

SMAF Surface Mount General Purpose Rectifier

Features

- For surface mounted applications
- Low reverse leakage
- High forward surge current capability
- Glass passivated Standard rectifiers
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Applications

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer and telecommunication

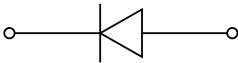
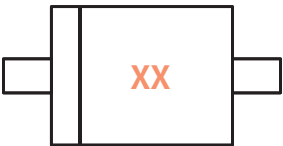
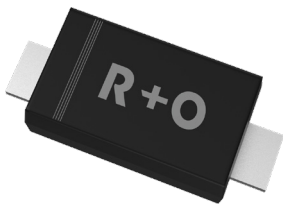
Mechanical Data

- 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
50-1000 V
Forward Current
3 Ampere

SMAF



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

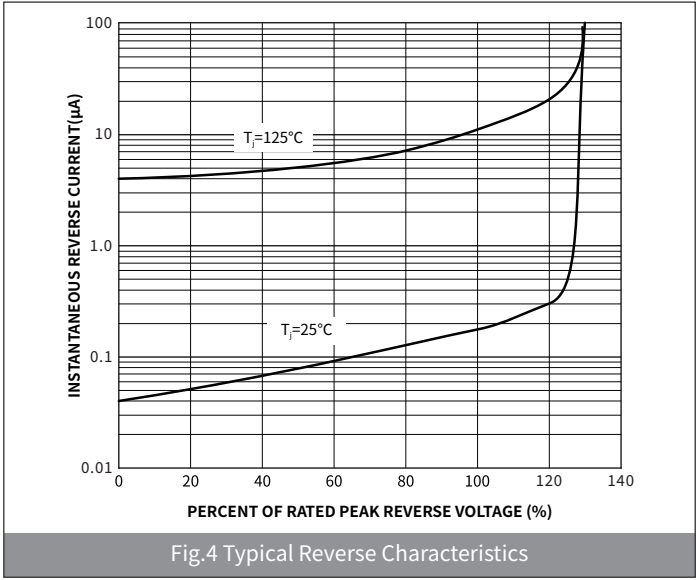
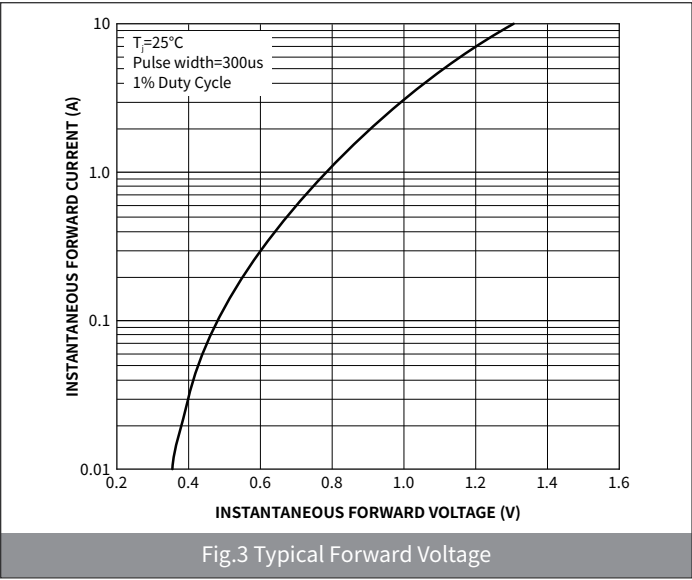
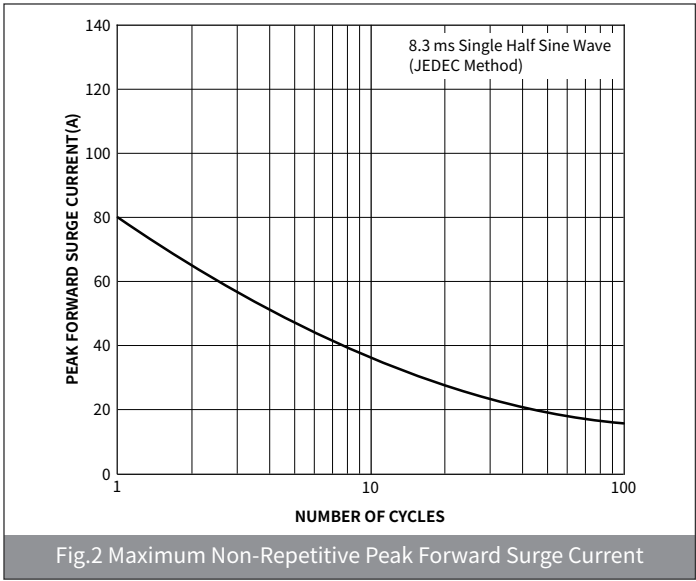
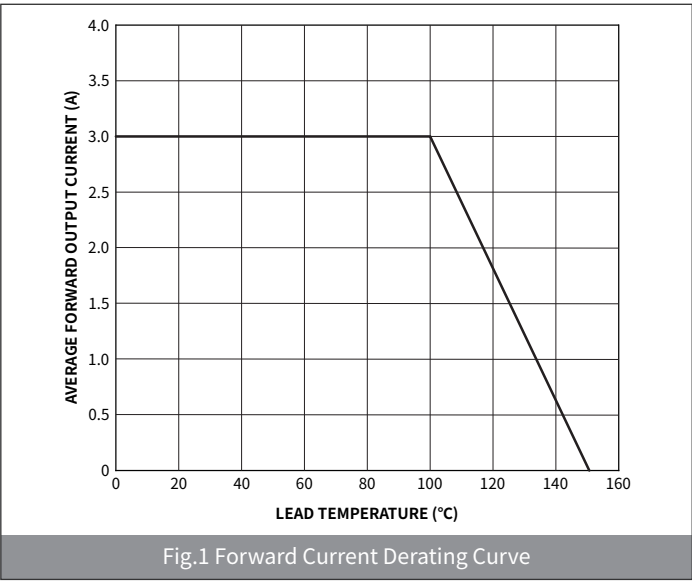
PARAMETER	SYMBOL	UNIT	S3AF	S3BF	S3DF	S3GF	S3JF	S3KF	S3MF
Device marking code			S3AF	S3BF	S3DF	S3GF	S3JF	S3KF	S3MF
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	50	100	200	400	600	800	1000
Maximum RMS Voltage	V_{RMS}	V	35	70	140	280	420	560	700
Maximum DC blocking Voltage	V_{DC}	V	50	100	200	400	600	800	1000
Maximum Average Forward Rectified Current @ 60Hz sinewave, Resistance load, TL (Fig.1)	$I_{F(AV)}$	A	3.0						
Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave	I_{FSM}	A	80.0						
Storage temperature	T_{stg}	°C	-55 ~+150						
Junction temperature	T_j	°C	-55 ~+150						
Typical Thermal Resistance	$R_{\theta J-A}^{(1)}$	°C /W	70						
	$R_{\theta J-L}^{(1)}$	°C /W	16						

