



# SBA320AF SERIES

## EXTREME LOW VF SCHOTTKY BARRIER RECTIFIER

**Voltage** 20~40 V **Current** 3 A

### Features

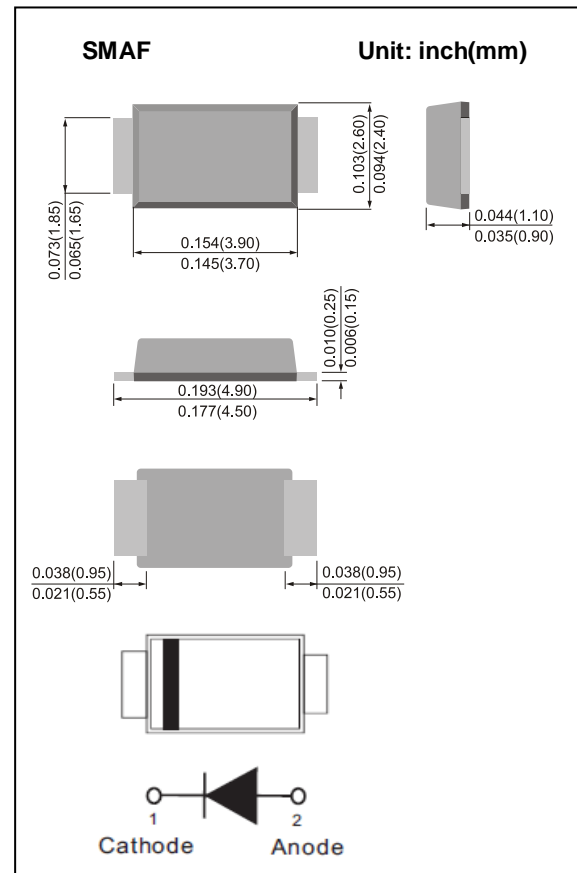
- Ultra low forward voltage drop, low power loss
- Fast switching speed
- Surface mount package
- Ultra thin profile package for space constrained utilization
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### Applications

- Low voltage rectification
- Reverse polarity protection
- Low power consumption applications

### Mechanical Data

- Case: Molded plastic, SMAF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0012 ounces, 0.0328 grams



### Maximum Ratings And Electrical Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	SBA320AF	SBA330AF	SBA340AF	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	V
Maximum rms voltage	$V_{RMS}$	14	21	28	V
Maximum dc blocking voltage	$V_R$	20	30	40	V
Maximum average forward rectified current	$I_{F(AV)}$	3			A
Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	50			A
Typical forward voltage at 10mA	$V_F$	0.19	0.19	0.21	V
Typical forward voltage at 1A	$V_F$	0.32	0.33	0.35	V
Maximum forward voltage at 3A	$V_F$	0.44	0.46	0.48	V
Maximum dc reverse current at $T_J=25^\circ\text{C}$	$I_R$	200	200	150	$\mu\text{A}$
Typical thermal resistance	(Note 1) $R_{\theta JC}$	15			$^\circ\text{C/W}$
	(Note 2) $R_{\theta JA}$	150			
Operating junction temperature range	$T_J$	-55 to +150			$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150			$^\circ\text{C}$

Note : 1. Mounted on a FR4 PCB, single-sided copper, with 100cm<sup>2</sup> copper pad area.  
2. Mounted on a FR4 PCB, single-sided copper, mini pad.



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## TYPICAL CHARACTERISTIC CURVES

