



# S3AF THRU S3MF

Reverse Voltage - 50 to 1000 Volts Forward Current - 3.0 Ampere

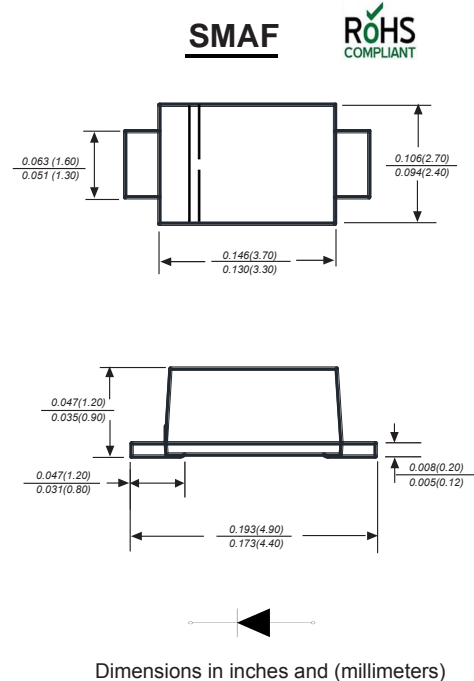
## SURFACE MOUNT GENERAL RECTIFIER

### Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Idea for printed circuit board
- ◆ Open Junction chip
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed 250 °C/10 seconds at terminals

### Mechanical Data

Case: SMAF molded plastic body  
 Terminals: Solderable per MIL-STD-750, Method 2026  
 Polarity: Polarity symbol marking on body  
 Mounting Position: Any  
 Weight : 0.0018 ounce, 0.064grams



### Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter	SYMBOLS	S3AF	S3BF	S3DF	S3GF	S3JF	S3KF	S3MF	UNITS
		MDD S3AF	MDD S3BF	MDD S3DF	MDD S3GF	MDD S3JF	MDD S3KF	MDD S3MF	
Maximum repetitive peak reverse voltage	$V_{RMM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at $T_L=75^\circ C$	$I_{(AV)}$	3.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	100							A
Maximum instantaneous forward voltage at 3.0A	$V_F$	1.20							V
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ C$ $T_A=125^\circ C$	$I_R$	5.0 250							$\mu A$
Typical junction capacitance (NOTE 1)	$C_J$	53.0							pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	47.0							$^\circ C/W$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ C$

Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 2. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas



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## Typical Characteristics

Fig.1 Forward Current Derating Curve

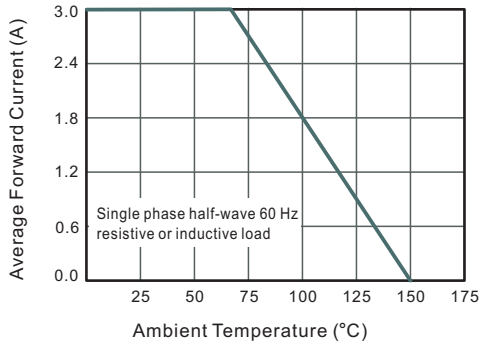


Fig.2 Typical Instantaneous Reverse Characteristics

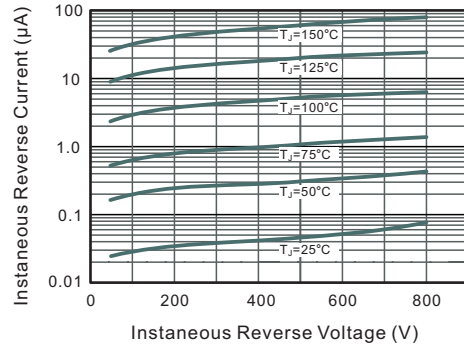


Fig.3 Typical Forward Characteristic

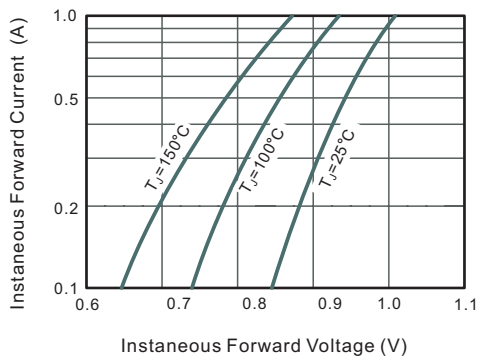
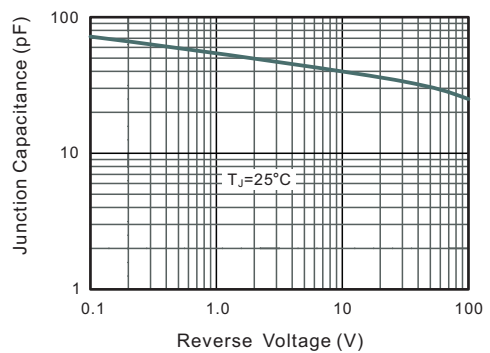


Fig.4 Typical Junction Capacitance



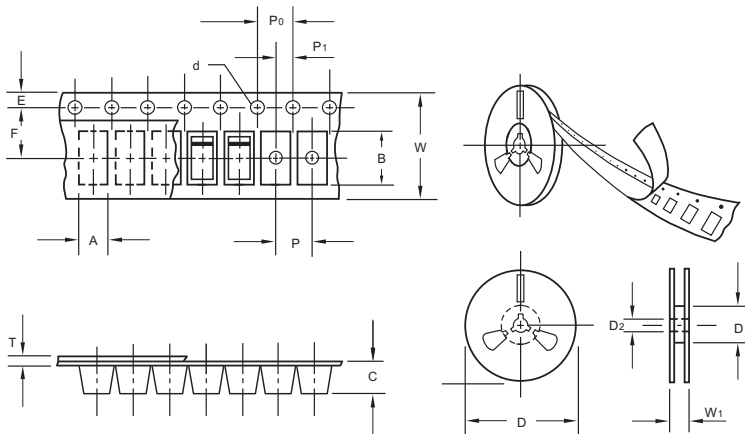
The curve above is for reference only.



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## Packing information



unit:mm

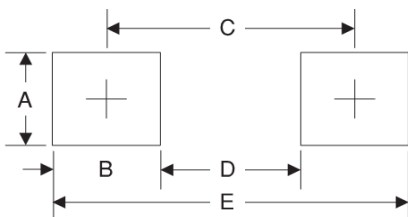
Item	Symbol	Tolerance	SMAF
Carrier width	A	0.1	2.80
Carrier length	B	0.1	4.75
Carrier depth	C	0.1	1.42
Sprocket hole	d	0.05	1.50
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	min	54.40
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	5.05
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.30
Tape width	W	0.3	8.00
Reel width	W1	1.0	12.30

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

## Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SMAF	7"	3,000	4.0	6,000	210*208*203	178	400*265*400	120,000	10.0

## Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.8	0.071
B	1.6	0.063
C	3.8	0.150
D	2.2	0.087
E	5.4	0.213

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