



# SM1xxxAFS SERIES



## Schottky Barrier Rectifiers



**SMAF-S**

### Primary Characteristics

$I_F$	1	A
$V_{RRM}$	20~200	V
$I_{FSM}$	30	A
$V_F$	0.50、0.7、0.85、0.90	V
$T_J \text{ max}$	125、150	°C

### Features

- Schottky barrier chip
- Low power loss, high efficiency
- Ideally suited for automatic assembly
- Surge overload rating to 30A peak

### Mechanical Data

- Case : Molded plastic SMAF-S
- Case Material : Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals : Plated leads solderable per MIL-STD-750, Method 2026 guaranteed
- Polarity : Cathode Band

### Ordering Information

Part No.	Remark	Package	Packing
SM1xxxAFS	General	SMAF-S	10000 / Tape & Reel
SM1xxxAFS-H	Halogen Free		
SM1xxxAFS-Q	AEC-Q101 qualified		

### Maximum Ratings (TA=25°C unless otherwise noted)

PARAMETER	SYMBOL	SM1 20AFS	SM1 30AFS	SM1 40AFS	SM1 50AFS	SM1 60AFS	SM1 80AFS	SM1 100AF S	SM1 150AF S	SM1 200AF S	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	80	100	150	200	V
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	56	70	105	140	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	80	100	150	200	V
Maximum average forward rectified current	$I_F$	1									A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	30									A
Maximum Instantaneous Forward Voltage IF=1A @ 25°C	$V_F$	0.5			0.7		0.85		0.9		V
Maximum DC Reverse Current @ $T_J=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_J=100^\circ\text{C}$	$I_R$	0.5 10					0.2 5				mA
Typical Junction Capacitance (NOTE 1)	$C_J$	50						35			pF
Typical Thermal Resistance	$R_{\theta JC}$	50									°C/W
Operating Temperature Range	$T_J$	-55 to +125						-55 to +150			°C
Storage Temperature Range	$T_{STG}$	-55 to +150									°C

