



# ES1A THRU ES1J

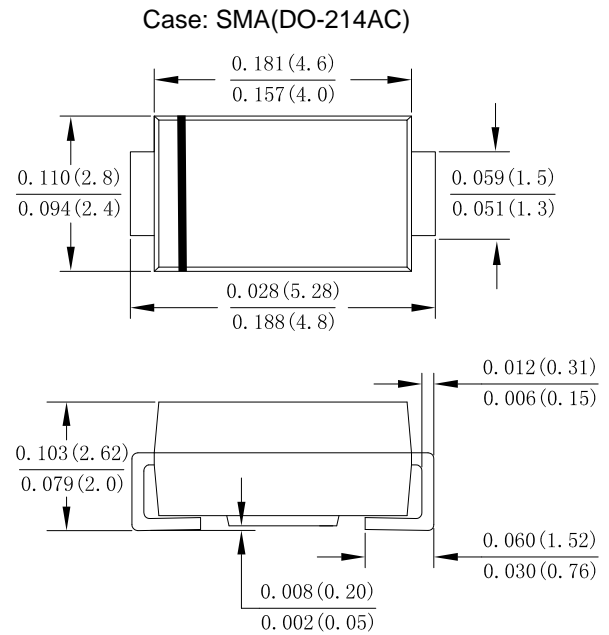
1.0AMP Surface Mount Glass Superfast Recovery Rectifier

## Features

- Low Power Loss, High Efficiency
- Ideally Suited for Automatic Assembly
- Guard Ring Die Construction
- Plastic Case Material has UL Flammability Classification Rating 94V - 0

## Mechanical Data

- Case: Molded plastic SMA
- Terminals: Plated leads solderable per MIL-STD-750, Method 2026 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Marking: Type Number



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load

For capacitive load derate current by 20%

Type Number	SYMBOL	ES1A	ES1B	ES1D	ES1G	ES1J	Unit	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	V	
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	V	
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	V	
Average Rectified Output Current @ $T_L = 100^\circ\text{C}$	$I_{F(AV)}$	1.0						A
Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	35						A
Rating for fusing ( $t < 8.3\text{ms}$ )	$I^2t$	5.08						$\text{A}^2\text{s}$
Forward Voltage @ $I_F = 1.0\text{A}$	$V_{FM}$	0.95			1.3	1.7	V	
Peak Reverse Current @ $T_A = 25^\circ\text{C}$	$I_R$	5.0						uA
At Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$		200						
Maximum Reverse Recovery Time (Note1)	$T_{rr}$	35						ns
Typical Junction Capacitance (Note 2)	$C_J$	20			7		pF	
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	34						$^\circ\text{C}/\text{W}$
Operating Temperature Range	$T_J$	-55 to +150						$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150						$^\circ\text{C}$

Note:

1. Reverse Recovery Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$ .
2. Measured at 1.0 MHz and Applied reverse Voltage of 4.0V D.C



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Fig. 1 Forward Current Derating Curve

