

FEATURES

- | Glass Passivated Die Construction
- | Fast Recovery Time for High Efficiency
- | Low reverse leakage
- | Ideally Suited for Automatic Assembly
- | Meet AEC-Q101 Requirements



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

APPROVALS

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

MAXIMUM RATINGS AND CHARACTERISTICS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	GS1AQ	GS1BQ	GS1DQ	GS1GQ	GS1JQ	GS1KQ	GS1MQ	Unit
Marking		GS1A	GS1B	GS1D	GS1G	GS1J	GS1K	GS1M	
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	1.0							A
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, T _j =25°C	I _{FSM}	30							
Typical Junction capacitance Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	C _J	8							pF
Operating junction temperature range	T _J	-55~+150							°C
Storage temperature range	T _{STG}	-55~+150							
Typical Thermal Resistance ⁽¹⁾	R _{θJ-A}	70							°C/W
Typical Thermal Resistance ⁽¹⁾	R _{θJ-L}	22							

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

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$)

Parameter		Symbol	GS1AQ	GS1BQ	GS1DQ	GS1GQ	GS1JQ	GS1KQ	GS1MQ	Unit
Maximum instantaneous forward voltage drop per diode @1A		V _F	1.1							V
Maximum reverse current @rated V _R	T _J =25°C	I _R	5							μA
	T _J =125°C		100							

CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

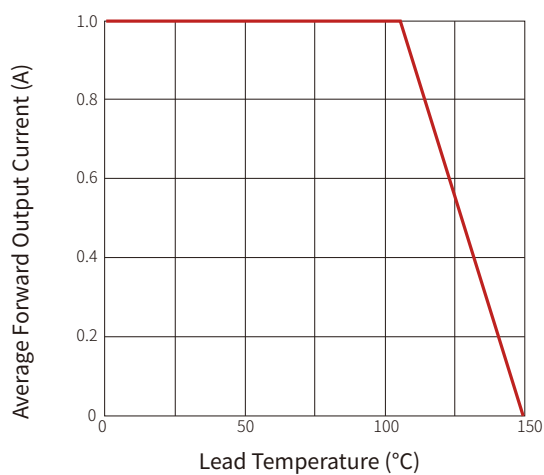


Fig.2 Forward Surge Current Capability

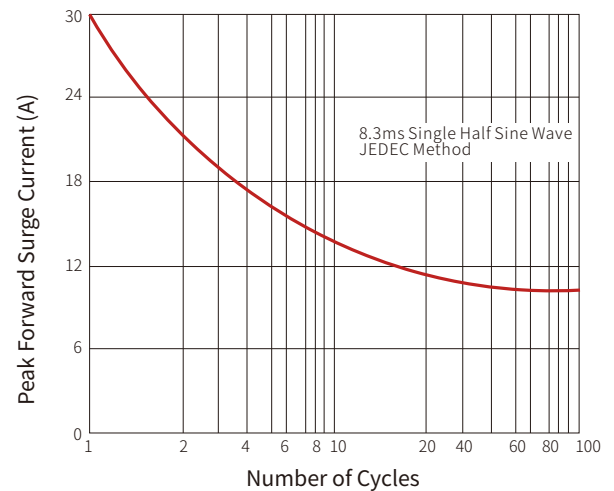


Fig.3 Typical Forward Voltage

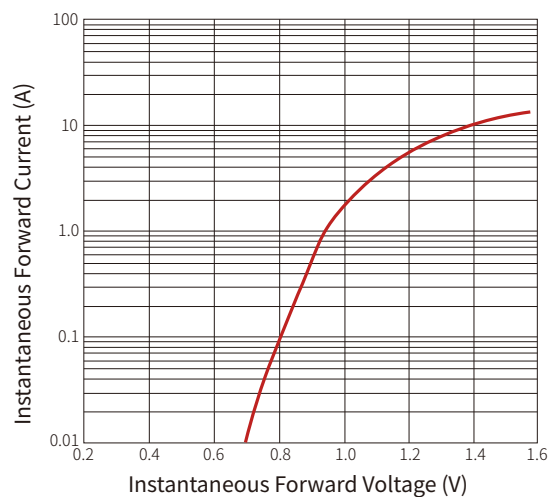
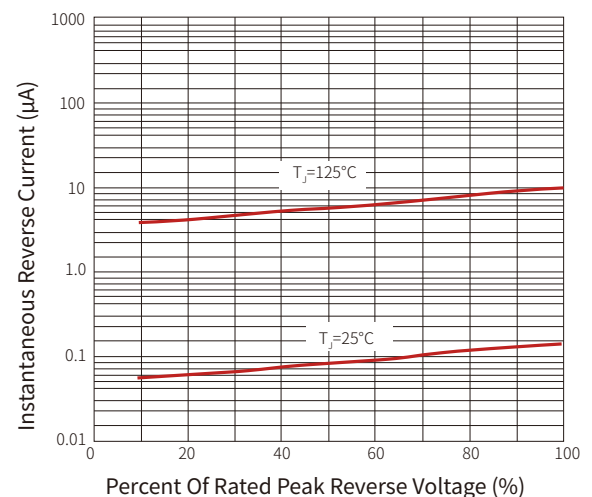
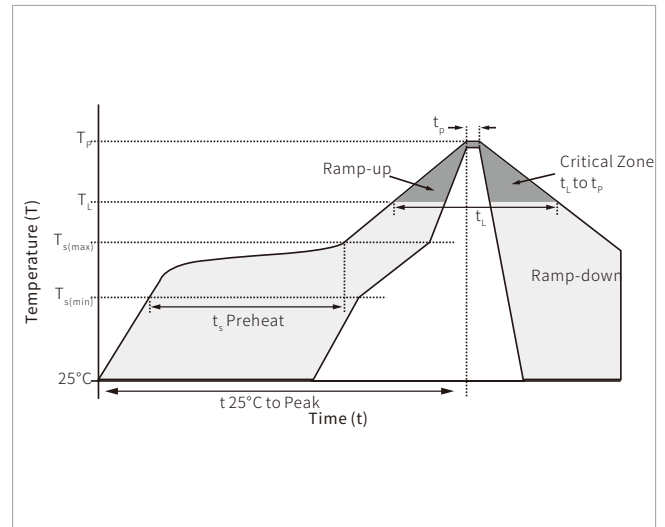


Fig.4 Typical Reverse Characteristics

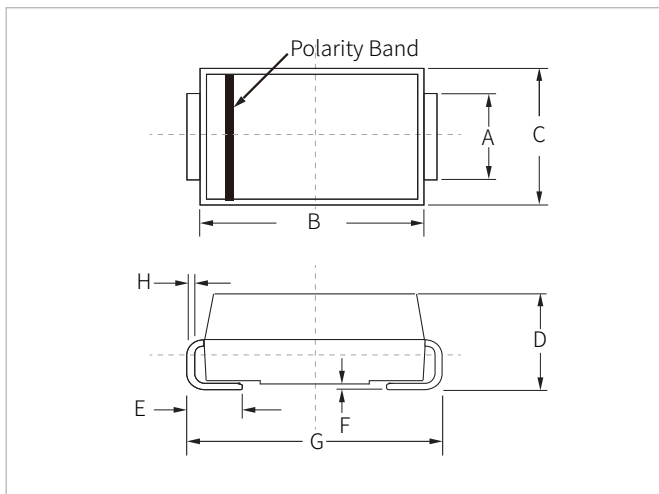


SOLDERING PARAMETERS

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_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

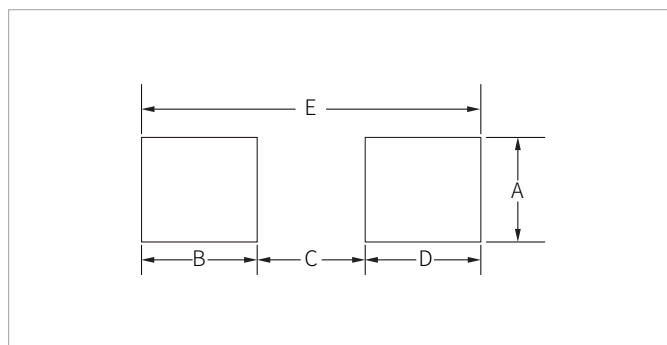


DO-214AC(SMA) PACKAGE INFORMATION



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
GS1AQ-GS1MQ	DO-214AC(SMA)	5000PCS	13"

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