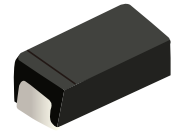


## FEATURES

- | Glass Passivated Die Construction
- | Fast Recovery Time for High Efficiency
- | Low reverse leakage
- | Ideally Suited for Automatic Assembly



DO-214AC(SMA)



Schematic Symbol

## MECHANICAL DATA

- | Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- | Moisture Sensitivity: Level 1 per J-STD-020
- | Polarity: Cathode line denotes the cathode end

## 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	GS1A	GS1B	GS1D	GS1G	GS1J	GS1K	GS1M	Unit
Marking		GS1A	GS1B	GS1D	GS1G	GS1J	GS1K	GS1M	
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	
Maximum average forward rectified current	I <sub>F(AV)</sub>	1.0							A
Surge(non-repetitive)forward current@60Hz Half-sine wave,1 cycle,Ta=25°C	I <sub>FSM</sub>	30							
Typical reverse recovery time(Note 1)	t <sub>rr</sub>	1.5							us
Typical Junction capacitance(Note 2)	C <sub>j</sub>	12							pF
Non-repetitive peak reverse avalanche energy at 25°C,I <sub>AS</sub> =1A,L=10mH	E <sub>RSM</sub>	5							mJ
Operating junction temperature rang	T <sub>J</sub>	-55~+150							°C
Storage temperature rang	T <sub>STG</sub>	-55~+150							
Typical Thermal Resistance	R <sub>θJA</sub>	75					85		°C/W
Typical Thermal Resistance	R <sub>θJL</sub>	27					30		

Note 1: Reverse recovery test conditions: I<sub>F</sub>=0.5A,I<sub>R</sub>=1.0A,I<sub>RR</sub>=0.25A

Note 2: Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

Parameter	Symbol	GS1A	GS1B	GS1D	GS1G	GS1J	GS1K	GS1M	Unit
Maximum instantaneous forward voltage drop per diode(Note 3)@1A	V <sub>F</sub>				1.1				V
Maximum reverse current @rated V <sub>R</sub>	T <sub>J</sub> =25°C				1				uA
	T <sub>J</sub> =125°C				50				

