

## FEATURES

- | Low Power Loss High Efficiency
- | Ideal For Automated Placement
- | Guard Ring For Over-voltage Protection
- | High Surge Current Capability
- | Meet AEC-Q101 Requirements



DO-214AC(SMA)



Schematic Symbol

## MECHANICAL DATA

- | Polarity: Color Band Denotes Cathode End
- | Mounting Position: Any

## APPROVALS

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

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

Parameter	Symbol	SS 12AQ	SS 13AQ	SS 14AQ	SS 15AQ	SS 16AQ	SS 18AQ	SS 110AQ	SS 115AQ	SS 120AQ	Unit
Marking		SS12	SS13	SS14	SS15	SS16	SS18	SS110	SS115	SS120	
Repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	50	60	80	100	150	200	V
Reverse voltage,total RMS Value	V <sub>RMS</sub>	14	21	28	35	42	56	70	105	140	V
Maximum DC blocking voltage	V <sub>DC</sub>	20	30	40	50	60	80	100	150	200	V
Maximum average forward rectified current at T <sub>L</sub> =100°C	I <sub>F(AV)</sub>	1.0									A
Surge Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	I <sub>FSM</sub>	30.0									A
Maximum instantaneous forward voltage at 1.0A	V <sub>F</sub>	0.55			0.70		0.85		0.95		V
Maximum DC reverse current at rated DC blocking voltage	T <sub>A</sub> =25°C	0.50					0.10				mA
	T <sub>A</sub> =100°C	10					5.0				mA
Typical thermal resistance	R <sub>θJ-A</sub>	65 <sup>1)</sup>									°C/W
	R <sub>θJ-C</sub>	20 <sup>1)</sup>									°C/W
Operating junction temperature range	T <sub>J</sub>	-55 to +150					-55 to +175				°C
Storage temperature range	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- Derating Curve Output Rectified Current

