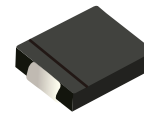


FEATURES

- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Fast reverse recovery time
- Meet AEC-Q101 Requirements



DO-214AB(SMC)



Schematic Symbol

APPLICATIONS

- For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer and telecommunication

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	RS5AQ	RS5BQ	RS5DQ	RS5GQ	RS5JQ	RS5KQ	RS5MQ	Unit
Marking			RS5A	RS5B	RS5D	RS5G	RS5J	RS5K	RS5M	
Repetitive Peak Reverse Voltage		V _{RRM}	50	100	200	400	600	800	1000	V
Reverse Voltage, Total RMS Value		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	5.0							A
Forward Surge Current (Non-Repetitive) @60Hz Half-Sine Wave,1 Cycle, T _J =25°C		I _{FSM}	120							A
Forward Surge Current (Non-repetitive) @1ms, Square Wave, 1 Cycle, T _J =25°C			200							
Maximum Instantaneous Forward Voltage I _{FM} =5.0A		V _F	1.3							V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T _J =25°C	I _R	5							μA
	T _J =125°C		100							
Maximum Reverse Recovery Time I _F =0.5A , I _R =1.0A,I _{FF} =0.25A		T _{rr}	150				250	500	ns	
Typical Junction Capacitance Measured at 1MHz And Applied Reverse Voltage Of 4.0 V.D.C		C _J	57				39	31	pF	
Current Squared Time @1ms≤t≤8.3ms T _J =25°C		I²t	60							A²s
Operating Junction and Storage Temperature Range		T _J ,T _{STG}	-55 to +150							°C

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

Parameter	Symbol	RS5A	RS5B	RS5D	RS5G	RS5J	RS5K	RS5M	Unit
Typical Thermal Resistance	$R_{\theta J-A}^{(1)}$	48							°C/W
	$R_{\theta J-L}^{(1)}$	15							
	$R_{\theta J-C}^{(1)}$	12							

Note (1)

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.6" x 0.6" (16 mm x 16 mm) copper pad areas