Note : (1)Thermal resistance from junction to ambient and from junction tolead mounted on P.C.B.with 0.2" × 0.2"(5.0mm x5.0 mm) copper pad areas

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	S3AF	S3BF	S3DF	S3GF	S3JF	S3KF	S3MF
Maximum instantaneous forward voltage	$I_F=3.0A$	V_F	V	1.1						
Maximum DC reverse currentat rated DC blocking voltage	$V_R=V_{DC}, T_A=25^{\circ}C$	I_{R1}	μA	5.0						
	$V_R=V_{DC}, T_A=125^{\circ}C$	I_{R2}		500						
Typical junction capacitance	4.0V DC,1MHz	C_J	pF	38						

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



S3AF THRU S3MF

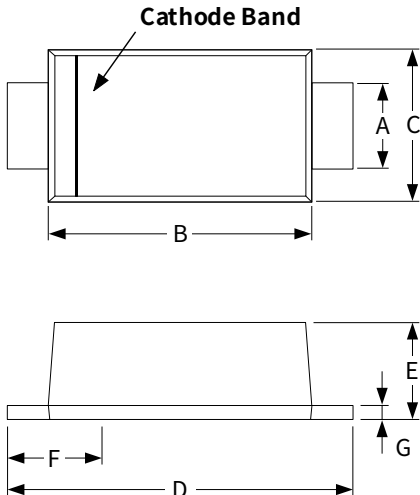
SURFACE MOUNT GENERAL PURPOSE RECTIFIER

● 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)

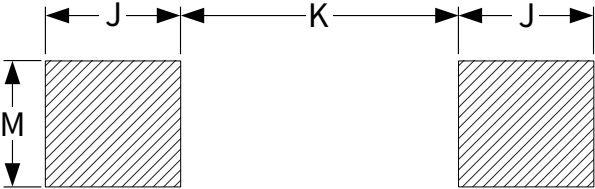
Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.30	1.60	0.051	0.063
B	3.30	3.70	0.129	0.145
C	2.40	2.70	0.094	0.105
D	4.40	4.90	0.172	0.191
E	0.90	1.20	0.035	0.047
F	0.80	1.20	0.031	0.047
G	0.12	0.20	0.005	0.008



The diagram shows two views of the SMAF package. The top view is a rectangle with dimensions B (width) and C (height). A vertical line on the left side is labeled 'Cathode Band'. The bottom view is a trapezoid with dimensions D (width), E (height), F (width of the top flange), and G (height of the top flange).

● 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



The diagram shows two shaded rectangular pads. The left pad has a width of J and a height of M. The right pad has a width of J. The distance between the centers of the two pads is K.