

## Super-Fast Rectifiers

## ES2AF--ES2DF

### Features

- For surface mounted applications
- Low profile package
- Low forward voltage drop
- High surge current capability
- RoHS Compliant



### Mechanical Data

- Case: SMAF molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Solder plated, solderable per MIL- STD-202, Method 208
- Polarity: Color band denotes cathode end

### Maximum Ratings (@T<sub>A</sub> = 25°C unless otherwise specified)

Characteristic	Symbol	ES2AF	ES2BF	ES2CF	ES2DF	Units
Peak repetitive reverse voltage	V <sub>RRM</sub>	50	100	150	200	V
RMS reverse voltage	V <sub>RMS</sub>	35	70	105	140	V
DC blocking voltage	V <sub>DC</sub>	50	100	150	200	V
Maximum average forward output current	I <sub>F(AV)</sub>	2.0				A
Peak forward surge current, 8.3ms single half-sine-wave	I <sub>FSM</sub>	50				A

### Thermal Characteristics

Parameter	Symbol	ES2AF	ES2BF	ES2CF	ES2DF	Units
Typical thermal resistance (Note 1)	R <sub>θJA</sub>	78				°C/W
	R <sub>θJC</sub>	18				
	R <sub>θJL</sub>	20				
Operating junction temperature range	T <sub>J</sub>	- 55 ---- + 150				°C
Storage temperature range	T <sub>STG</sub>	- 55 ---- + 150				°C

Note:

1. Device mounted on PCB with 10 mm x 20 mm x 0.1mm copper pad areas

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### Electrical Characteristics (@T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Test conditions		Typ.	Max.	Units
Maximum instantaneous forward voltage	V <sub>F</sub>	I <sub>F</sub> =2.0A	@T <sub>A</sub> =25°C	--	0.95	V
Maximum Reverse current	I <sub>R</sub>	Rated V <sub>R</sub>	@T <sub>A</sub> =25°C	--	5	μ A
			@T <sub>A</sub> =125°C	--	200	
Maximum Reverse Recovery Time	trr	I <sub>F</sub> =0.5A, I <sub>RM</sub> =1A, I <sub>R(REC)</sub> =0.25A		--	35	ns

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### Ratings and Characteristic Curves ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Fig.1-Forward Current Derating Curve

