

SMAF Surface Mount Fast Recovery Rectifier

Features

- Low profile package
- Ideal for automated placement
- Glass passivated pallet chip junction
- Super fast reverse recovery time
- Low switching losses, high efficiency
- High forward surge capability

Applications

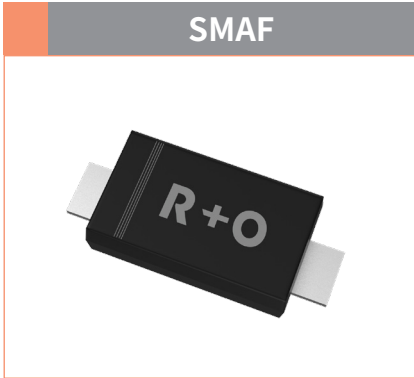
For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer, automotive, and telecommunication

Mechanical Data

- Case: SMAF
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

Function Diagram

Reverse Voltage
50-600 V
Forward Current
2 Ampere



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

PARAMETER	SYMBOL	UNIT	ES2AF	ES2BF	ES2CF	ES2DF	ES2EF	ES2GF	ES2JF
Device marking code			ES2AF	ES2BF	ES2CF	ES2DF	ES2EF	ES2GF	ES2JF
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	V	50	100	150	200	300	400	600
Maximum RMS Voltage	V _{RMS}	V	35	70	105	140	210	280	420
Maximum DC blocking Voltage	V _{DC}	V	50	100	150	200	300	400	600
Maximum Average Forward Rectified Current @ 60Hz sinewave, Resistance load,TL (Fig.1)	I _{F(AV)}	A	2.0						
Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave	I _{FSM}	A	50.0						
Storage temperature	T _{stg}	°C	-55 ~+150						
Junction temperature	T _j	°C	-55 ~+150						
Typical Thermal Resistance	R _{θJ-A}	°C /W	65						
	R _{θJ-L}	°C /W	20						

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	ES2AF	ES2BF	ES2CF	ES2DF	ES2EF	ES2GF	ES2JF
Maximum instantaneous forward voltage	I _F =2.0A	V _F	V	1.0				1.3		1.7
Maximum reverse recovery time	I _F =0.5A,I _R =1.0A,I _{rr} =0.25A	T _{rr}	ns	35						
Maximum DC reverse currentat rated DC blocking voltage	V _R =V _{DC} , T _A =25°C	I _{R1}	μA	5.0						
	V _R =V _{DC} , T _A =125°C	I _{R2}		100						
Typical junction capacitance	4.0V DC,1MHz	C _J	pF	31				17		12

