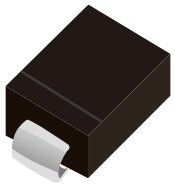
GS2AQ-GS2MQ

Surface Mount General-purpose Rectifiers

FEATURES

- Low profile package
- Ideal for automated placement
- Glass passivated Junction chip
- High forward surge current capability
- Meet AEC-Q101 Requirements



DO-214AA(SMB)

Schematic Symbol

APPLICATIONS

- For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer and telecommunication

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS AND CHARACTERISTICS (T_A=25°C)

Parameter		Symbol	GS2AQ	GS2BQ	GS2DQ	GS2GQ	GS2JQ	GS2KQ	GS2MQ	Unit
Marking			GS2AQ	GS2BQ	GS2DQ	GS2GQ	GS2JQ	GS2KQ	GS2MQ	
Maximum Repetitive 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	
Maximum DC Blocking Voltage		V_{DC}	50	100	200	400	600	800	1000	
Average Rectified Output Current @60hz Sine Wave, Resistance Load, TL (Fig.1)		I_O	2							A
Forward Surge Current (Non-Repetitive) @60hz Half-Sine Wave,1 Cycle, Tj=25°C		I_{FSM}	50							
Forward Surge Current (Non-Repetitive) @1ms, Square Wave, 1 Cycle, Tj=25°C			100							
Maximum Instantaneous Forward Voltage I_{FM}=2.0A		V_F	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T_J=25°C	I_R	5.0							μA
	T_J=125°C		100							
Typical Junction Capacitance Measured At 1mhz and Applied Reverse Voltage Of 4.0 V.D.C		C_J	12							pF
Current Squared Time @1ms≤t≤8.3ms Tj=25°C		I^2t	10.735							A^2s
Typical Thermal Resistance (1)		$R_{\theta J-A}$	60							°C/W
		$R_{\theta J-L}$	20							
		$R_{\theta J-C}$	15							
Operating Junction and Storage Temperature Range		T_J,T_{STG}	-55 to +150							°C

Note:
(1) Thermal Resistance From Junction to Ambient and From Junction to Lead Mounted On P.C.B. With 0.3" X 0.3" (8.0 mm X 8.0 mm) Copper Pad Areas

