

ES1A THRU ES1J

Super Fast Recovery Rectifier Diode

Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High frequency
- High forward surge capability
- Meets MSL level 1, per J-STD-020,LF maximum peak of 260 °C



Typical Application

For use in high frequency rectification of power supply, inverters, converters, and freewheeling diodes for consumer and telecommunication.



Mechanical Data

- Package: DO-214AC(SMA)
Molding compound meets UL 94 V-0 flammability rating,RoHS-compliant
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Cathode line denotes the cathode end

Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	Symbol	Unit	Conditions	ES1				
				A	B	D	G	J
Repetitive Peak Reverse Voltage	V_{RRM}	V		50	100	200	400	600
Average Forward Current	I_o	A	Half-sine wave, Resistance load, Ta(Fig 1)	1.0				
Surge(Nonrepetitive)Forward Current	I_{FSM}	A	60HZ sine wave, 1 cycle, Ta=25°C	30				
Current Squared Time	I^2t	A ² s	1ms≤t<8.3ms Tj=25°C,Rating of per diode	3.7				
Thermal Resistance	$R_{\theta J-A}$	°C/W	Between junction and case	85				
Storage Temperature	T_{stg}	°C		-55 ~ +150				
Junction Temperature	T_j	°C		-55 ~ +150				

Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	Symbol	Unit	Conditions	ES1				
				A	B	D	G	J
Peak Forward Voltage	V_{FM}	V	$I_F = 1.0A$	0.95			1.3	1.7
Peak Reverse Current	I_{RRM1}	μA	$V_{RM} = V_{RRM}$	Ta=25°C				
	I_{RRM2}			Ta=125°C				
Maximum reverse recovery time	T_{rr}	ns	$I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A$	35				



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■ Characteristics (Typical)

