

## FEATURES

- | Low Profile Package
- | Ideal For Automated Placement
- | Glass passivated chip junction
- | High Forward Surge Capability
- | Meet AEC-Q101 Requirements



DO-214AC(SMA)



Schematic Symbol

## APPLICATIONS

- | For Use In General Purpose Rectification Of Power Supplies, Inverters, Converters, And Freewheeling Diodes For Consumer, And Telecommunication

## APPROVALS

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

## MAXIMUM RATINGS AND CHARACTERISTICS (T<sub>A</sub>=25°C)

Parameter		Symbol	GS2A AQ	GS2B AQ	GS2D AQ	GS2G AQ	GS2J AQ	GS2K AQ	GS2M AQ	Unit
Marking			GS2AA	GS2BA	GS2DA	GS2GA	GS2JA	GS2KA	GS2MA	
Maximum Repetitive 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	
Maximum DC Blocking Voltage		V <sub>DC</sub>	50	100	200	400	600	800	1000	
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)		I <sub>O</sub>	2							A
Forward Surge Current (Non-Repetitive) @60Hz Half-sine Wave,1 cycle, T <sub>J</sub> =25°C		I <sub>FSM</sub>	50							
Forward Surge Current (Non-Repetitive) @1ms, square Wave, 1 cycle, T <sub>J</sub> =25°C			100							
Maximum Instantaneous Forward Voltage I <sub>FM</sub> =2.0A		V <sub>F</sub>	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T <sub>J</sub> =25°C	I <sub>R</sub>	5							μA
	T <sub>J</sub> =125°C		100							
Typical Junction Capacitance Measured at 1MHz and Applied Reverse Voltage Of 4.0 V.D.C		C <sub>J</sub>	12							pF
Current squared time @1ms≤t≤8.3ms T <sub>J</sub> =25°C		I <sup>2</sup> t	10.735							A <sup>2</sup> s
Typical Thermal Resistance <sup>(1)</sup>		R <sub>θJ-A</sub>	65							°C/W
		R <sub>θJ-L</sub>	20							
		R <sub>θJ-C</sub>	18							
Operating junction and storage temperature range		T <sub>J</sub> ,T <sub>STG</sub>	-55 to +150							°C

