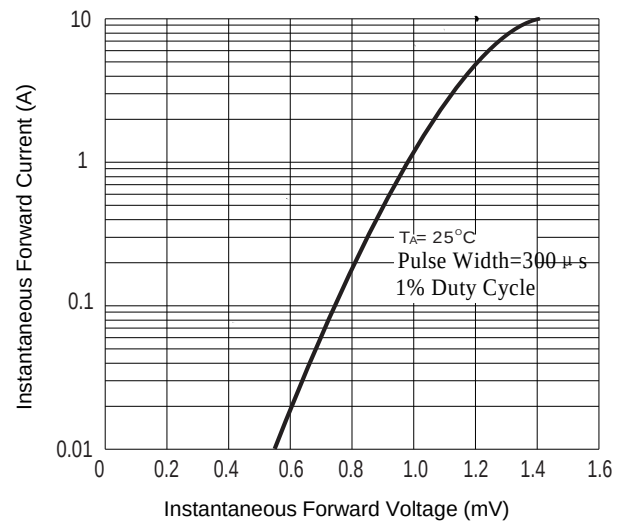


Fig. 3 Forward Surge Current Capability

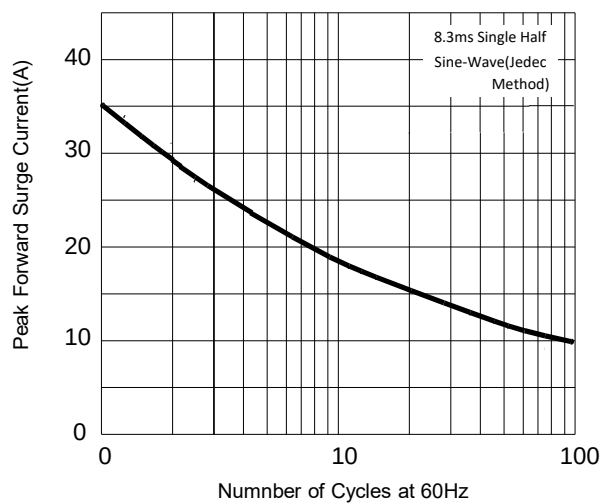
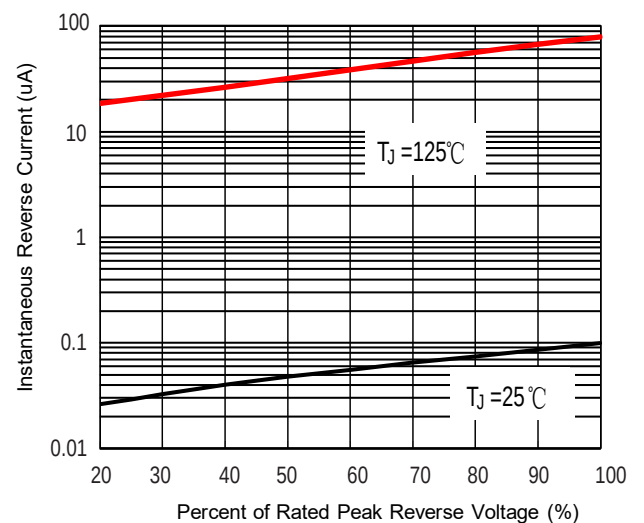


Fig. 4 Typical Reverse Characteristics

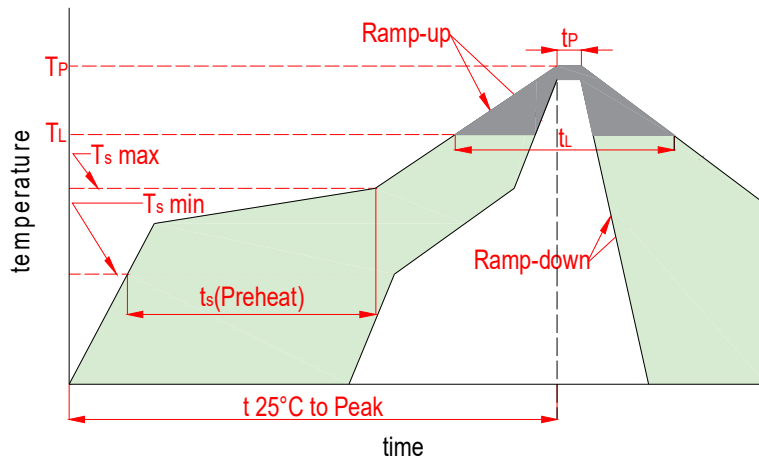




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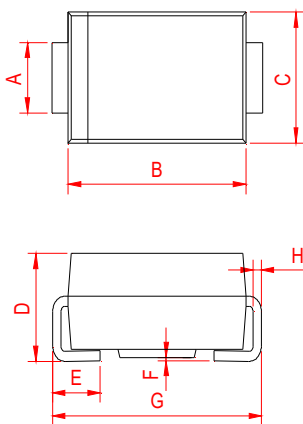
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5. Soldering Parameters



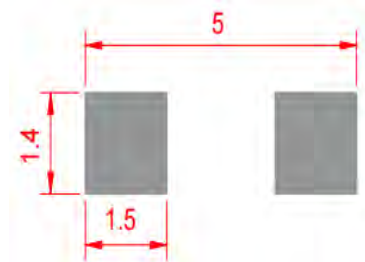
Reflow Condition		Lead-free
Pre Heat	Temp. min($T_s(\min)$)	150℃
	Temp. max($T_s(\min)$)	200℃
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3℃/s max
$T_s(\max)$ to T_L -Ramp-up Rate		3℃/s max
Reflow	Temp. (T_L)(Liquidus)	217℃
	Temp. (t_L)(Liquidus)	60~150s
Peak Temp.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

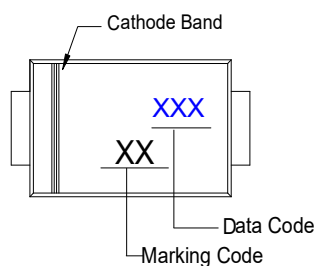
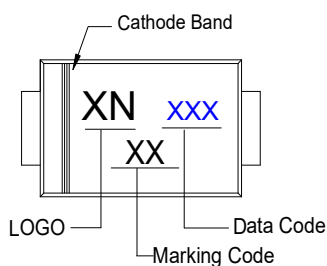


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.051	0.059	1.30	1.50
B	0.157	0.181	4.00	4.60
C	0.094	0.110	2.40	2.80
D	0.079	0.103	2.00	2.62
E	0.030	0.060	0.76	1.52
F	0.002	0.008	0.05	0.20
G	0.189	0.208	4.80	5.28
H	0.006	0.012	0.15	0.31

Mounting PAD Layout



7. Part Marking System



8. Package Information

Package	Tape Width (mm)	Reel Size		Quantity(pcs)	AEC-Q101	LOGO
		mm	inch			
SMA	12	330	13	5000	Yes	XN
SMA	12	330	13	7500	Yes	XN



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