CHARACTERISTIC CURVES

Fig. 1- I_o - T_L Curve

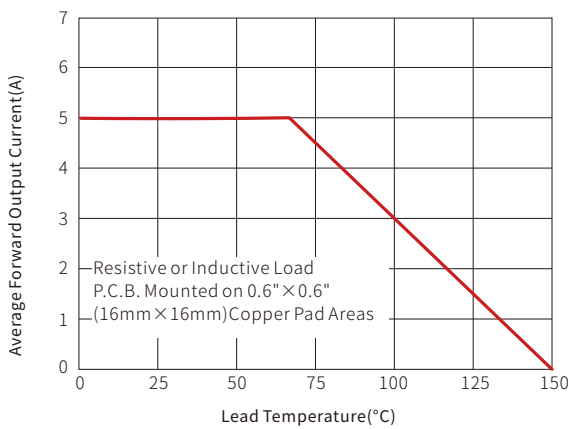


Fig. 2-Surge Forward Current Capability

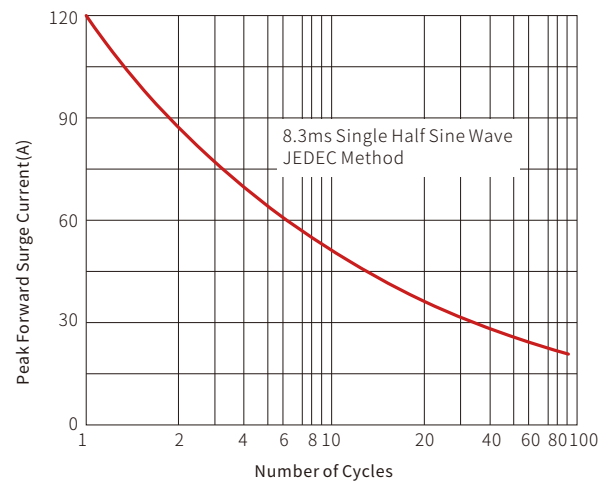
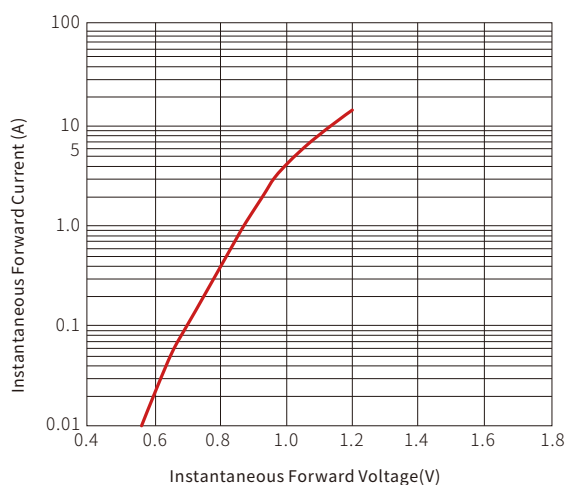
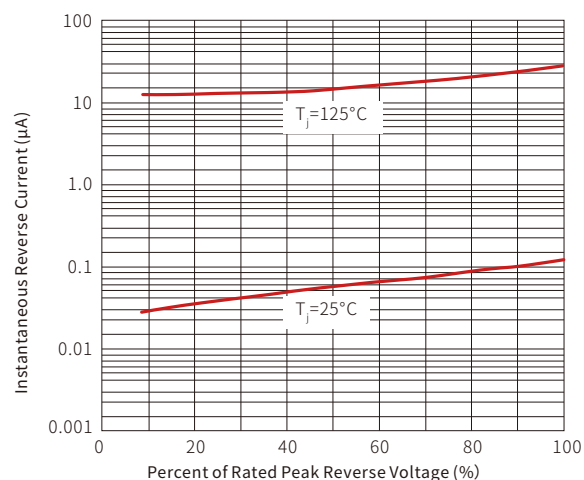
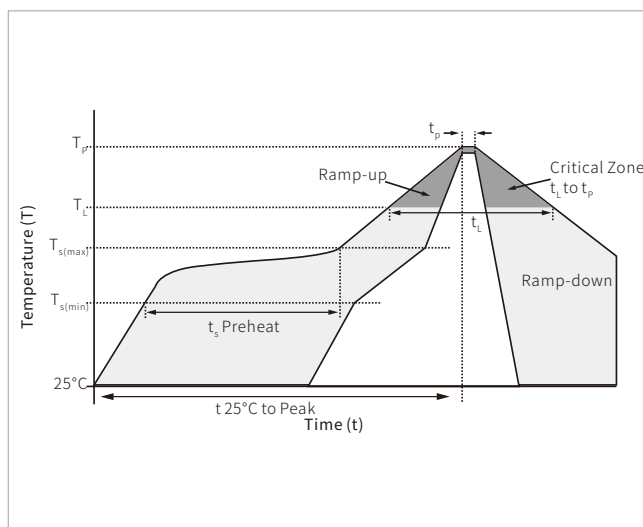


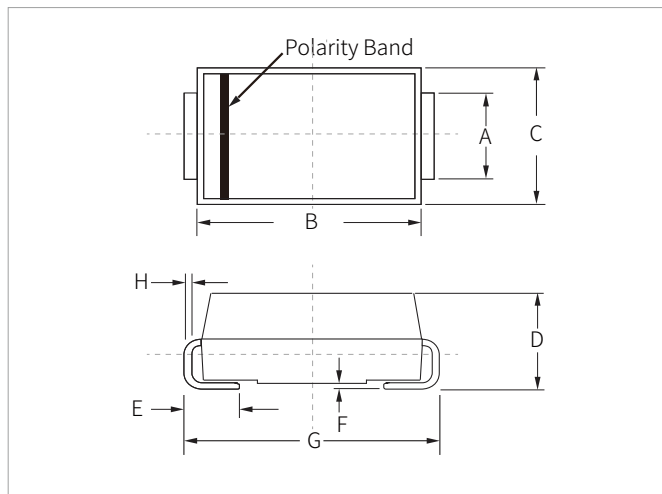
FIG.3: Typical Forward Voltage

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

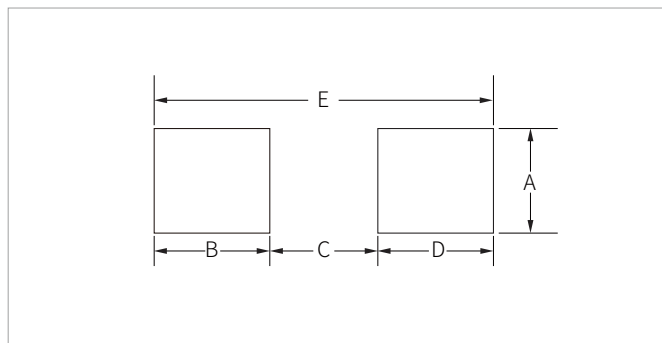


DO-214AB(SMC) PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.20	0.110	0.126
B	6.60	7.20	0.260	0.283
C	5.70	6.10	0.224	0.240
D	2.15	2.75	0.085	0.108
E	1.00	1.60	0.039	0.063
F	0.02	0.20	0.000	0.008
G	7.60	8.00	0.299	0.315
H	0.15	0.30	0.006	0.012

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	-	0.129	-
B	2.40	-	0.094	-
C	-	4.20	-	0.165
D	2.40	-	0.094	-
E	8.20REF		0.323REF	

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
RS5AQ-RS5MQ	DO-214AB(SMC)	3000PCS	13"

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