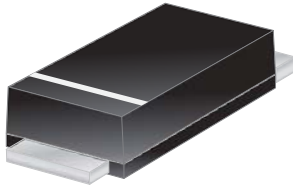




# SM120AF thru SM1200AF



## Schottky Barrier Rectifiers



**DO-221AC(SMAF)**

### Primary Characteristics

$I_F$	1	A
$V_{RRM}$	20~200	V
$I_{FSM}$	30	A
$V_F$	0.50 , 0.70 , 0.85 , 0.87 , 0.90	V
$T_J$ max	125,150	°C

### Features

- Low profile package
- Ideal for automated placement
- Guard Ring for over voltage protection
- Low forward voltage drop

### Mechanical Data

- Case : DO-221AC (SMAF)
- Case Material : Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals : Lead free Plating (Tin Finish)  
Solderable per MIL-STD-202, Method 208
- Polarity : Cathode Band
- Weight : 0.032 grams (approximate)

### Ordering Information

Part No.	Remark	Package	Packing
SM1xxAF	General	SMAF	10000 / Tape & Reel
SM1xxAF-H	Halogen Free		
SM1xxAF-Q	AEC-Q101 qualified		

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

Parameter	Symbol	SM1 20AF	SM1 30AF	SM1 40AF	SM1 50AF	SM1 60AF	SM1 80AF	SM1 100AF	SM1 150AF	SM1 200AF	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	$I_F$	1.0									A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	30.0									A
Maximum instantaneous forward voltage $I_F=1A @ 25^\circ C$	$V_F$	0.50			0.70		0.85		0.87	0.90	V
Maximum DC Reverse Current @ $T_c=25^\circ C$ at Rated DC Blocking Voltage @ $T_c=100^\circ C$	$I_R$	0.5 10					0.2 5.0				mA
Typical junction capacitance (NOTE1)	$C_j$	70			60		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
Marking code		SM1 20AF	SM1 30AF	SM1 40AF	SM1 50AF	SM1 60AF	SM1 80AF	1 100AF	1 150AF	1 200AF	

