

FEATURES

- | Glass passivated chip junction
- | High forward surge capability
- | Super Fast reverse recovery time
- | Meet AEC-Q101 Requirements



DO-214AC(SMA)



Schematic Symbol

MECHANICAL DATA

- | Molding compound meets UL 94 V-0 flammability rating
- | Polarity: Cathode line denotes the cathode end

APPROVALS

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

MAXIMUM RATINGS AND CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	ES2A AQ	ES2B AQ	ES2C AQ	ES2D AQ	ES2F AQ	ES2G AQ	ES2H AQ	ES2J AQ	ES2K AQ	Unit	
Marking		ES2A	ES2B	ES2C	ES2D	ES2F	ES2G	ES2H	ES2J	ES2K		
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	150	200	300	400	500	600	800	V	
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	350	420	560		
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	500	600	800		
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	I _O	2.0									A	
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, T _j =25°C	I _{FSM}	50										
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T _j =25°C		100										
Maximum instantaneous forward voltage I _{FM} =2.0A		V _F	0.95			1.3		1.7		1.85	V	
Maximum DC reverse current at rated DC blocking voltage	T _J =25°C	I _R	5									μA
	T _J =125°C		100									
Current squared time @1ms≤t≤8.3ms T _j =25°C		I²t	10.375									A²s
Maximum reverse recovery time I _F =0.5A,I _R =1.0A, I _{rr} =0.25A		T _{rr}	35									ns
Typical junction capacitance Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C		C _J	31			17		12			pF	
Typical Thermal Resistance	R _{θJA} ⁽¹⁾	65									°C/W	
	R _{θJL} ⁽¹⁾	20									°C/W	
	R _{θJC} ⁽¹⁾	18									°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 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