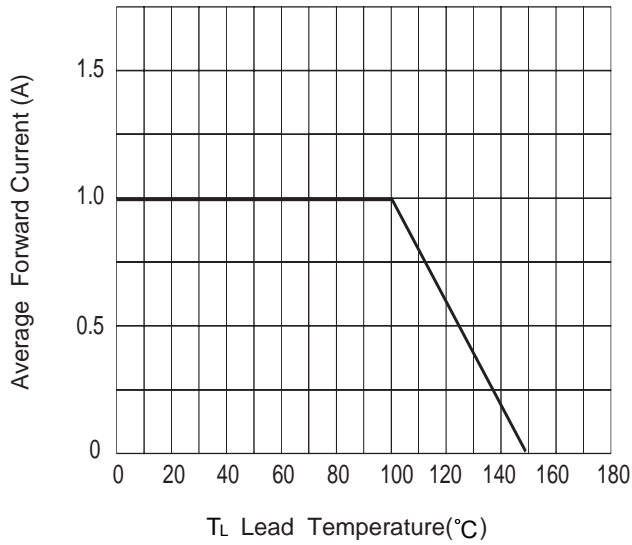


Fig. 2 Typ. Forward Characteristics

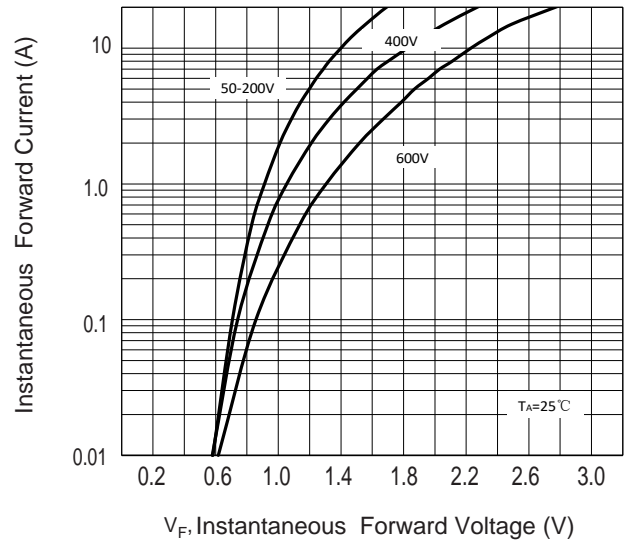


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

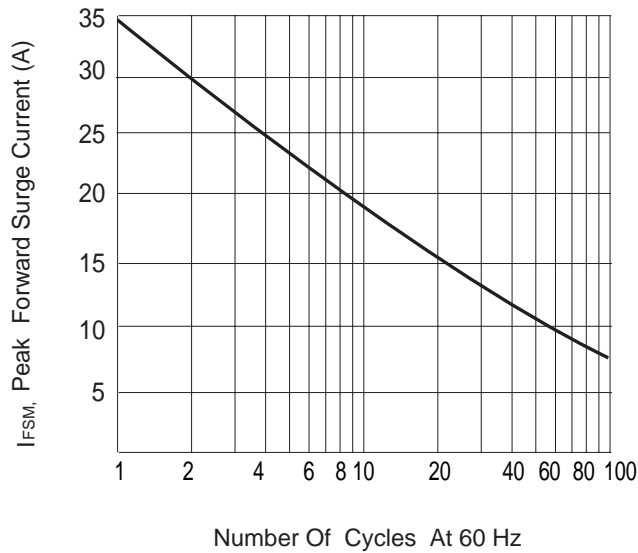


Fig.4 Typical Junction Capacitance

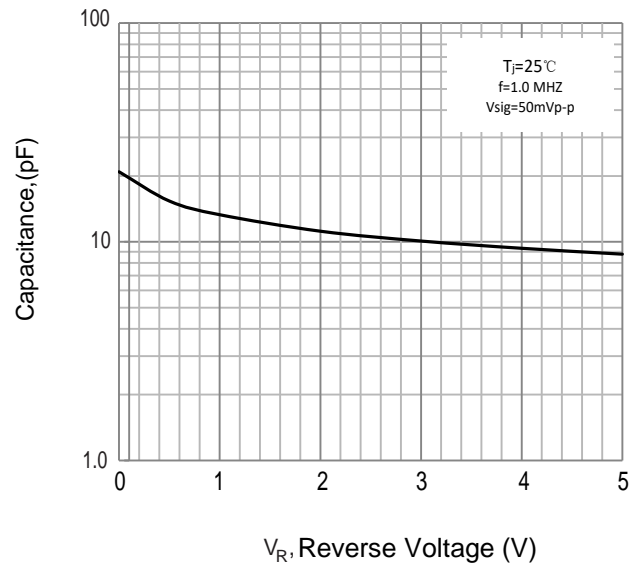


Fig.5 Typical Reverse Characteristics

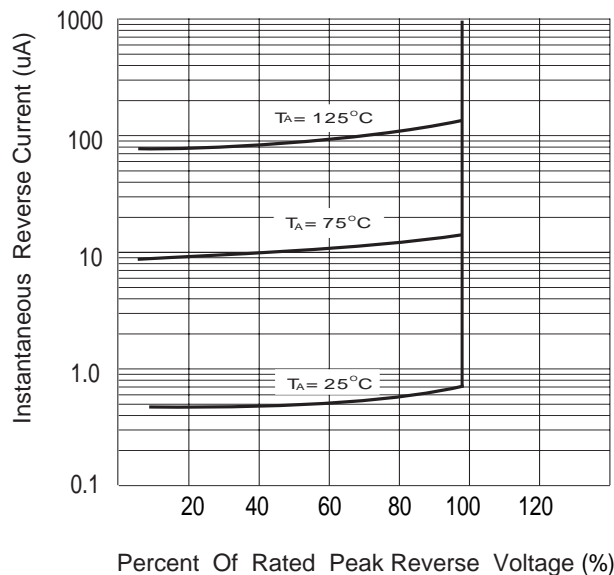
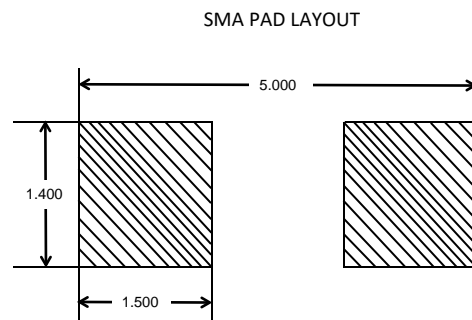


Fig.6 Mounting PAD Layout





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