

FEATURES

- | Low Profile Package
- | Ideal For Automated Placement
- | Guardring For Overvoltage Protection
- | Low Power Losses, High Efficiency
- | High Forward Surge Capability
- | Meet AEC-Q101 Requirements



DO-214AC(SMA)



Schematic Symbol

MECHANICAL DATA

- | For Use In Low Voltage High Frequency Inverters, Freewheeling, DC/DC Converters, And Polarity Protection Applications.

APPROVALS

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

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

Parameter		Symbol	SS52 AQ	SS53 AQ	SS54 AQ	SS55 AQ	SS56 AQ	SS58 AQ	SS510 AQ	SS515 AQ	SS520 AQ	Unit
Marking			SS52	SS53	SS54	SS55	SS56	SS58	SS510	SS515	SS520	
Repetitive Peak Reverse Voltage		V _{RRM}	20	30	40	50	60	80	100	150	200	V
Reverse Voltage,Total RMS Value		V _{RMS}	14	21	28	35	42	56	70	105	140	V
Maximum DC Blocking Voltage		V _{DC}	20	30	40	50	60	80	100	150	200	V
Average Rectified Output Current @60Hz Sine Wave, Resistance Load, TL (Fig.1)		I _O	5.0									A
Surge(Non-Repetitive)Forward Current @ 60Hz Half-Sine Wave,1 Cycle, Ta=25°C		I _{FSM}	100									A
Maximum Instantaneous Forward Voltage Drop Per Diode I _{FM} =5.0A		V _F	0.55			0.70		0.85		0.95		V
Maximum DC Reverse Current at Rated DC Blocking Voltage Per Diode@ V _{RM} = V _{RRM}	T _a =25°C	I _{RRM}	0.5					0.1				mA
	T _a =100°C		10					5				mA
Thermal Resistance		R _{θJ-A}	60 ¹⁾									°C/W
		R _{θJ-L}	22 ¹⁾									
Junction Temperature		T _J	-55 to +150					-55 to +175				°C
Storage Temperature		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 0.2" X 0.2" (5.0mm X 5.0mm) Copper Pad Areas

