

Super-Fast Rectifiers

ES1EF--ES1GF

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_A = 25°C unless otherwise specified)

Characteristic	Symbol	ES1EF	ES1GF	Units
Peak repetitive reverse voltage	V _{RRM}	300	400	V
RMS reverse voltage	V _{RMS}	210	280	V
DC blocking voltage	V _{DC}	300	400	V
Maximum average forward output current	I _{F(AV)}	1.0		A
Peak forward surge current, 8.3ms single half-sine-wave	@T _J = 25°C I _{FSM}	30		A

Thermal Characteristics

Parameter	Symbol	ES1EF	ES1GF	Units
Typical thermal resistance (Note 1)	R _{θJA}	78		°C /W
	R _{θJC}	18		
	R _{θJL}	20		
Operating junction temperature range	T _J	- 55 ---- + 150		°C
Storage temperature range	T _{STG}	- 55 ---- + 150		°C

Note:

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

Super-Fast Rectifiers**ES1EF--ES1GF****Electrical Characteristics** (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions		Typ.	Max.	Units
Maximum instantaneous forward voltage	V_F	$I_F=1.0\text{A}$		1.1	1.25	V
Maximum Reverse current	I_R	Rated V_R	@ $T_A=25^\circ\text{C}$	--	5	μA
			@ $T_A=125^\circ\text{C}$	--	200	
Maximum Reverse Recovery Time	t_{rr}	$I_F=0.5\text{A}, I_{RM}=1\text{A}, I_{R(REC)}=0.25\text{A}$		--	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

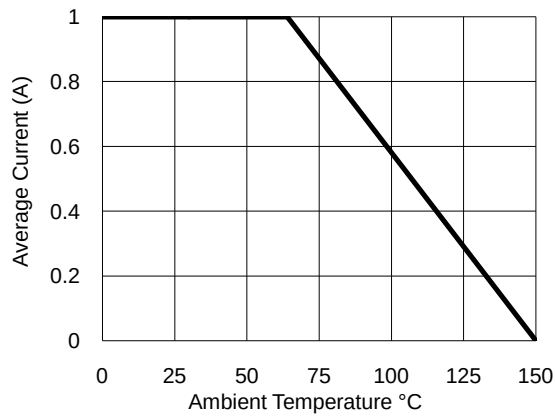


Fig.2- Surge Current Derating Curve

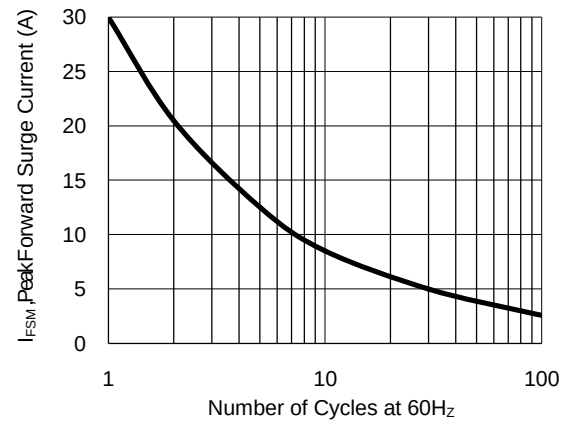


Fig.3- Typical Forward Voltage Characteristic

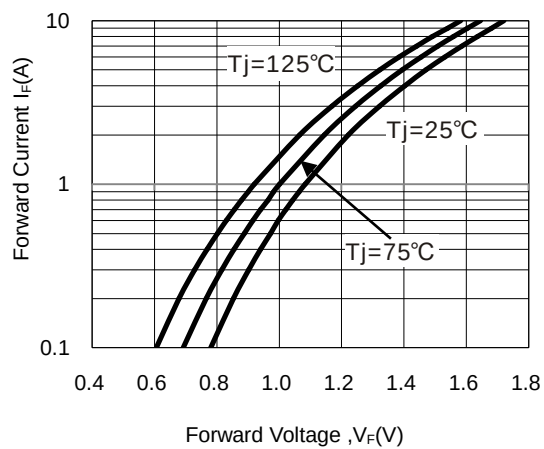
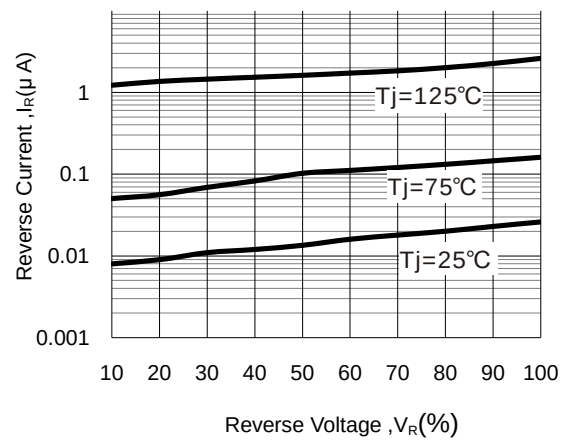