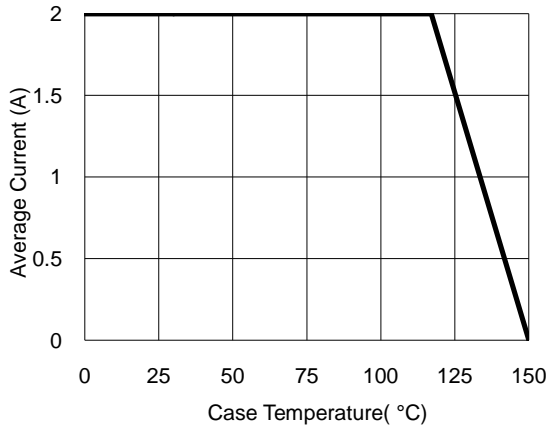


Fig.2- Surge Current Derating Curve

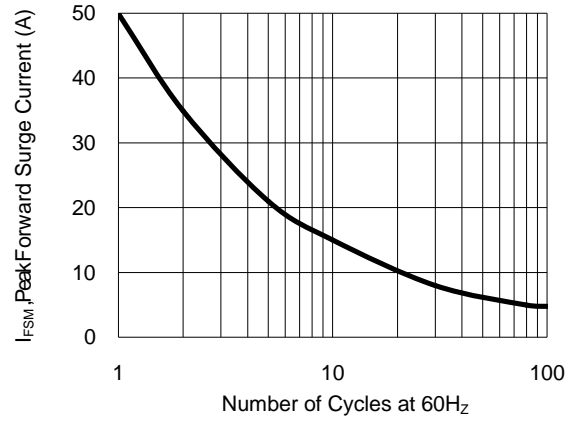


Fig.3- Typical Forward Voltage Characteristic

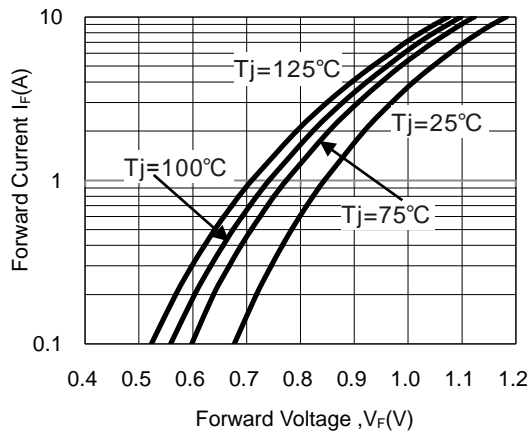
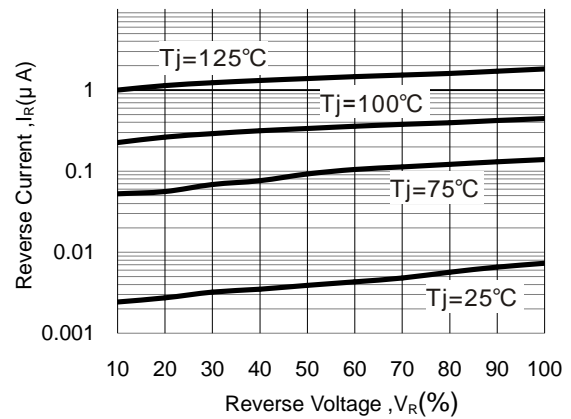


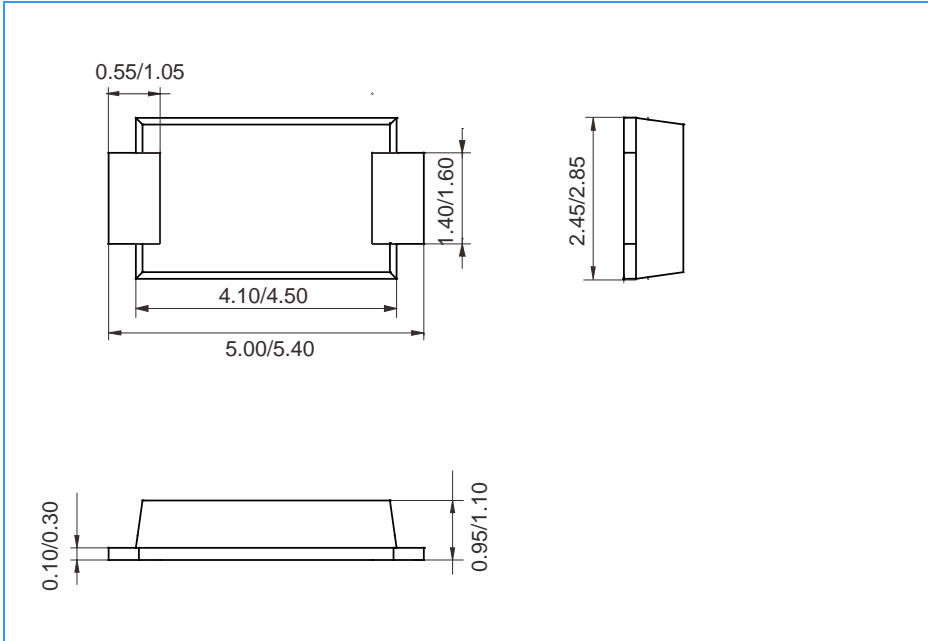
Fig.4- Typical Reverse Characteristic



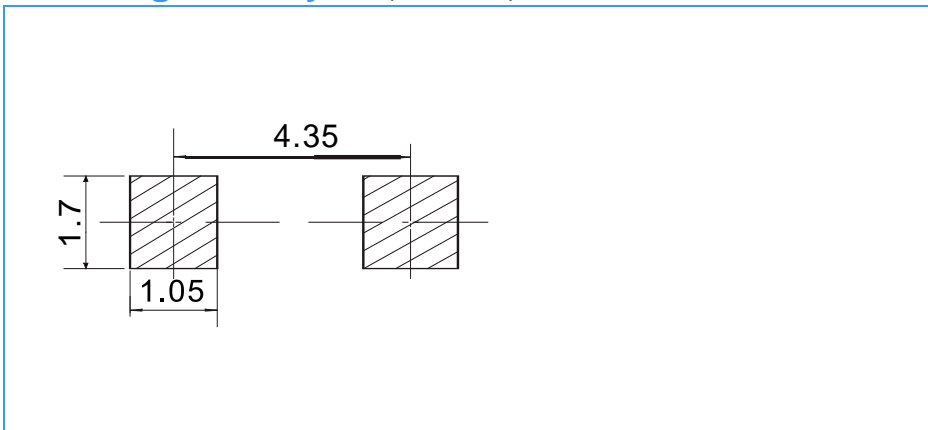
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### Package Outline Dimensions(unit:mm)



### Mounting Pad Layout(unit:mm)



### Ordering Information

Part No.	Marking	Package	Shipping
ES2AF	ES2AF	SMAF	10000 /Tape&Reel
ES2BF	ES2BF	SMAF	10000 /Tape&Reel
ES2CF	ES2CF	SMAF	10000 /Tape&Reel
ES2DF	ES2DF	SMAF	10000 /Tape&Reel