

FEATURES

- | Glass passivated junction chip
- | Ideal for automated placement
- | Super fast recovery time for high efficiency
- | Built-in strain relief
- | Meet AEC-Q101 Requirements



DO-214AC(SMA)



Schematic Symbol

MECHANICAL DATA

- | Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- | Moisture Sensitivity: Level 1 per J-STD-020

APPROVALS

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

MAXIMUM RATINGS AND CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	ES1A AQ	ES1B AQ	ES1C AQ	ES1D AQ	ES1F AQ	ES1G AQ	ES1H AQ	ES1J AQ	Unit
Marking		ES1A	ES1B	ES1C	ES1D	ES1F	ES1G	ES1H	ES1J	
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	150	200	300	400	500	600	
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	500	600	
Maximum average forward rectified current	I _{F(AV)}	1								A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	30								
Maximum instantaneous forward voltage(Note1)@1A	V _F	0.95			1.3		1.7			V
Maximum DC reverse current at rated DC blocking voltage	T _J =25°C	5								μA
	T _J =125°C	100								
Maximum reverse recovery time(Note 2)	T _{rr}	35								ns
Typical junction capacitance (Note3)	C _J	16				18				pF
Typical thermal resistance	R _{θJL}	35								°C/W
	R _{θJA}	85								°C/W
Operating junction and storage temperature range	T _J ,T _{STG}	-55 to +150								°C

Note :

- 1.Pulse test with PW=300us,1% duty cycle
- 2.Reverse Recovery Test Conditions : I_F=0.5A,I_R=1.0A,I_{RR}=0.25A
- 3.Measured at 1 MHz and Applied V_r=4.0 Volts