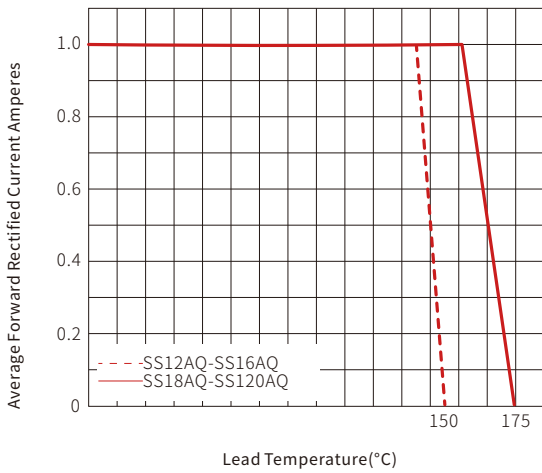


Fig. 2- Maximum Non-repetitive Peak Forward Surge Current Perleg

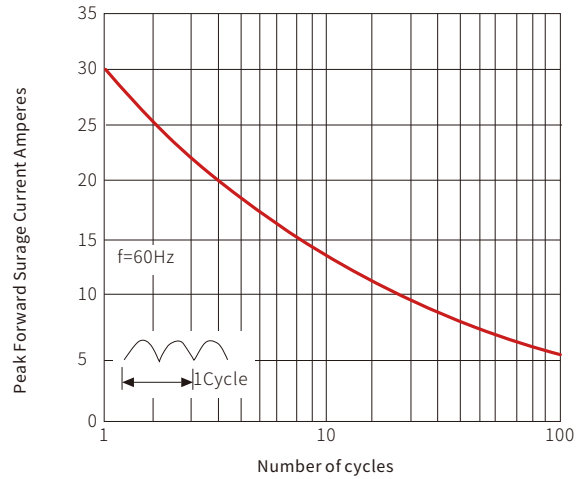


Fig. 3- Typical Forward Voltage Characteristics

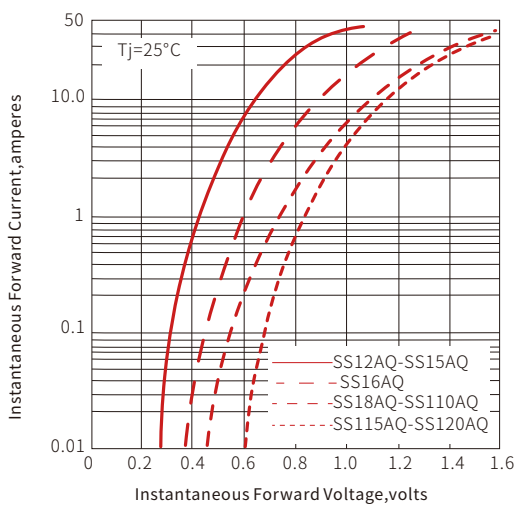
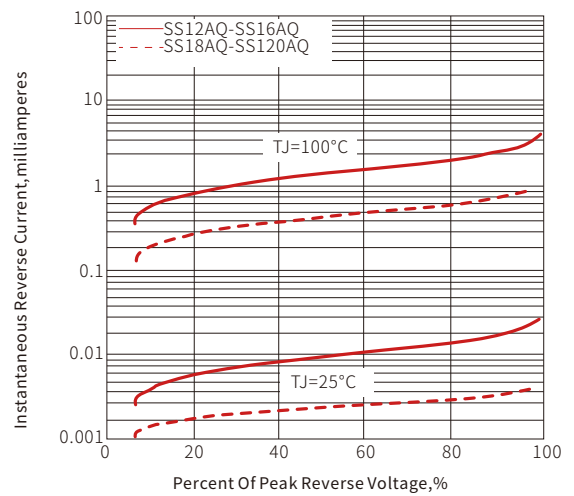
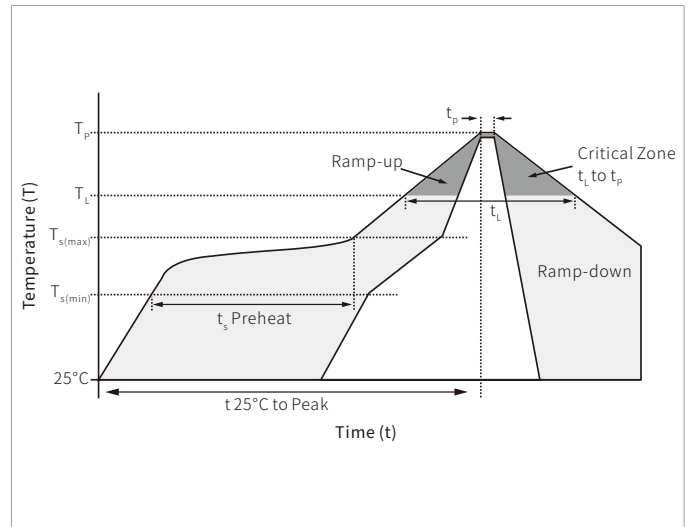


Fig. 4- Typical Reverse Leakage Characteristics

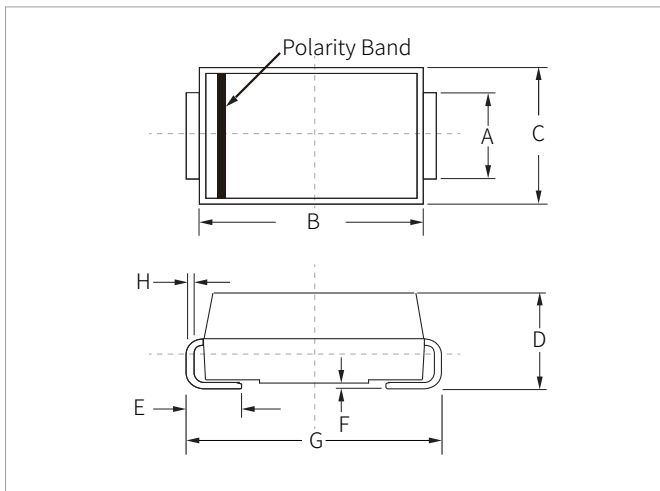


## SOLDERING PARAMETERS

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

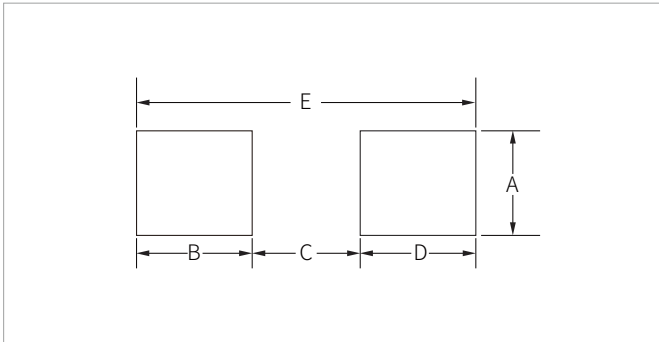


## DO-214AC(SMA) PACKAGE INFORMATION



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	Size	QTY/Reel	Reel Size
SS12AQ-SS120AQ	DO-214AC(SMA)	5000PCS	13"

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