CHARACTERISTIC CURVES

Fig. 1- Io-TL Curve

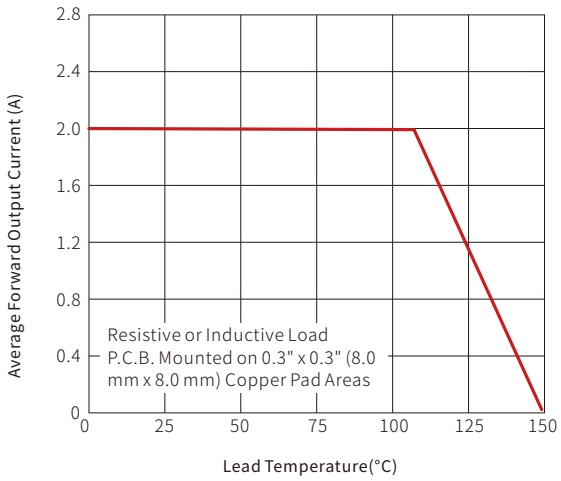


Fig. 2-Forward Surge Current Capability

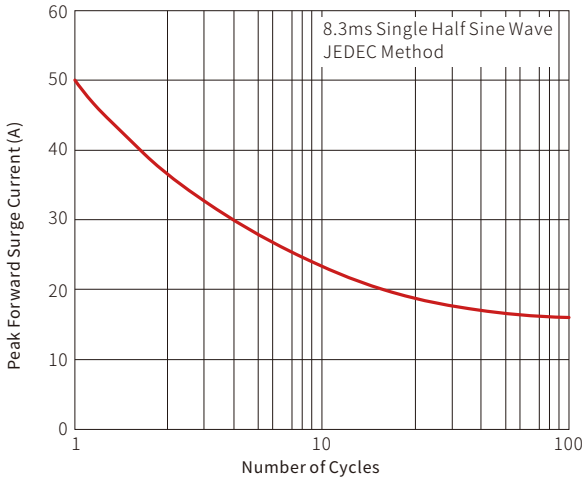


Fig. 3-Typical Forward Voltage

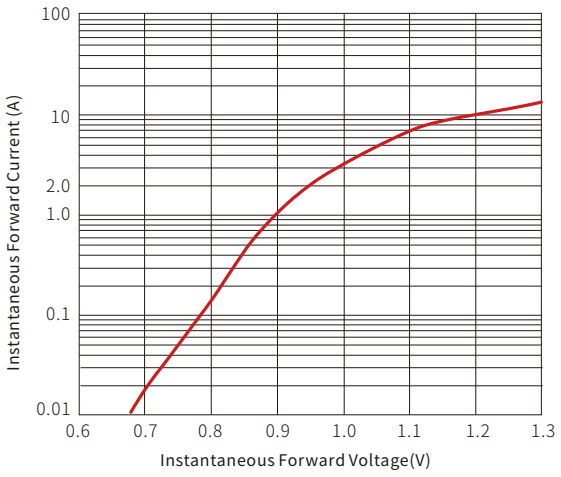
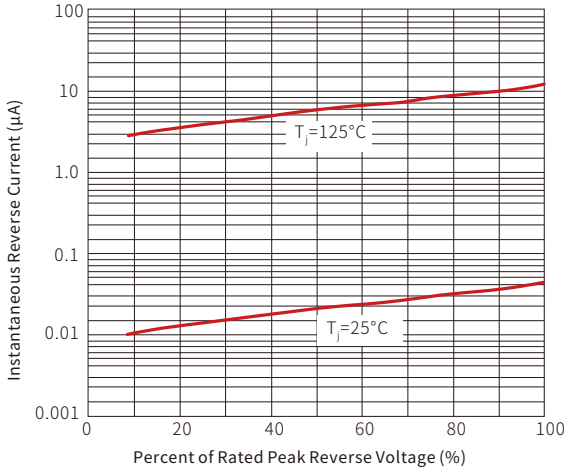
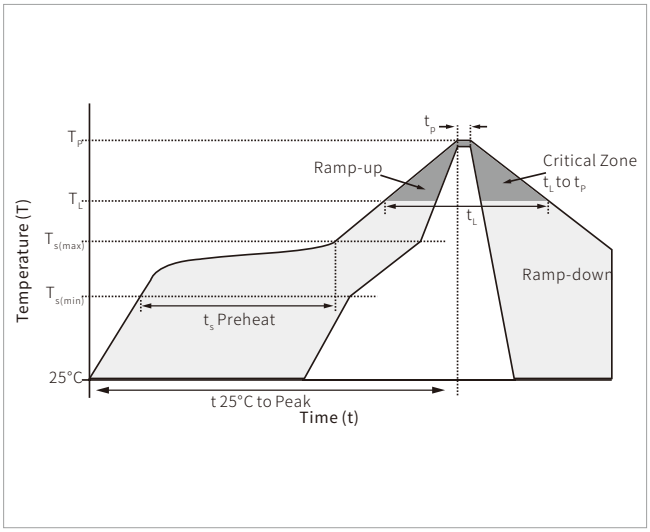


Fig. 4-Typical Reverse Characteristics

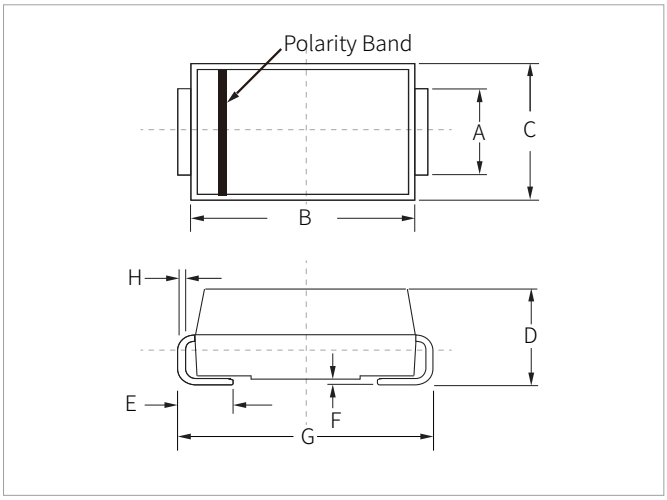


SOLDERING PARAMETERS

Reflow Condition		Lead–free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
	$T_{S(max)}$ to T_L - Ramp-up Rate	3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes max.
Do not exceed		260°C

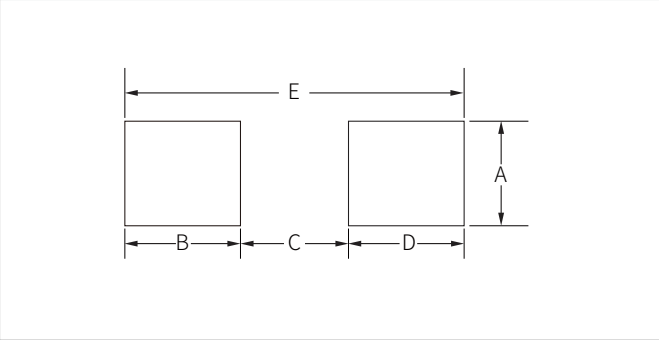


DO-214AA(SMB) PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.80	2.20	0.071	0.087
B	4.30	4.70	0.170	0.185
C	3.40	3.90	0.134	0.153
D	2.15	2.75	0.085	0.108
E	1.00	1.50	0.039	0.059
F	0.02	0.20	0.001	0.008
G	5.10	5.50	0.200	0.216
H	0.15	0.30	0.006	0.012

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.20	-	0.087	-
B	1.45	-	0.057	-
C	-	2.55	-	0.010
D	1.45	-	0.057	-
E	5.60REF		0.220REF	

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
GS2AQ-GS2MQ	DO-214AA(SMB)	3000PCS	13"

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