CHARACTERISTIC CURVES

Fig.1 - FIG.1: Io-TL Curve

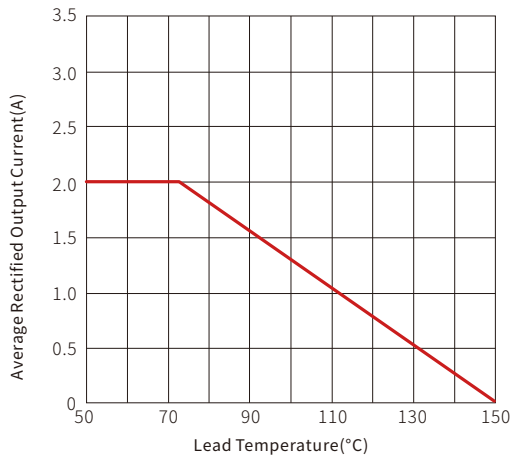


Fig.2 -Surge Forward Current Capability

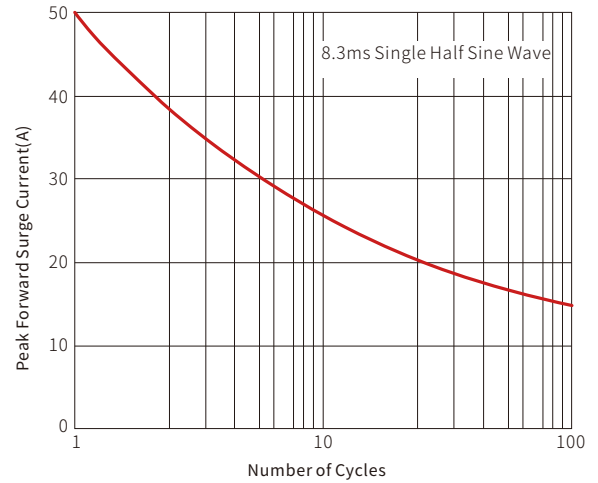


Fig.3 -Typical Forward Voltage

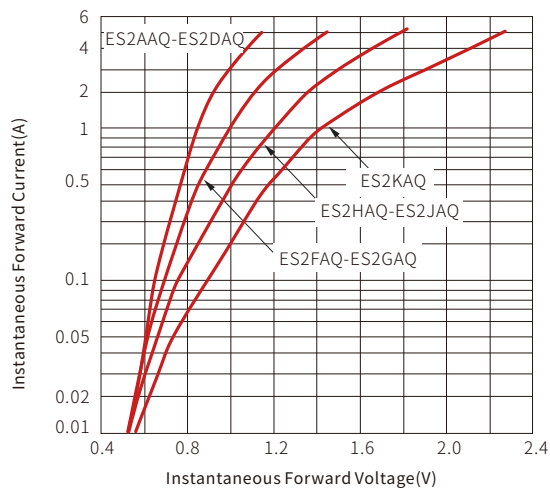
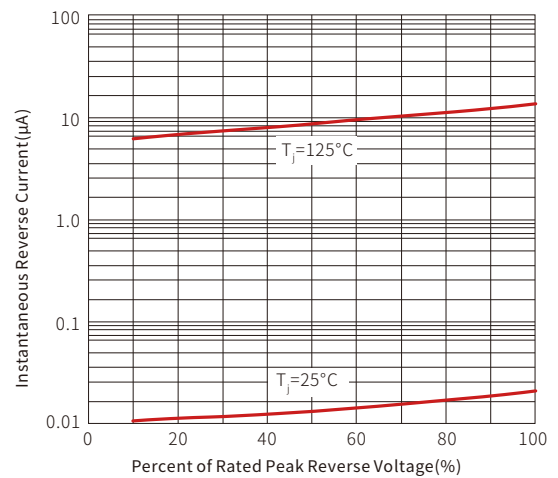
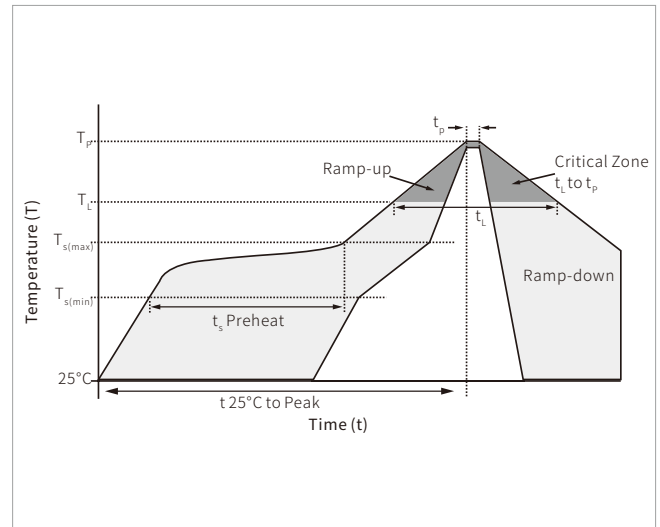


Fig.4 -Typical Reverse Characteristics

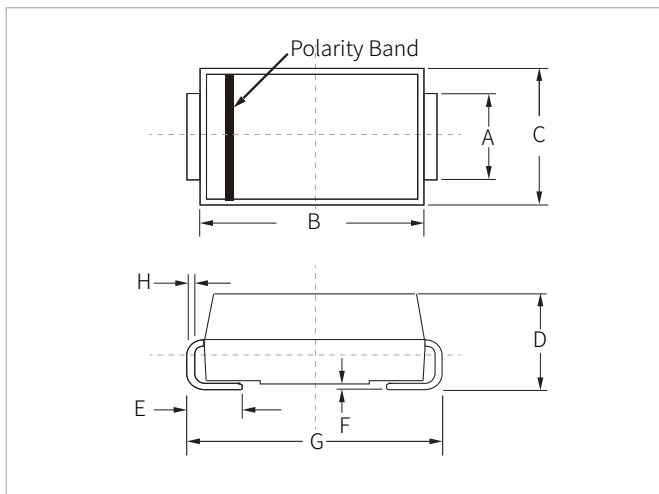


SOLDERING PARAMETERS

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

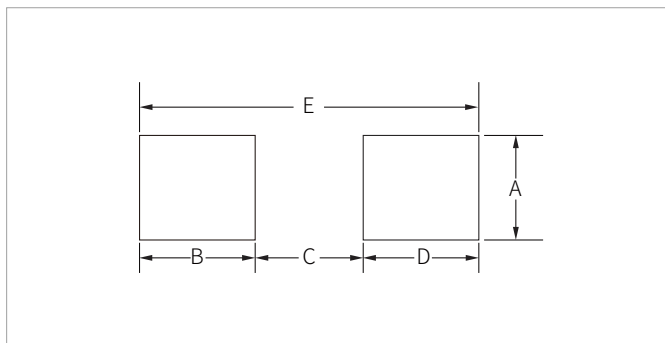


DO-214AC(SMA) PACKAGE INFORMATION



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
ES2AAQ-ES2KAQ	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

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Website



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