

FEATURES

- | Ideal for automated placement
- | Glass passivated chip junction
- | High forward surge capability
- | Fast reverse recovery time



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°C)

Parameter	Symbol	RS5A	RS5B	RS5D	RS5G	RS5J	RS5K	RS5M	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	I _R	5							μA
		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	I ² t	60							A ² s
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				$^{\circ}\text{C}/\text{W}$
	$R_{\theta J-L}^{(1)}$				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-Io - TL Curve

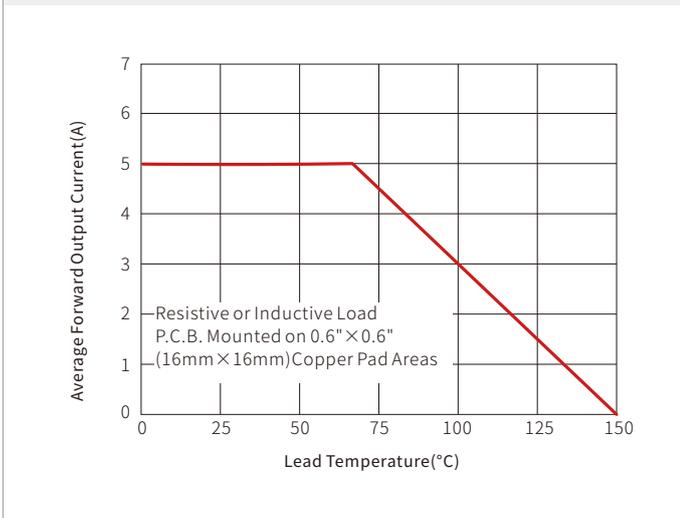


Fig. 2-Surge Forward Current Capability

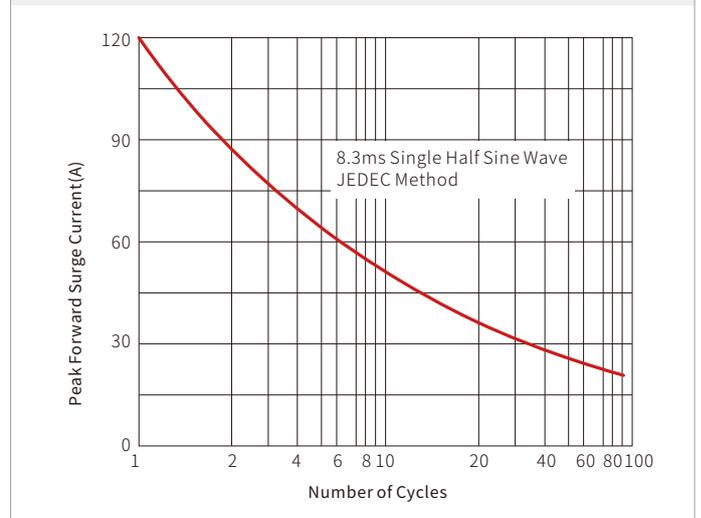
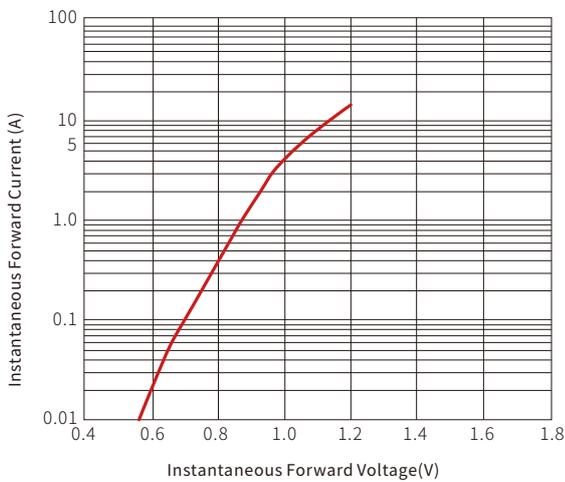
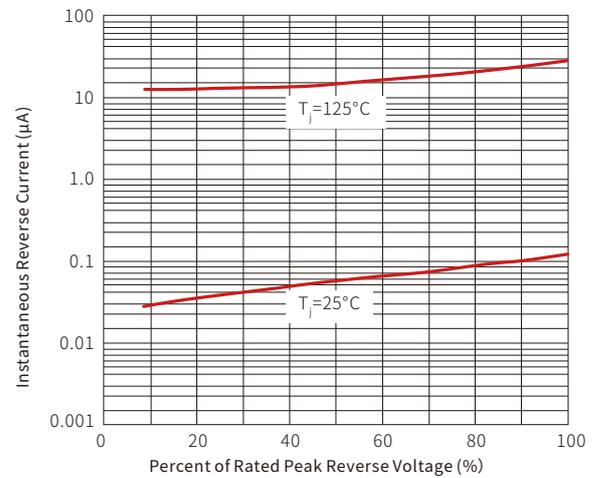
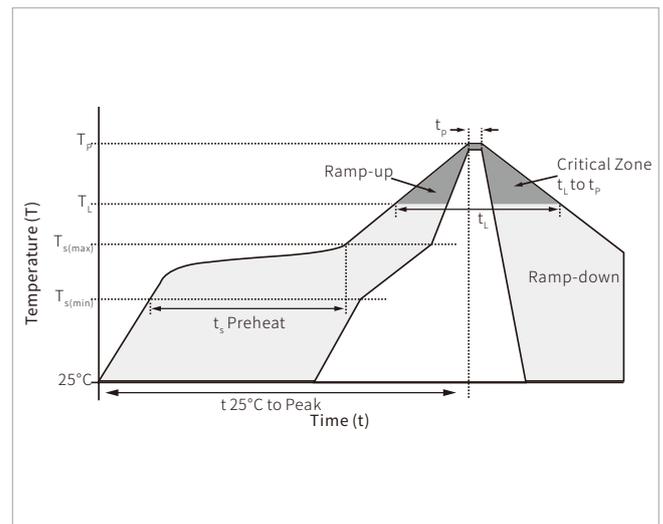