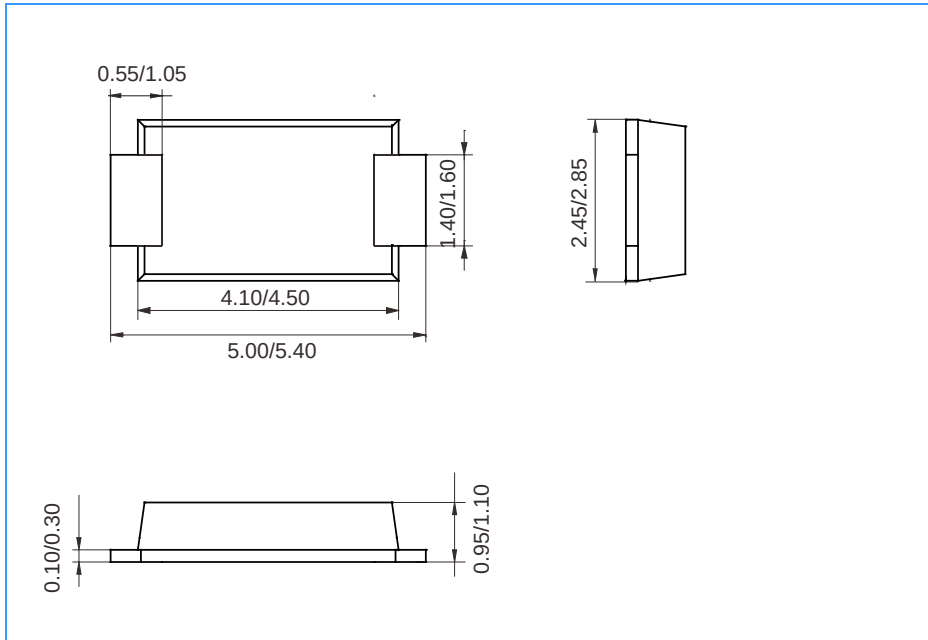
Fig.4- Typical Reverse Characteristic



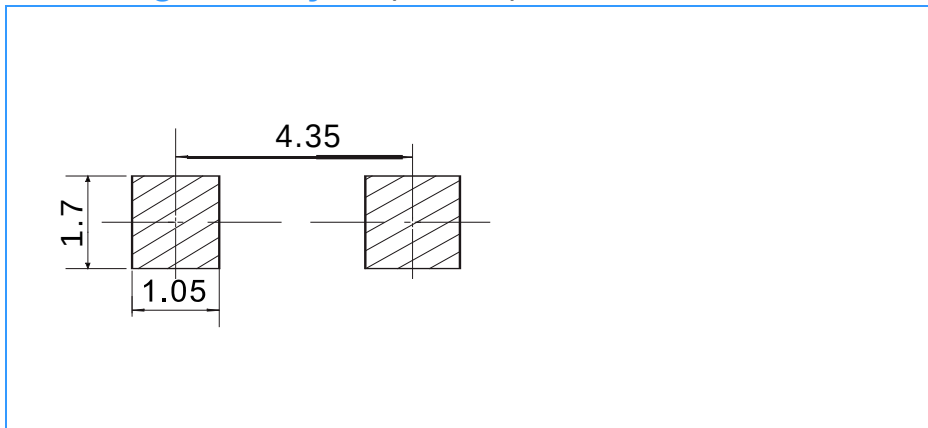
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Package Outline Dimensions(unit:mm)



Mounting Pad Layout(unit:mm)



Ordering Information

Part No.	Marking	Package	Shipping
ES1EF	ES1EF	SMAF	10000/Tape&Reel
ES1GF	ES1GF	SMAF	10000/Tape&Reel