FIG1: Forward Current Derating Curve

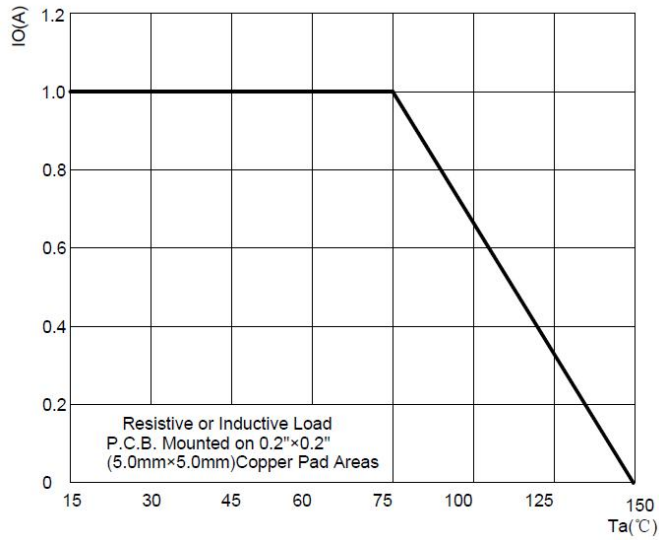


FIG2: Surge Forward Current Capability

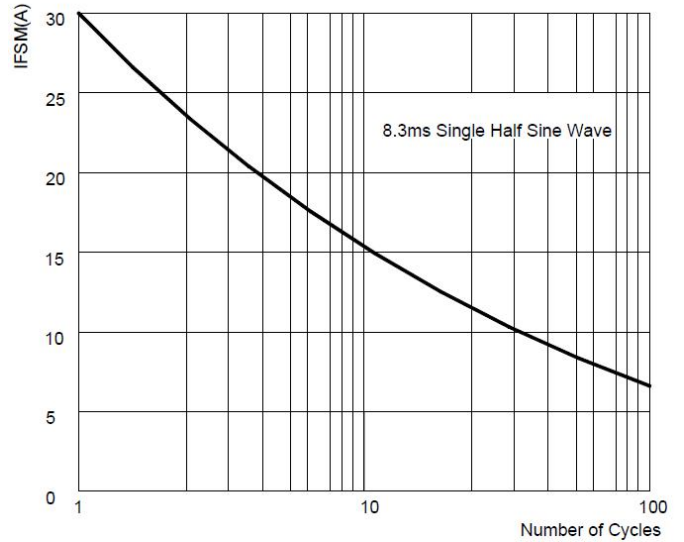


FIG3: Instantaneous Forward Voltage

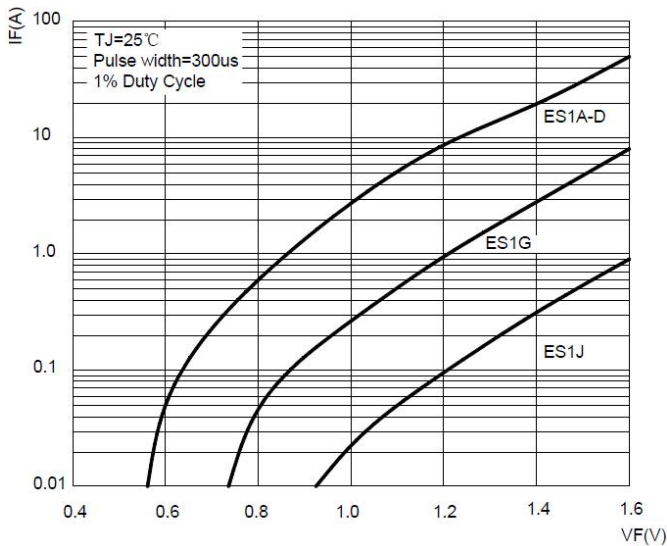


FIG4: Typical Reverse Characteristics

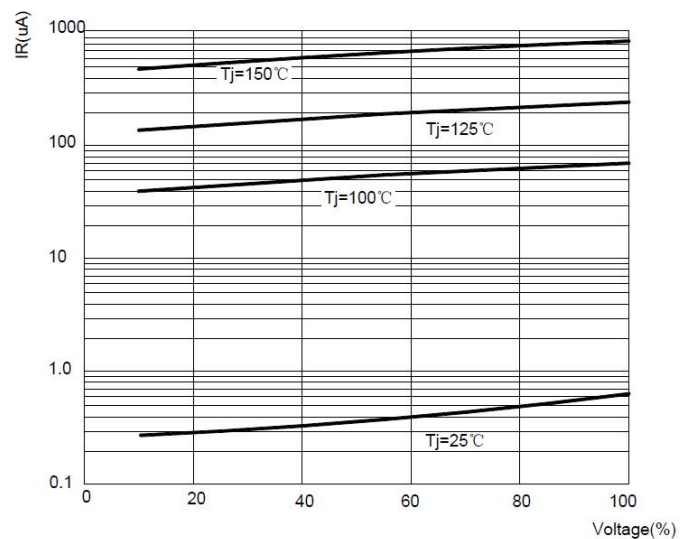
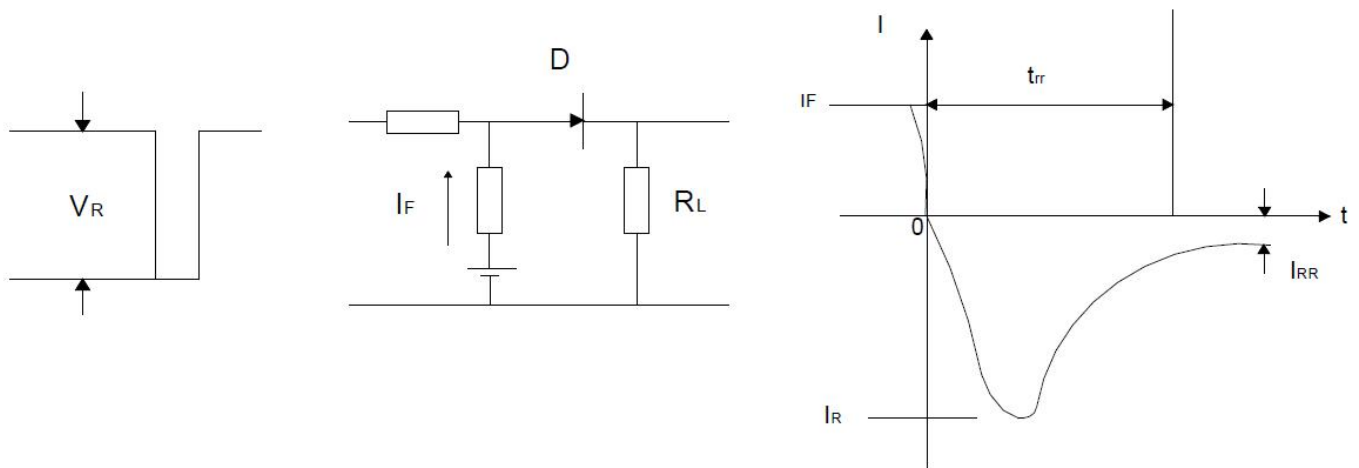