CHARACTERISTIC CURVES

Fig. 1- I_o - T_L Curve

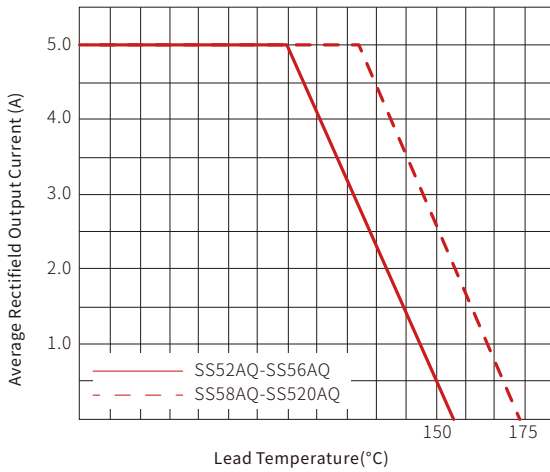


Fig. 2-Surge Forward Current Capability

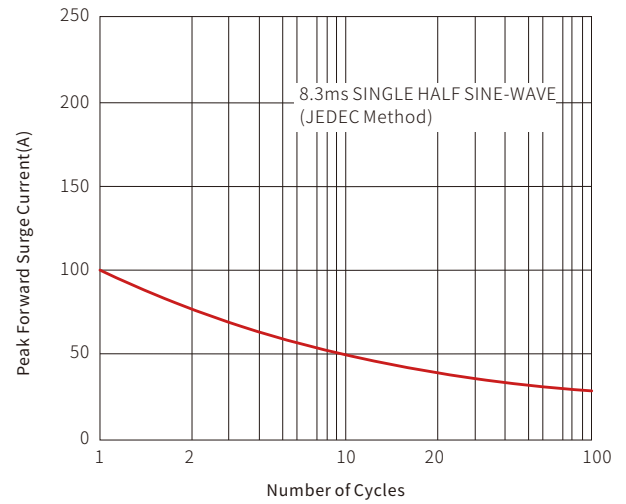


Fig. 3-Typical Forward Characteristics

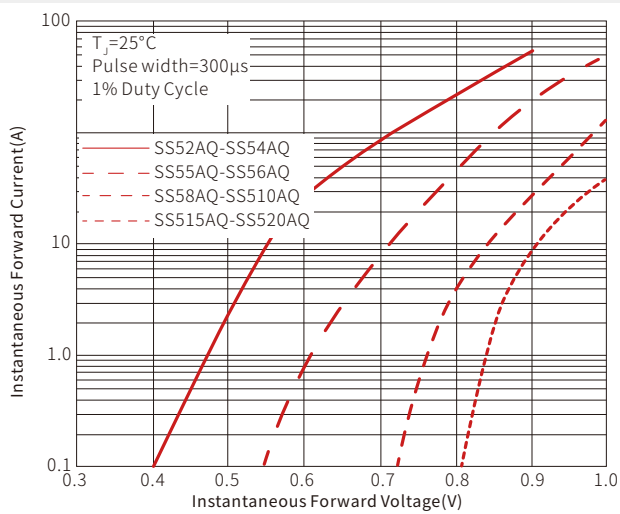
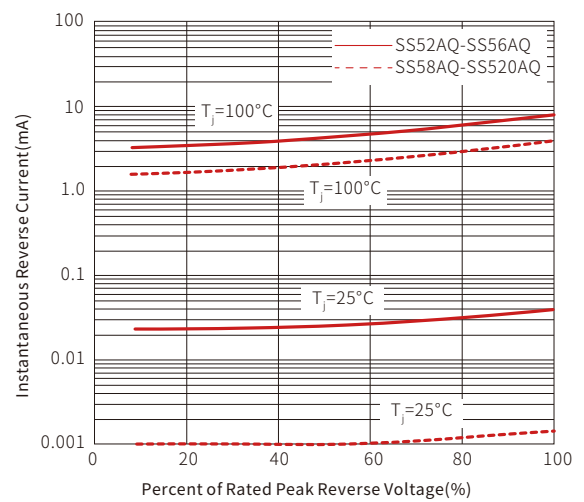
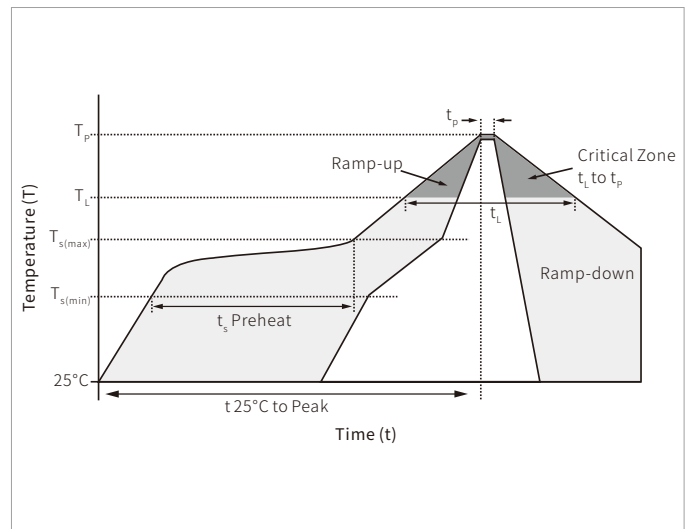


Fig. 4-Typical Reverse Characteristics

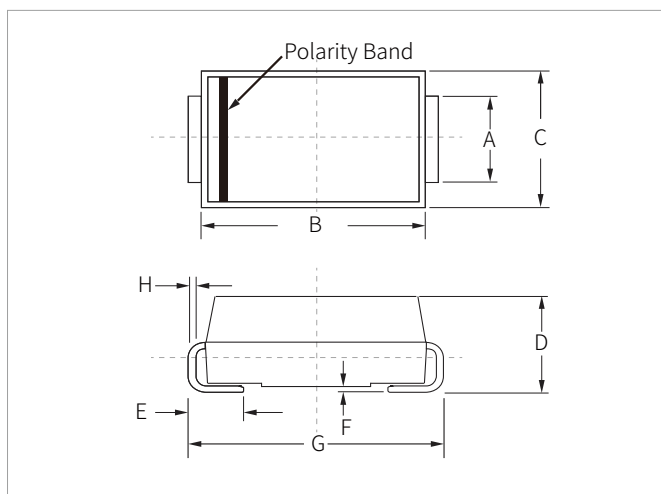


SOLDERING PARAMETERS

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

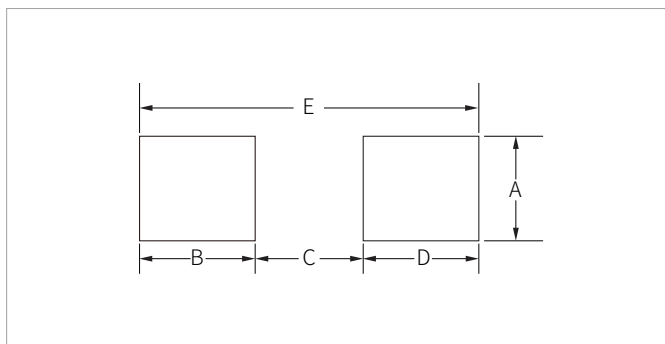


DO-214AC(SMA) PACKAGE INFORMATION



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
SS52AQ-SS520AQ	DO-214AC(SMA)	5000PCS	13"

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