Note 3: Pulse test with P<sub>w</sub>=300uS,1% duty Cycle

## CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

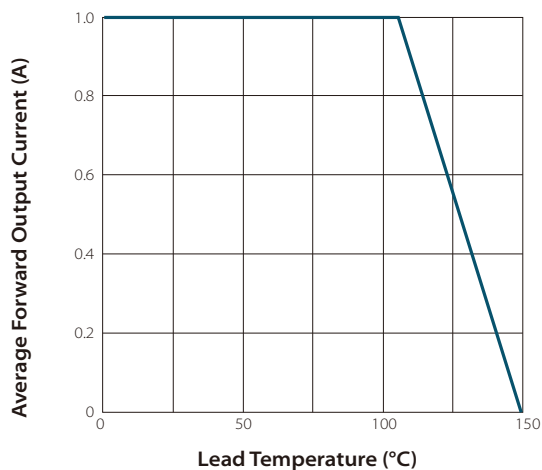


Fig.2 Forward Surge Current Capability

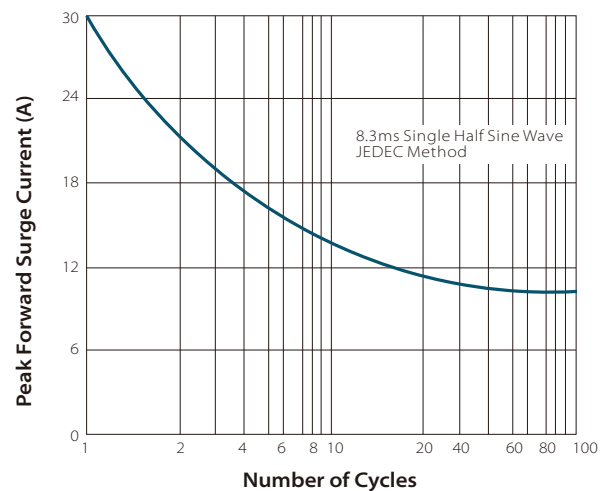


Fig.3 Typical Forward Voltage

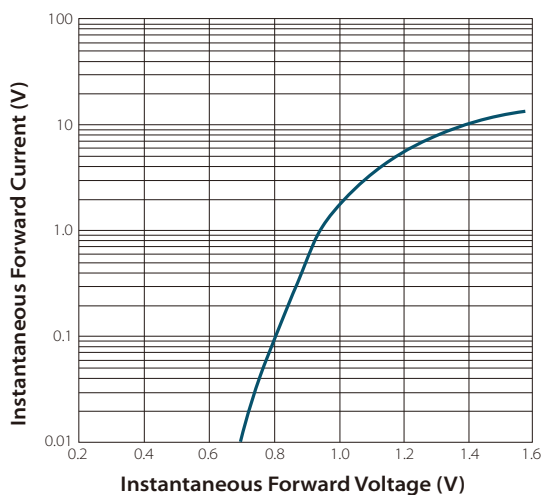
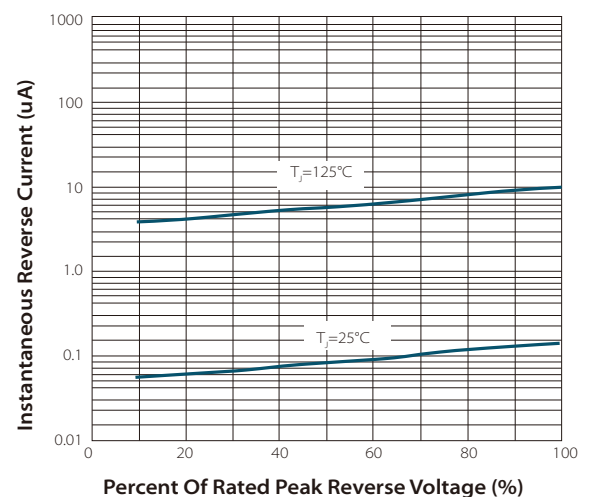
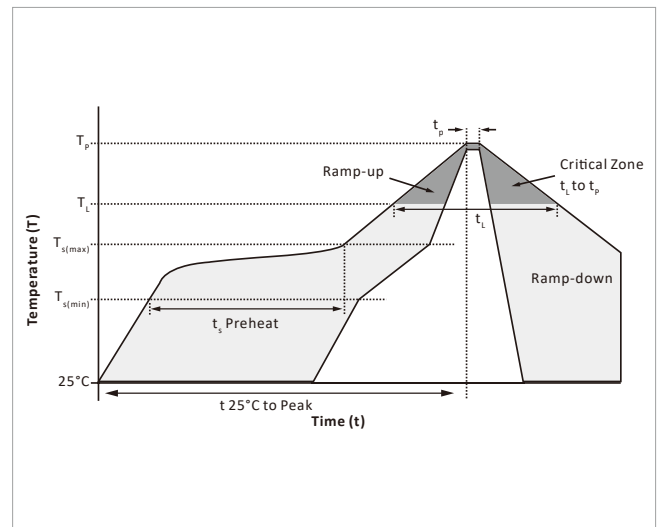


Fig.4 Typical Reverse Characteristics

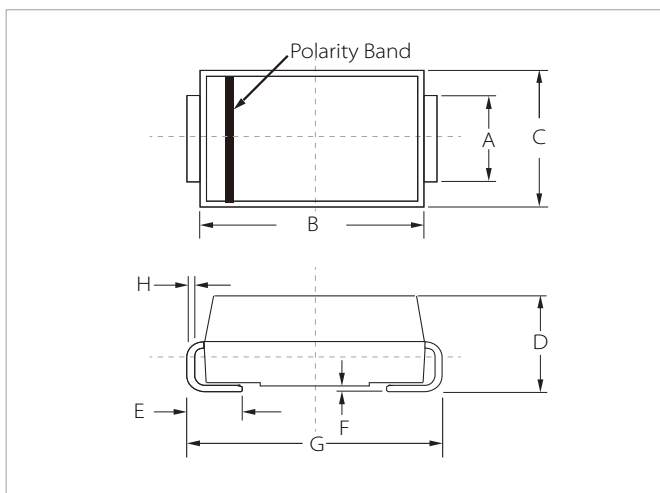


## SOLDERING PARAMETERS

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) ( $t_p$ )	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

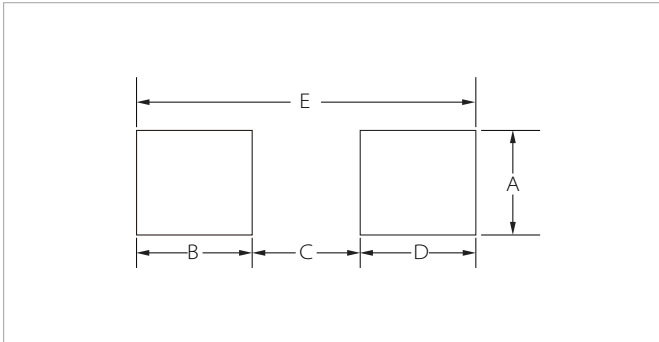


## DO-214AC(SMA) PACKAGE INFORMATION



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	2.60	2.80	0.102	0.110
D	2.10	2.40	0.083	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
GS1A-GS1M	DO-214AC(SMA)	5000PCS	13"

To find your local partner within Semiwell's website : [www.semiwell.com.cn](http://www.semiwell.com.cn)

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