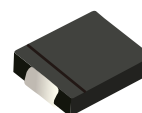


FEATURES

- Super fast reverse recovery time
- Low leakage current
- Low switching losses, high efficiency
- High forward surge capability
- 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°C)

Parameter		Symbol	ES 3ACQ	ES 3BCQ	ES 3CCQ	ES 3DCQ	ES 3FCQ	ES 3GCQ	ES 3HCQ	ES 3JCQ	Unit
Marking			ES3A	ES3B	ES3C	ES3D	ES3F	ES3G	ES3H	ES3J	
Repetitive Peak Reverse Voltage		V _{RRM}	50	100	150	200	300	400	500	600	V
Reverse Voltage, Total RMS Value		V _{RMS}	35	70	105	140	210	280	350	420	
Maximum DC Blocking Voltage		V _{DC}	50	100	150	200	300	400	500	600	
Average Rectified Output Current @60Hz sine wave, Resistance load, TL (Fig.1)		I _O	3.0								A
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Ta=25°C		I _{FSM}	100								A
Maximum Instantaneous Forward Voltage I _{FM} =3.0A		V _F	0.95				1.3		1.7		V
Maximum DC reverse current at rated DC blocking voltage per diode @ V _{RM} =V _{RRM}	T _a =25°C	I _R	5								μA
	T _a =125°C		100								
Maximum Reverse Recovery Time I _F =0.5A , I _R =1.0A,I _{rr} =0.25A		T _{rr}	35								ns
Typical Junction Capacitance V _R =4V, f=1 MHz		C _J	60								pF
Thermal Resistance		R _{θJ-A}	75 ¹⁾								°C/W
Thermal Resistance		R _{θJ-L}	15 ¹⁾								°C/W
Operating Junction and Storage Temperature Range		T _J ,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 0.6" x 0.6" (16 mm x 16 mm) copper pad areas