### 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

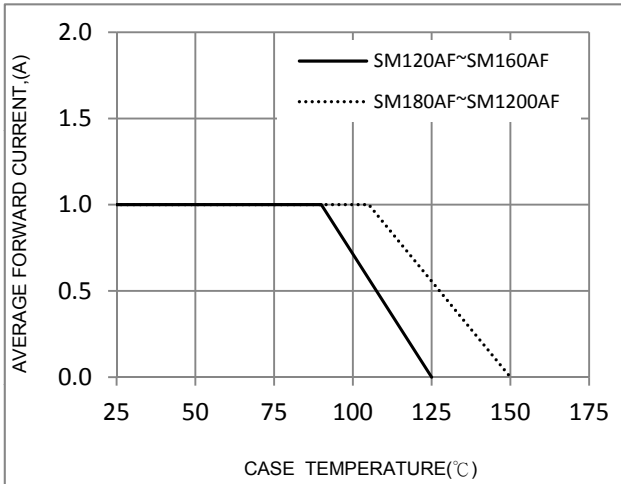


FIG. 2-Typical Forward Characteristics

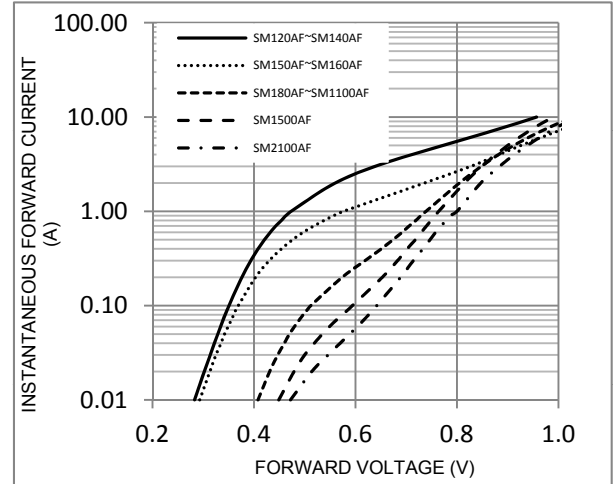


FIG. 3-Maximum Non-Repetitive Forward Surge Current

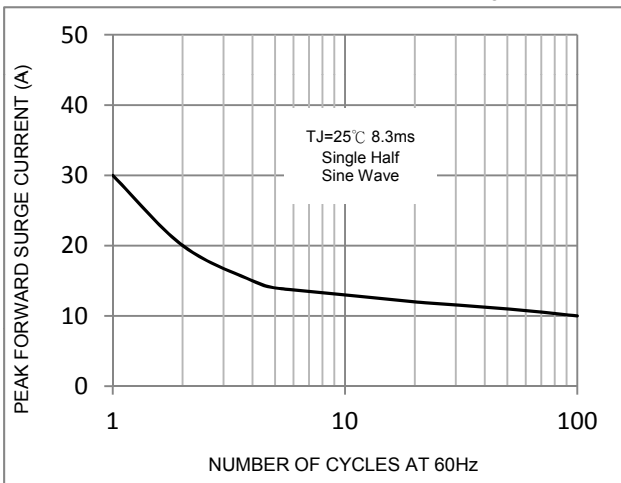


FIG. 4-Typical Reverse Characteristics

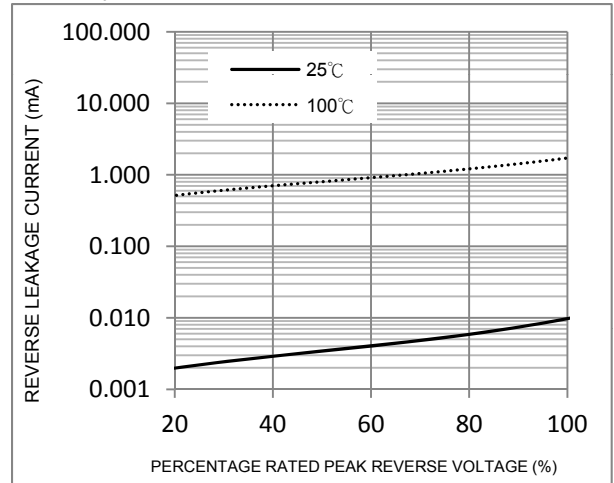
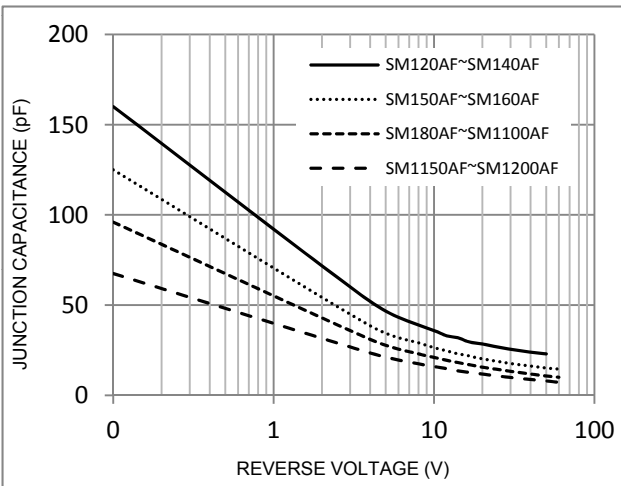
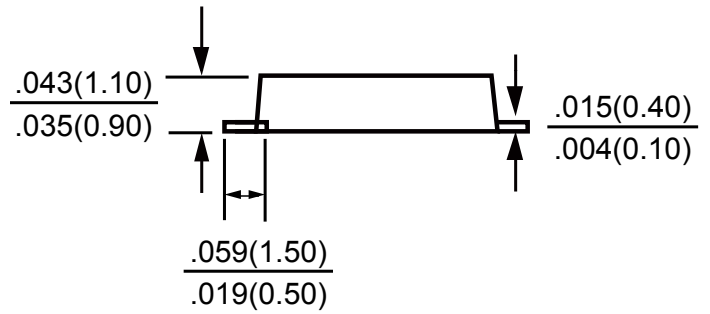
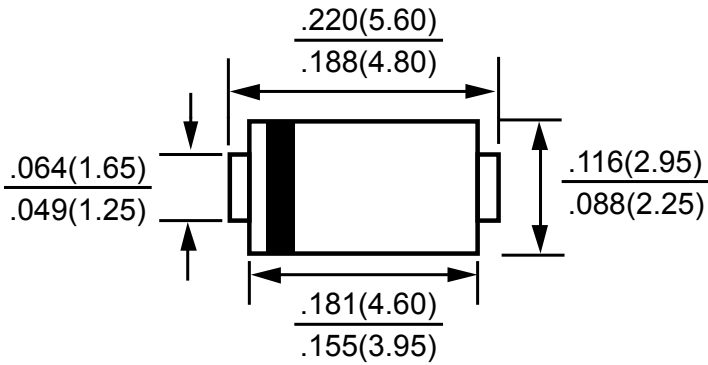