Diagram of circuit and Testing wave form of reverse recovery time

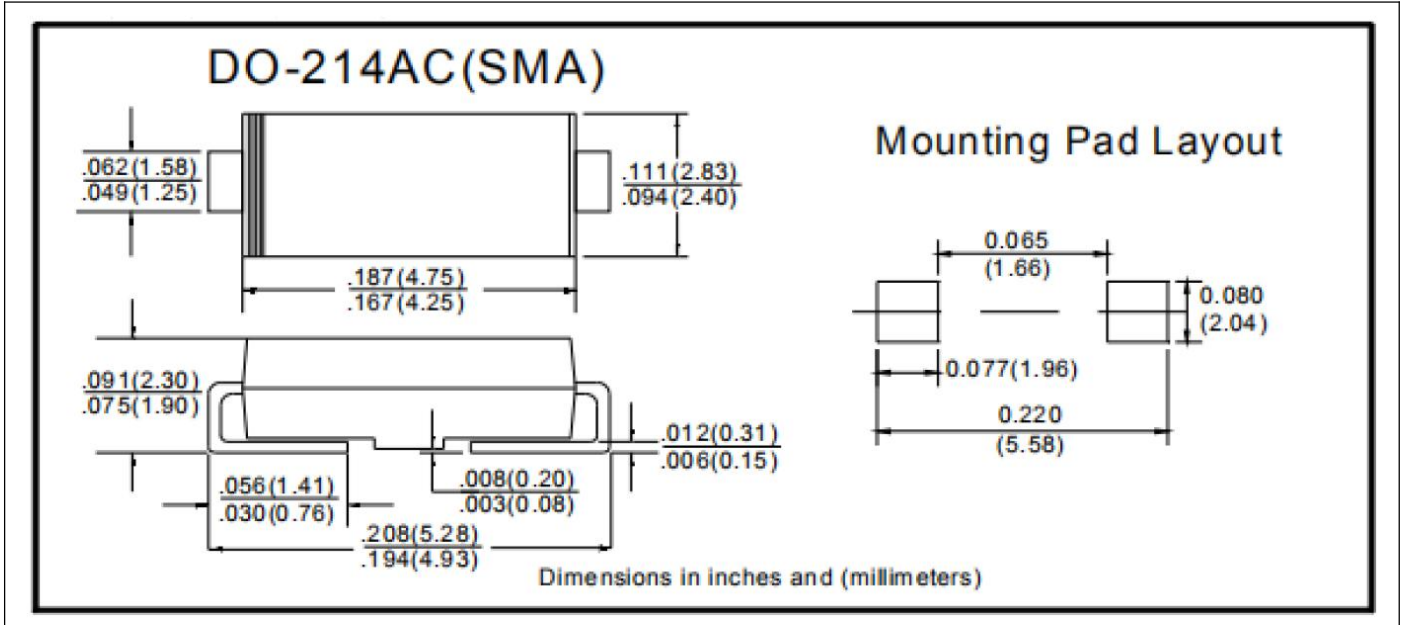


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Ordering Information (Example)

PREFERED	PACKAGE CODE	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ES1A-ES1J	DO-214AC(SMA)	5000	10000	80000	13" reel
ES1A-ES1J	DO-214AC(SMA)	7500	15000	120000	13" reel

Outline Dimensions



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