CHARACTERISTIC CURVES

Fig. 1-Io - TL Curve

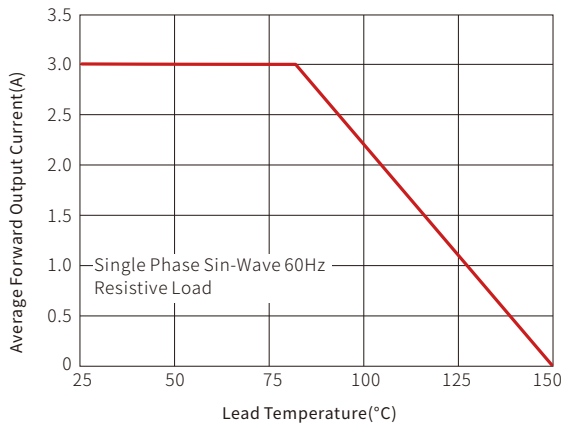


Fig. 2-Surge Forward Current Capability

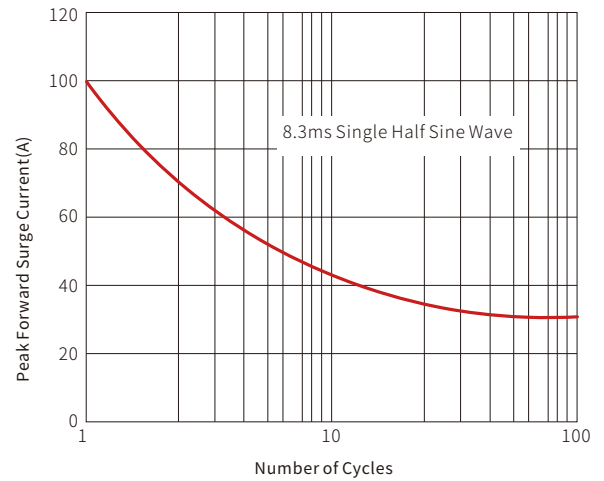


Fig. 3- Forward Voltage

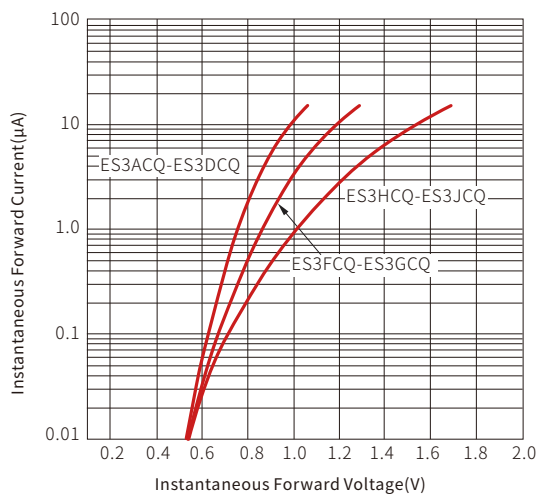


Fig. 4-Typical Reverse Characteristics

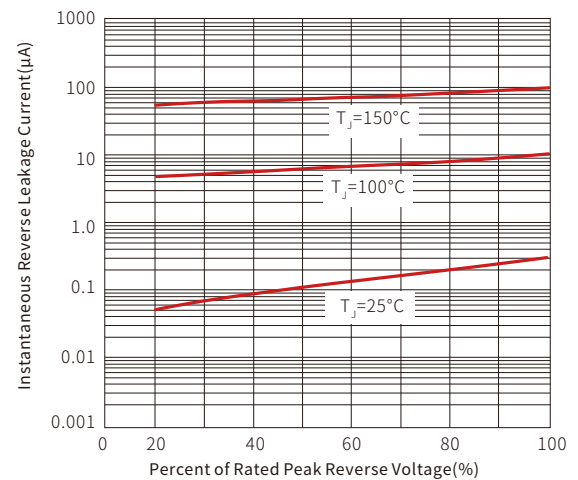
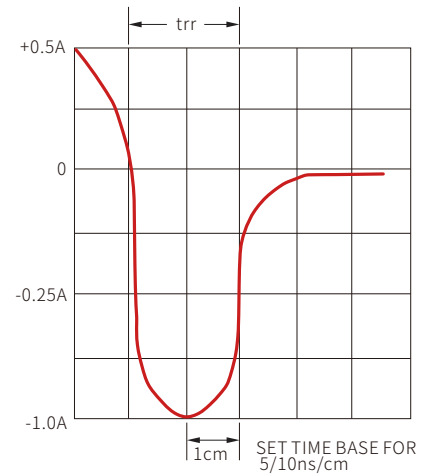
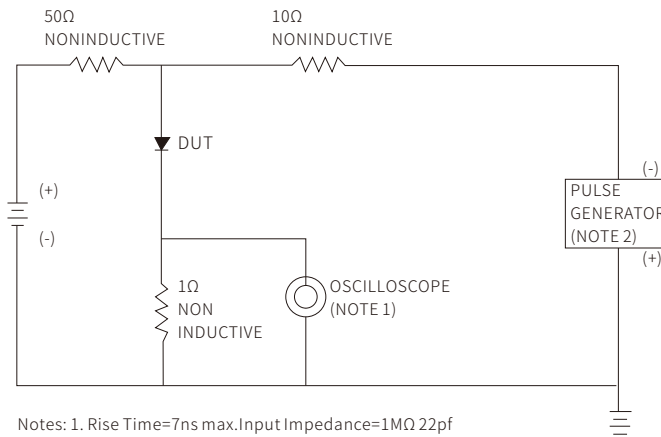
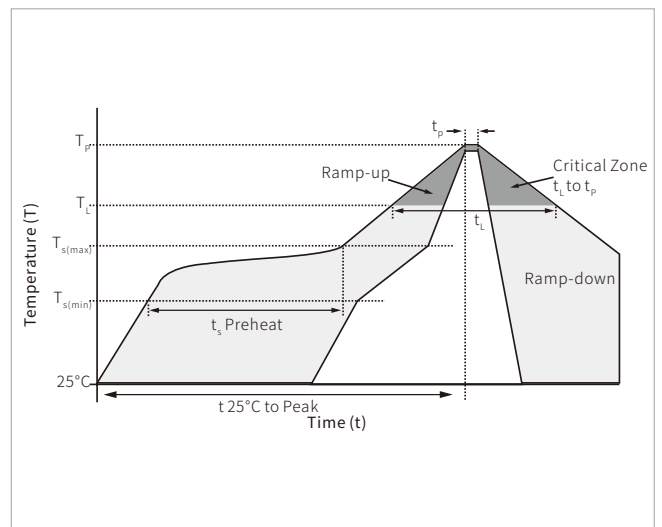


Fig. 5-Diagram of circuit and Testing wave form of reverse recovery time

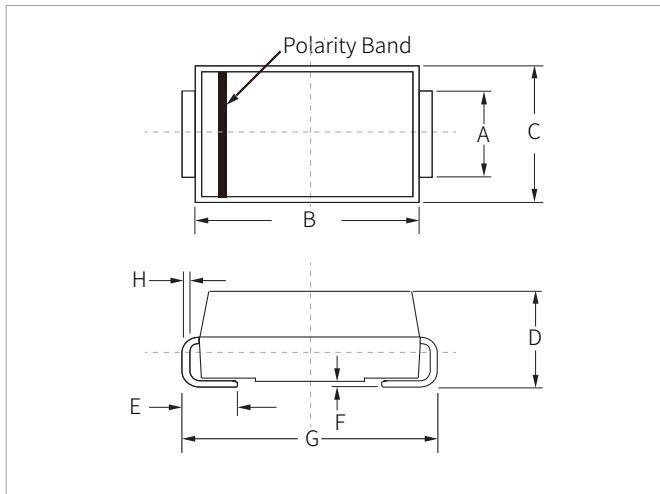


SOLDERING PARAMETERS

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

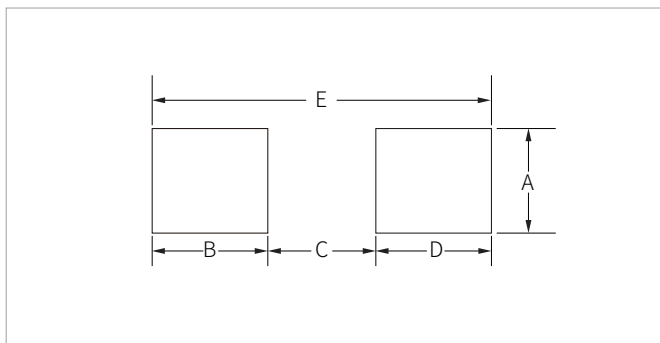


DO-214AB(SMC) PACKAGE INFORMATION



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
ES3ACQ-ES3JCQ	DO-214AB(SMC)	3000PCS	13"

Headquarters

No.3387 Shendu Road
Pujiang I&E Park
Minhang Shanghai China
201000

Hotline

400-021-5756

Web

<https://www.semiware.com>

Sales Center

Tel: 86-21-3463-7458
Email: sales18@semiware.com

Customer Service

Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support

Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions

Tel: 86-21-3463-7172
Ext: 8868
Email: cs03@semiware.com

By QR Code

Website



Wechat

To find your local partner within Semiware's global website: www.semiware.com

© 2022 Semiware Semiconductor Inc.

The content of this document has been carefully checked and understood. However, neither Semiware nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Semiware does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Chinese law and resulting disputes shall be settled by the courts at the place of business of Semiware. Latest publications and a complete disclaimer can be downloaded from the Semiware website. All trademarks recognized.