FIG. 5-Typical Junction Capacitance





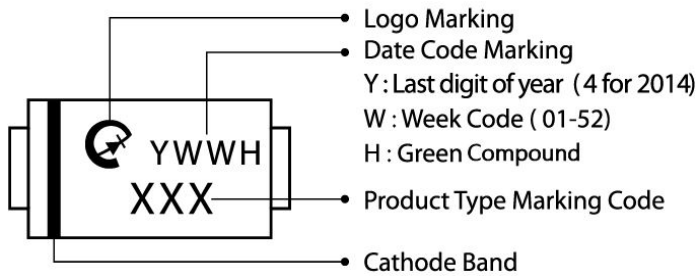
Package Outline Dimensions



DO-221AC(SMAF)

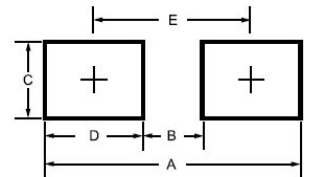
Dimensions in inches and (millimeters)

Marking Information



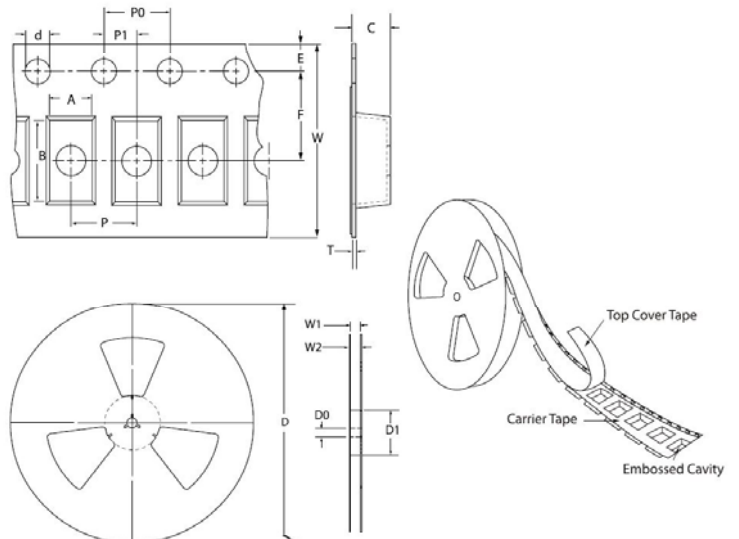
Suggested Pad Layout

Outline Dimension	SMAF (DO-221AC)
A	6.50
B	1.50
C	1.70
D	2.50
E	4.00



Tape & Reel Specification

Item	Symbol	SMAF(mm) DO-221AC
Carrier width	A	3±0.1
Carrier length	B	5.6±0.1
Carrier depth	C	1.2±0.1
Sprocket hole	d	1.50±0.1
Reel outside diameter	D	330±2.0
Feed hole diameter	D0	13.5±1
Reel inner diameter	D1	50 (min.)
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±0.05
Embossment center	P1	2.0±0.05
Overall tape thickness	T	0.25±0.05
Tape width	W	12.0±0.2
Reel width	W2	18.4 (max)
Reel width	W1	14.4 (max)





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