

Super-Fast Rectifiers

ES5ECF--ES5GCF

Features

- For surface mounted applications
- Ideal for automated placement
- Low forward voltage drop
- High surge current capability
- RoHS Compliant



Mechanical Data

- Case: SMCF 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	ES5ECF	ES5GCF	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)}	5.0		A
Peak forward surge current, 8.3ms single half-sine-wave	I _{FSM}	150		A

Thermal Characteristics

Parameter	Symbol	ES5ECF	ES5GCF	Units
Typical thermal resistance (Note 1)	R _{ΘJA}	27		°C /W
	R _{ΘJC}	10		
	R _{ΘJL}	4		
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**ES5ECF--ES5GCF****Electrical Characteristics** (@T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test conditions		Typ.	Max.	Units
Maximum instantaneous forward voltage	V _F	I _F =5.0A	@T _A =25°C	--	1.25	V
Maximum Reverse current	I _R	Rated V _R ,	@T _A =25°C	--	10	μ A
			@T _A =125°C	--	500	
Maximum Reverse Recovery Time	trr	I _F =0.5A, I _{RM} =1A, I _{R(REC)} =0.25A		--	35	ns

Super-Fast Rectifiers

ES5ECF--ES5GCF

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

Fig.1-Forward Current Derating Curve

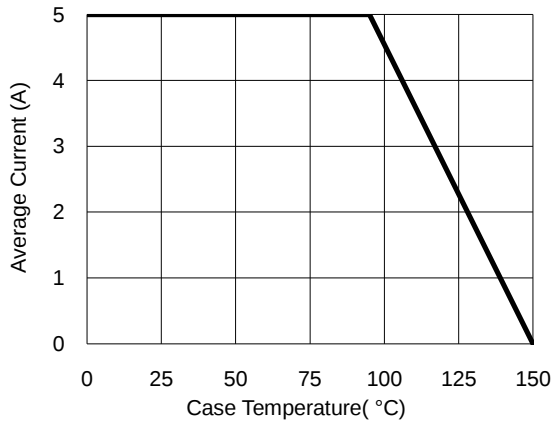


Fig.2- Surge Current Derating Curve

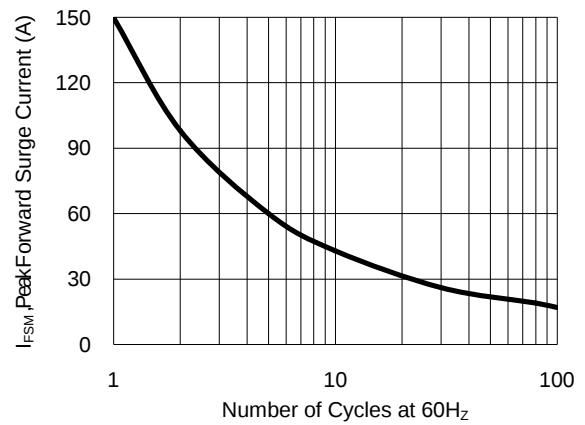


Fig.3- Typical Forward Voltage Characteristic

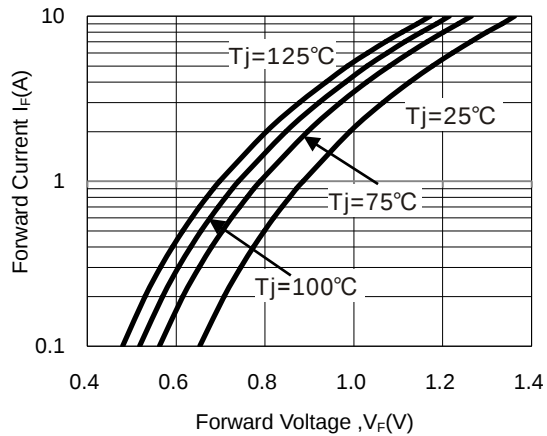
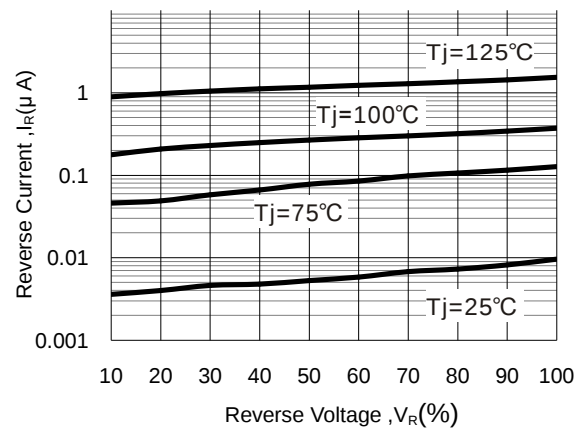


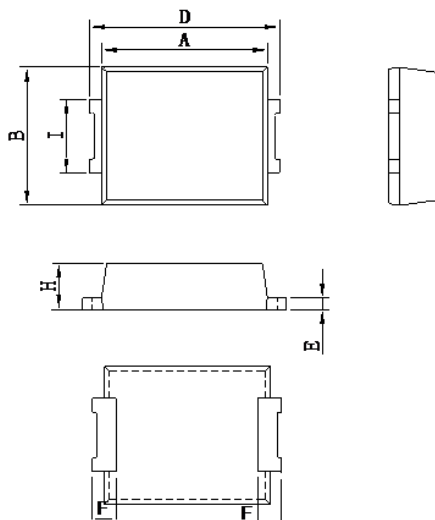
Fig.4- Typical Reverse Characteristic



Super-Fast Rectifiers

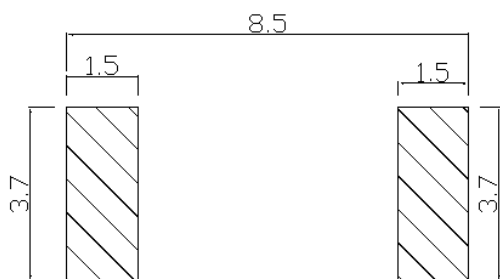
ES5ECF--ES5GCF

Package Outline Dimensions(unit:mm)



SMCF		
Dim	Min	Max
A	6.8	7.2
B	5.8	6.2
D	7.8	8.2
E	0.4	0.6
F1	0.6	1.4
H	1.85	2.15
I	3.1	3.3
All Dimensions in mm		

Mounting Pad Layout(unit:mm)



Ordering Information

Part No.	Marking	Package	Shipping
ES5ECF	ES5ECF	SMCF	3000 / Tape&Reel
ES5GCF	ES5GCF	SMCF	3000 / Tape&Reel