CHARACTERISTIC CURVES

Fig. 1- Maximum Forward Current Derating Curve

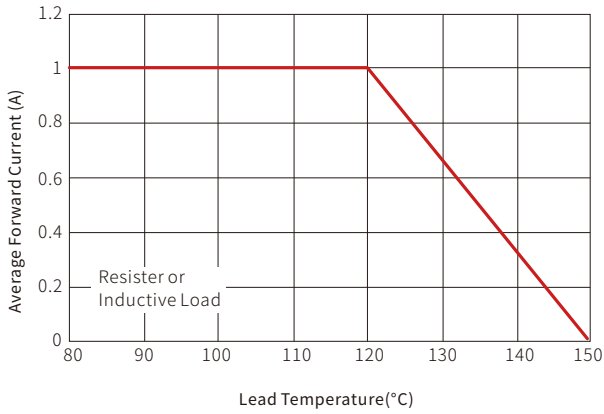


Fig. 2-Typical Reverse Characteristics

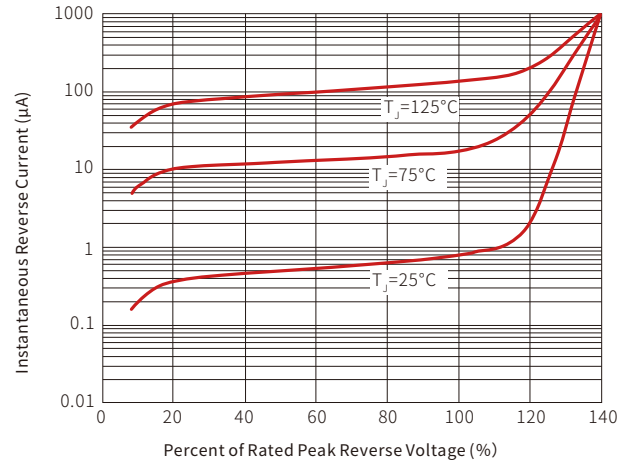


Fig. 3-Maximum Non-Repetitive Peak Forward Surge Current

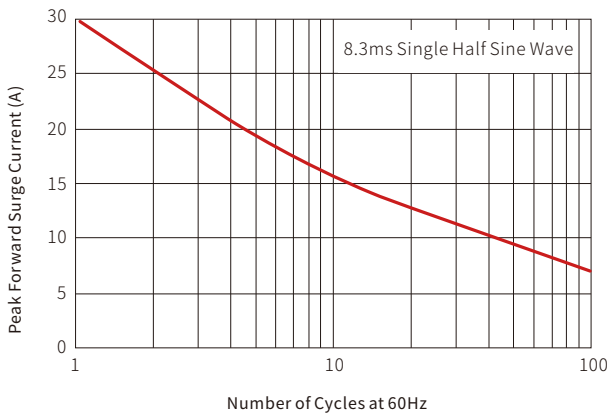


Fig. 4-Typical Instantaneous Forward Characteristics

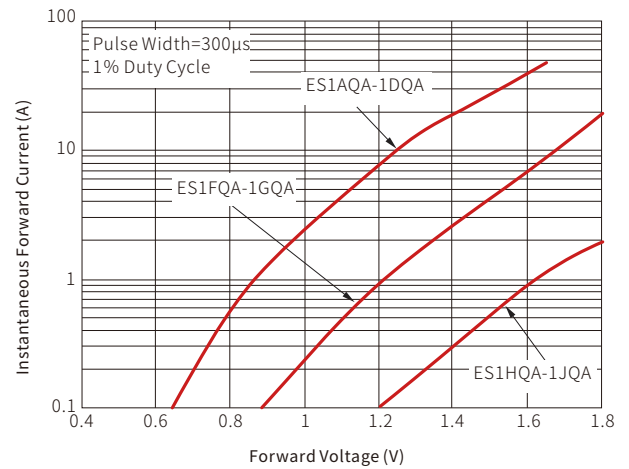


Fig. 5- Typical Junction Capacitance

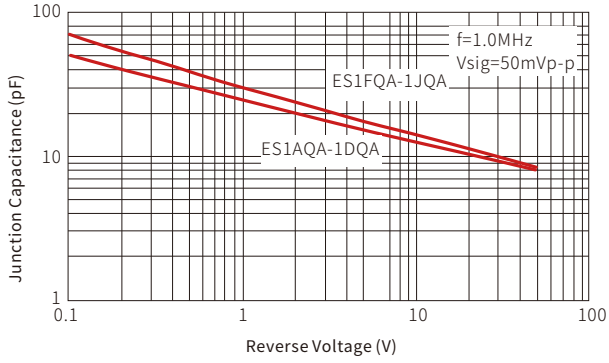
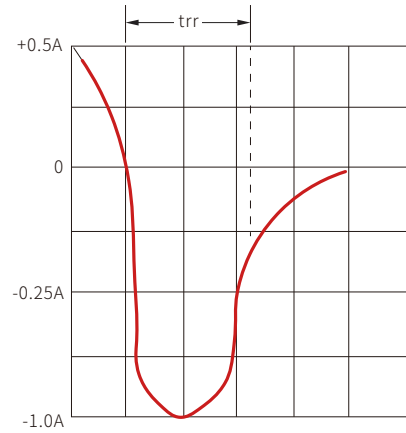
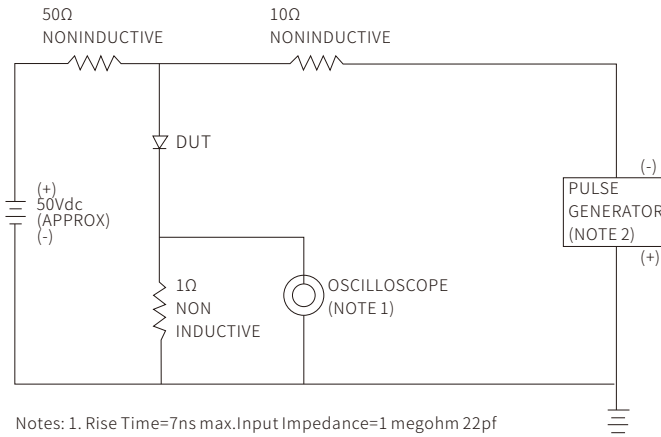
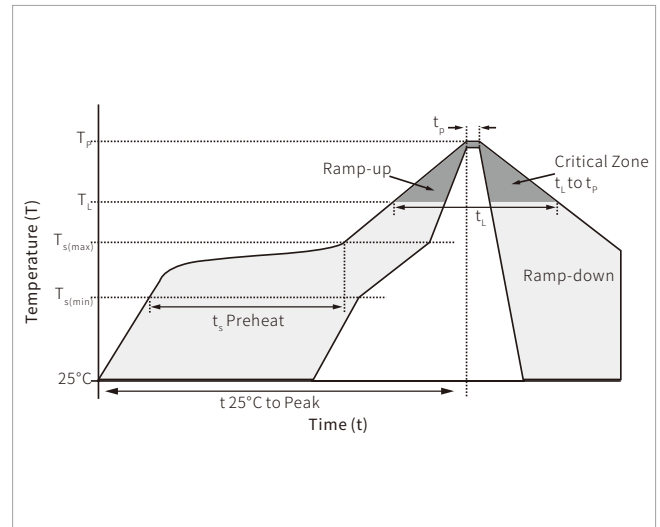


Fig. 6-Reverse Recovery Time Characteristic And Test Circuit Diagram

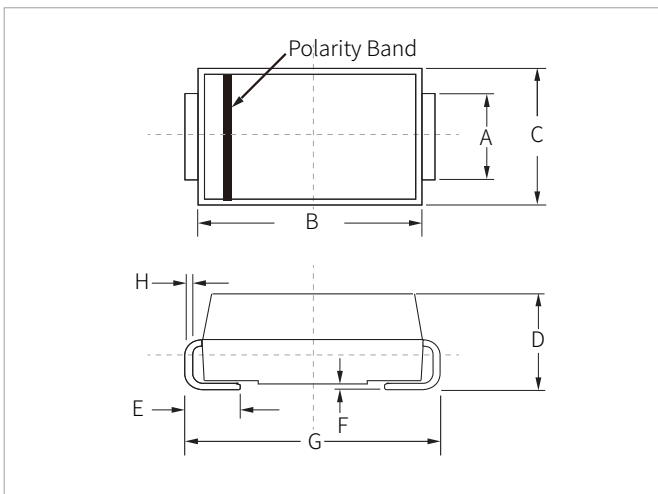


SOLDERING PARAMETERS

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

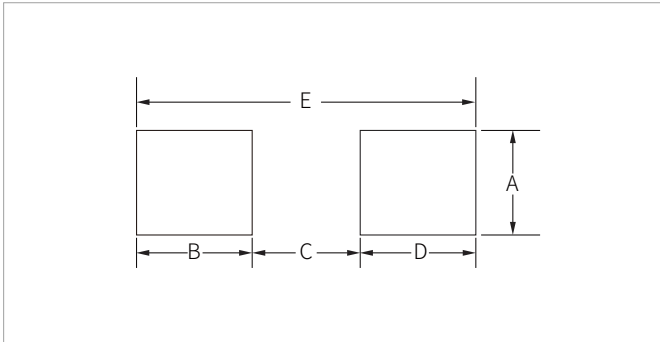


DO-214AC(SMA) PACKAGE INFORMATION



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
ES1AAQ-ES1JAQ	DO-214AC(SMA)	5000PCS	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.