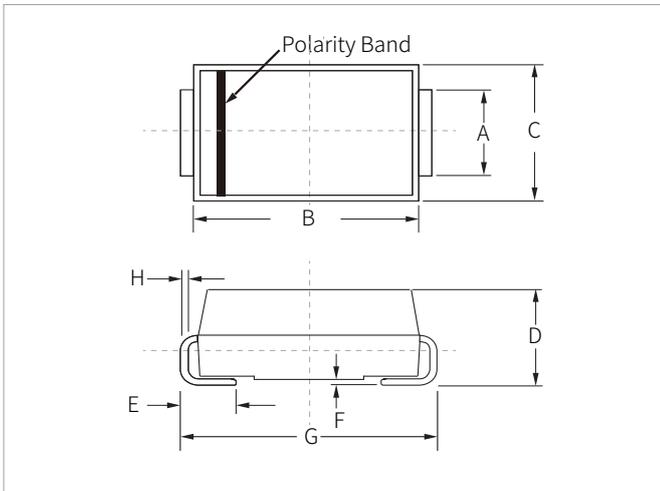
FIG.3: Typical Forward Voltage

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

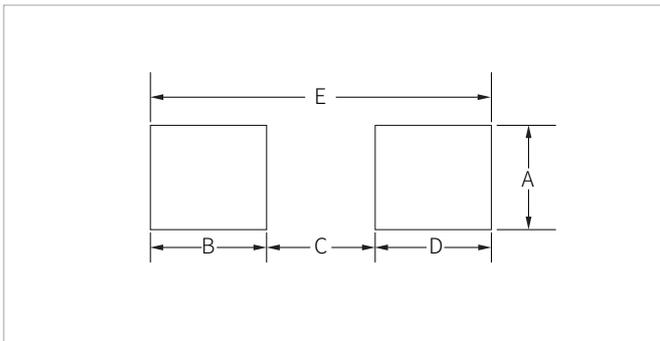


DO-214AB(SMC) PACKAGE INFORMATION



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
RS5A-RS5M	DO-214AB(SMC)	3000PCS	13"

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