### NOTES :

1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC



### Rating and Characteristics Curves

FIG. 1-Typical Forward Current Derating Curve

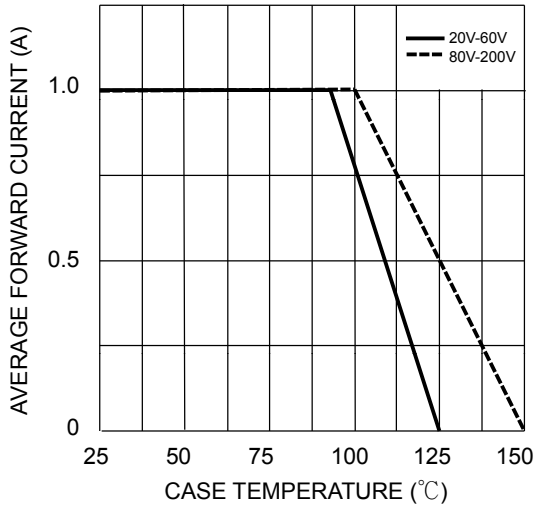


FIG. 2-Typical Forward Characteristics

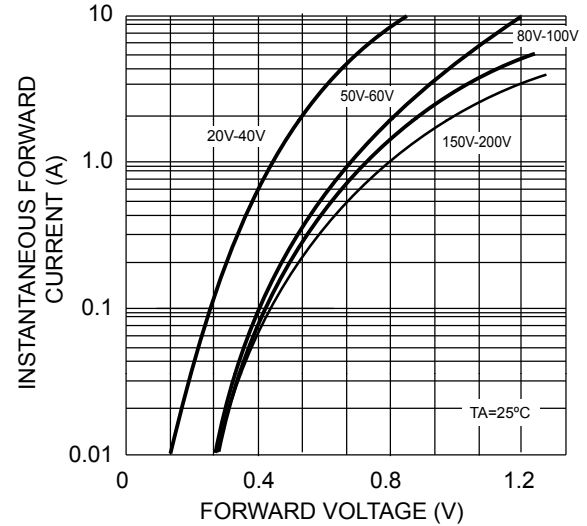


FIG. 3-Maximum Non-Repetitive Forward Surge Current

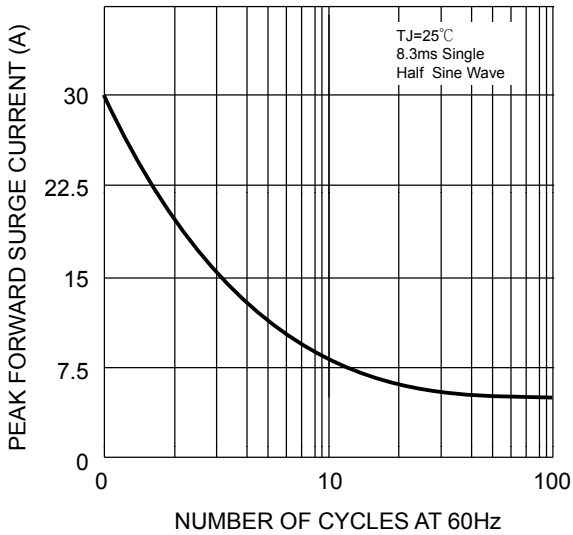
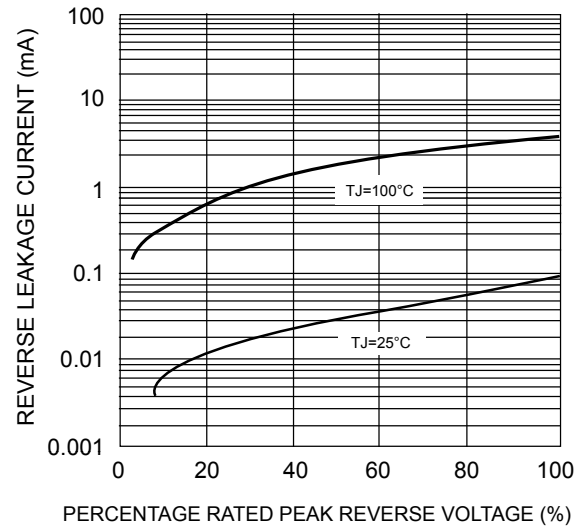
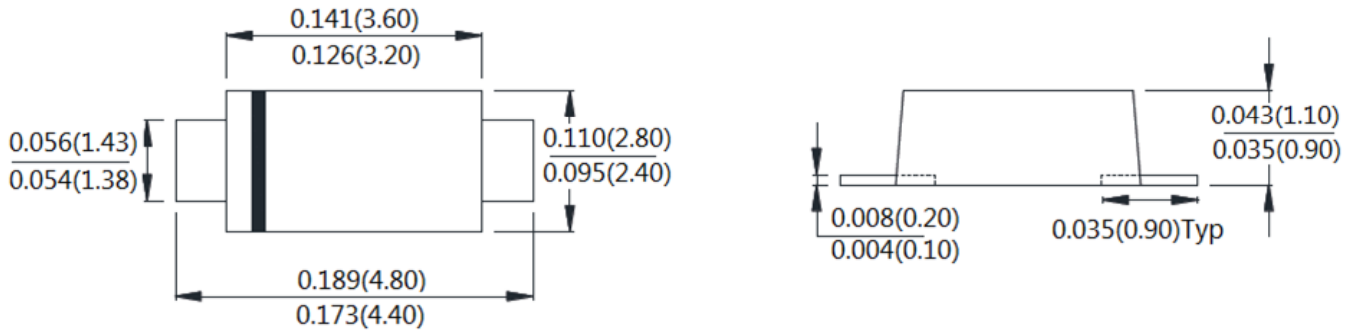


FIG. 4-Typical Reverse Characteristics





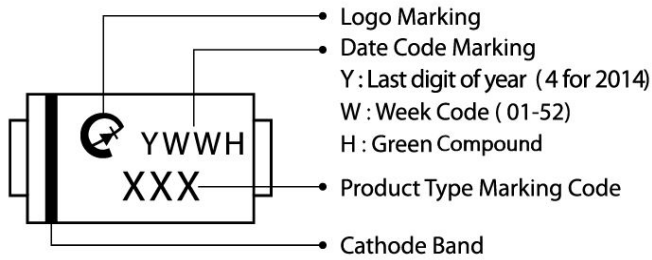
### Package Outline Dimensions



### SMAF-S

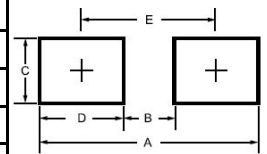
Dimensions in inches and (millimeters)

### Marking Information



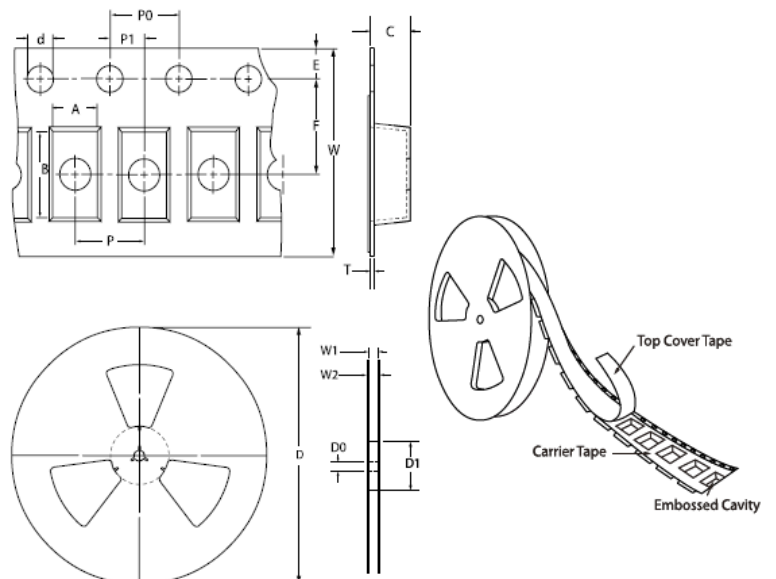
### Suggested Pad Layout

Outline Dimension	SMAF-S (mm)
A	5.70
B	2.50
C	1.50
D	1.60
E	-



### Tape & Reel Specification

Item	Symbol	SMAF-S (mm)
Carrier width	A	2.83 ± 0.1
Carrier length	B	4.75 ± 0.1
Carrier depth	C	1.42 ± 0.1
Sprocket hole	d	1.55 ± 0.05
Reel outside diameter	D	330 ± 1.0
Feed hole diameter	D0	13 ± 0.5
Reel inner diameter	D1	100 ± 0.5
Sprocket hole position	E	1.75 ± 0.1
Punch hole position	F	5.5 ± 0.05
Sprocket hole pitch	P	4.0 ± 0.1
Sprocket hole pitch	P0	4.0 ± 0.1
Embossment center	P1	2.0 ± 0.05
Overall tape thickness	T	0.25 ± 0.05
Tape width	W	12 ± 0.15
Reel width	W1	12.4 ± 0.5
Reel width	W2	18.4 (max)





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