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

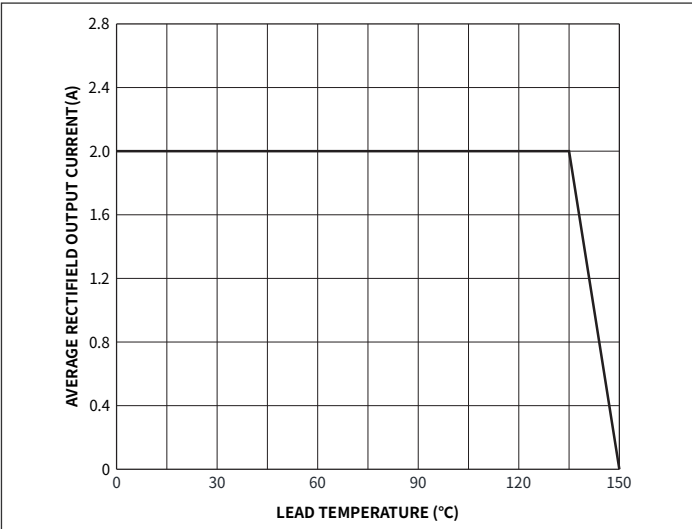


Fig.1 Forward Current Derating Curve

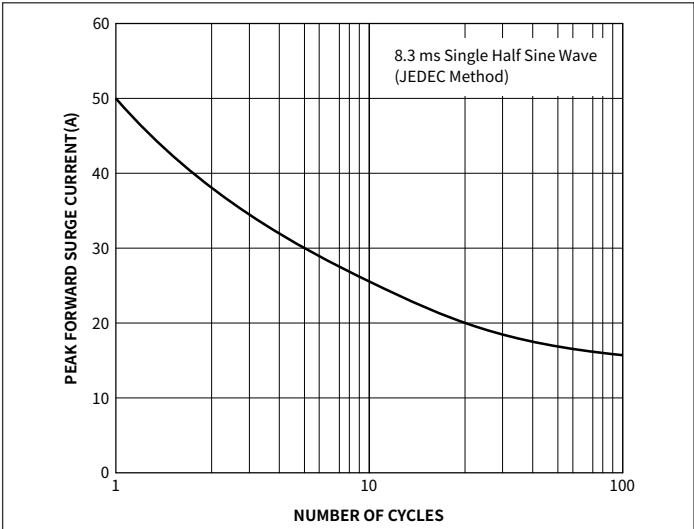


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

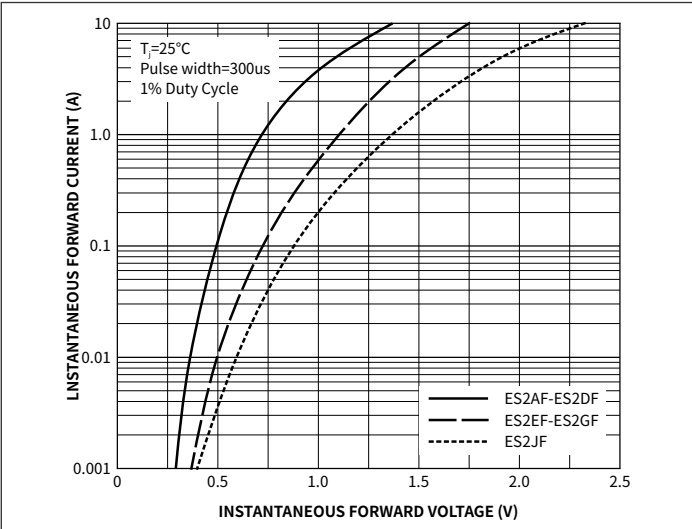


Fig.3 Typical Forward Voltage

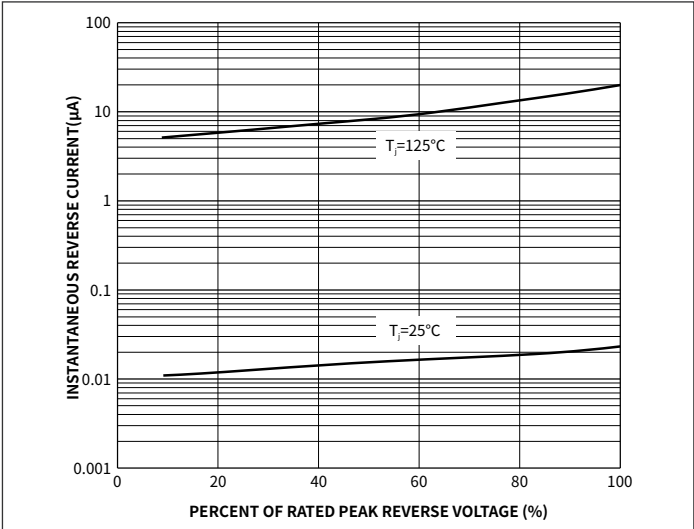


Fig.4 Typical Reverse Characteristics

ES2AF THRU ES2JF

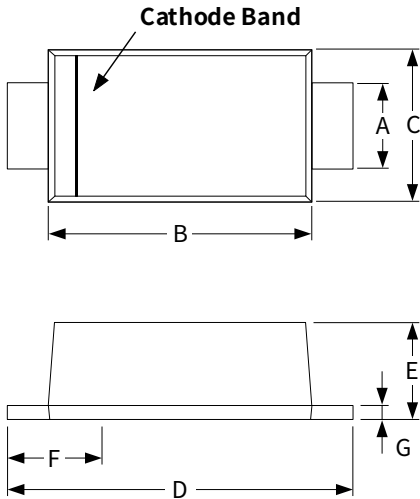
SURFACE MOUNT FAST RECOVERY RECTIFIER

● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SMAF	R1	0.034	3000	12000	120000	7"
SMAF	R2	0.034	7500	15000	120000	11"
SMAF	R3	0.034	7500	/	120000	13"

● Package Outline Dimensions (SMAF)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.30	1.60	0.051	0.063
B	3.30	3.70	0.129	0.145
C	2.40	2.70	0.094	0.105
D	4.40	4.90	0.172	0.191
E	0.90	1.20	0.035	0.047
F	0.80	1.20	0.031	0.047
G	0.12	0.20	0.005	0.008



● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
M	1.80	-	0.070	-
J	1.60	-	0.063	-
K	-	2.2	-	0.086