Note

(1) 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

# CHARACTERISTIC CURVES

Fig. 1-  $I_o$ -TL Curve

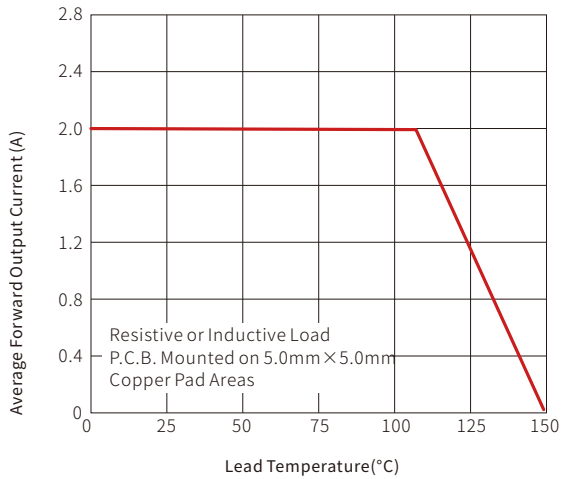


Fig. 2-Forward Surge Current Capability

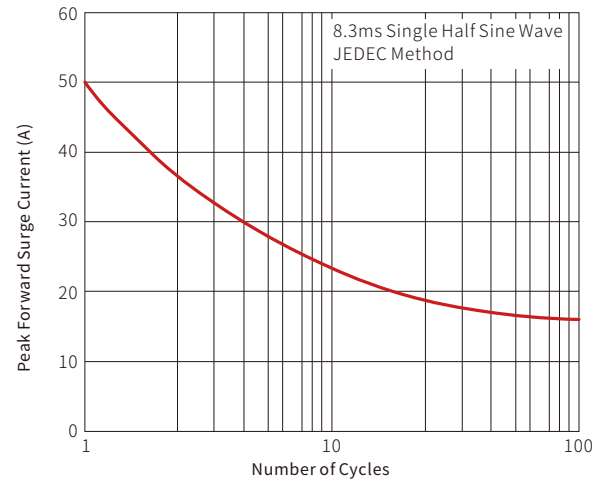


Fig. 3-Typical Forward Voltage

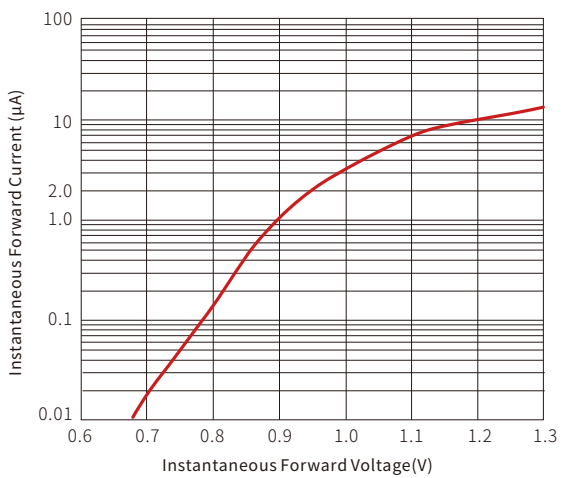
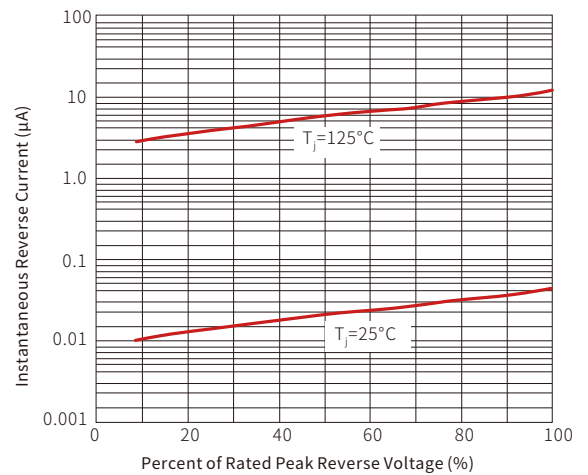
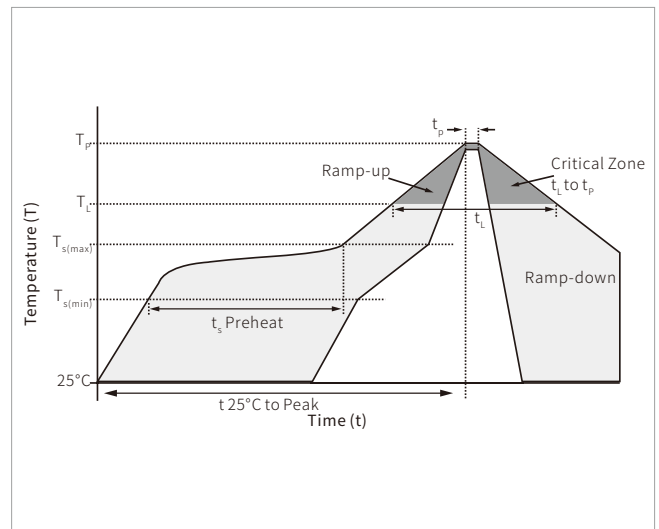


Fig. 4-Typical Reverse Characteristics

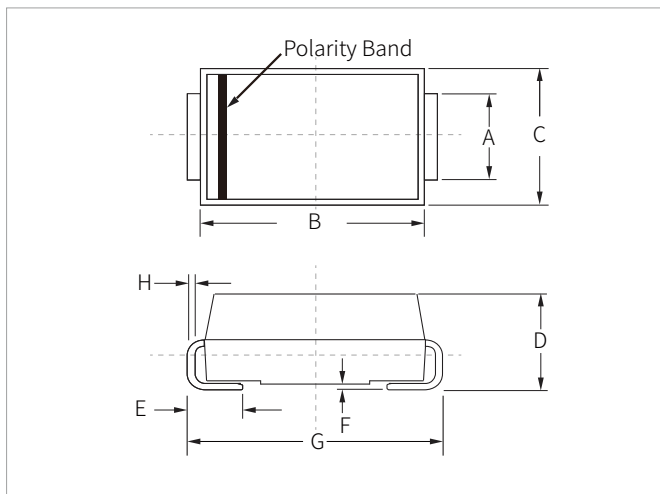


## SOLDERING PARAMETERS

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

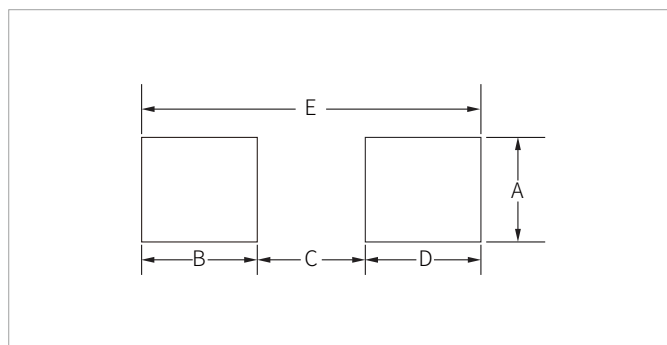


## DO-214AC(SMA) PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.20	1.60	0.047	0.063
B	4.20	4.60	0.165	0.181
C	2.40	2.80	0.094	0.110
D	2.00	2.40	0.079	0.094
E	0.76	1.52	0.030	0.060
F	0.02	0.20	0.001	0.008
G	4.85	5.25	0.191	0.207
H	0.15	0.30	0.006	0.012

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.63	-	0.064	-
B	1.45	-	0.057	-
C	-	2.80	-	0.090
D	1.45	-	0.057	-
E	5.28REF		0.208REF	

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
GS2AAQ-GS2MAQ	DO-214AC(SMA)	5000PCS	13"

**Headquarters**

No.3387 Shendu Road  
Pujiang I&E Park  
Minhang Shanghai China  
201000

**Hotline**

400-021-5756

**Web**

<https://www.semiware.com>

**Sales Center**

Tel: 86-21-3463-7458  
Email: [sales18@semiware.com](mailto:sales18@semiware.com)

**Customer Service**

Tel: 86-21-5484-1001  
Email: [sales17@semiware.com](mailto:sales17@semiware.com)

**Technical Support**

Tel: 86-21-3463-7654  
Email: [fae01@semiware.com](mailto:fae01@semiware.com)

**Complaint & Suggestions**

Tel: 86-21-3463-7172  
Ext: 8868  
Email: [cs03@semiware.com](mailto:cs03@semiware.com)

**By QR Code**

Website



Wechat

To find your local partner within Semiware's global website: [www.semiware.com](http://www.semiware.com)

© 2022 Semiware Semiconductor Inc.

The content of this document has been carefully checked and understood. However, neither Semiware nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Semiware does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Chinese law and resulting disputes shall be settled by the courts at the place of business of Semiware. Latest publications and a complete disclaimer can be downloaded from the Semiware website. All trademarks recognized.