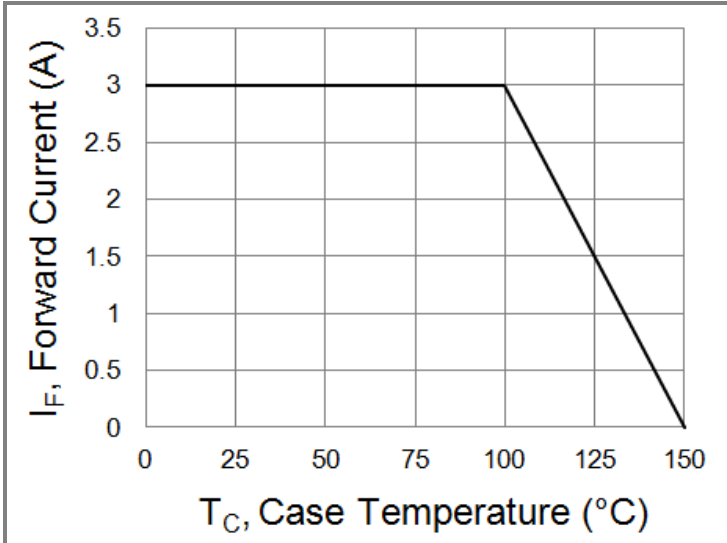


Fig.1 Forward Current Derating Curve

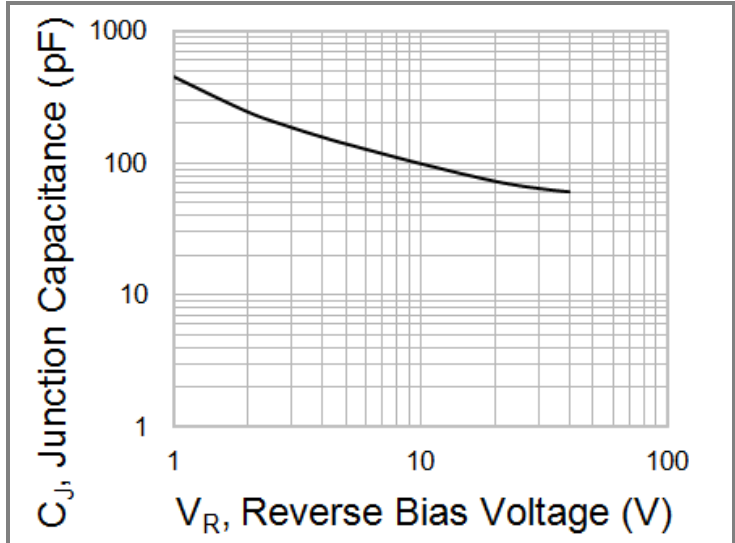


Fig. 2 Typical Junction Capacitance

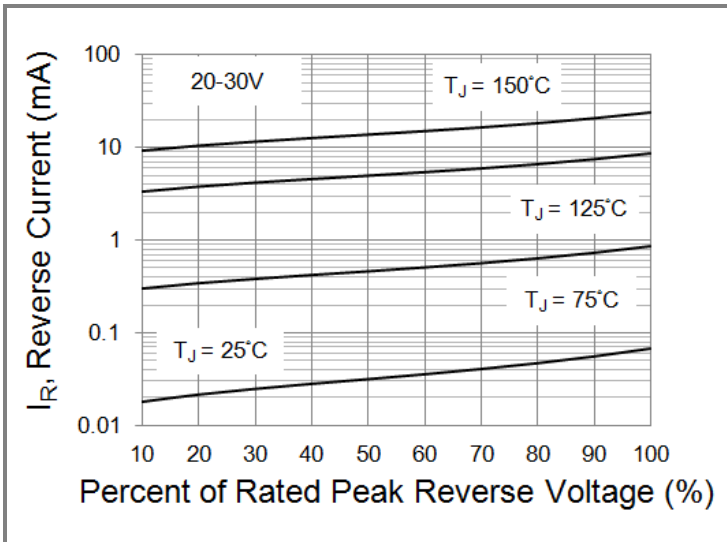


Fig.3 Typical Reverse Characteristics

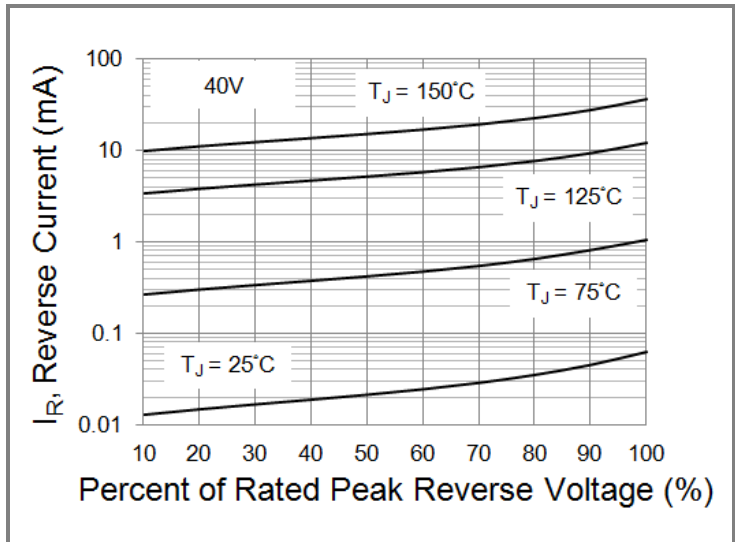


Fig.4 Typical Reverse Characteristics

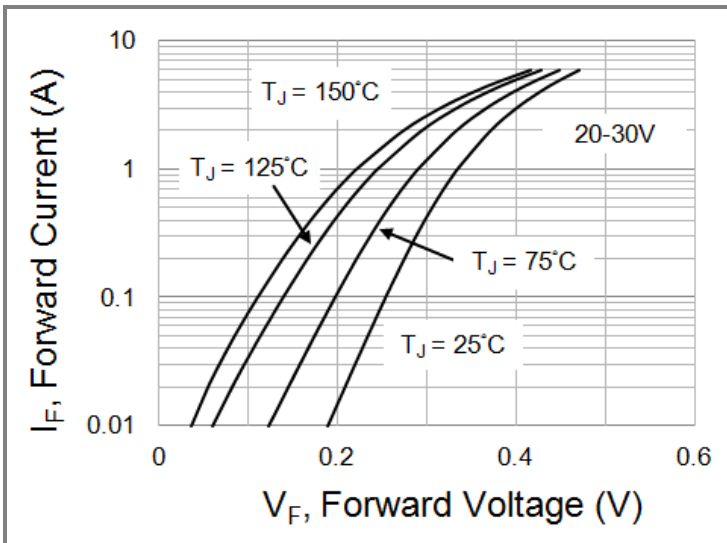


Fig.5 Typical Forward Characteristics

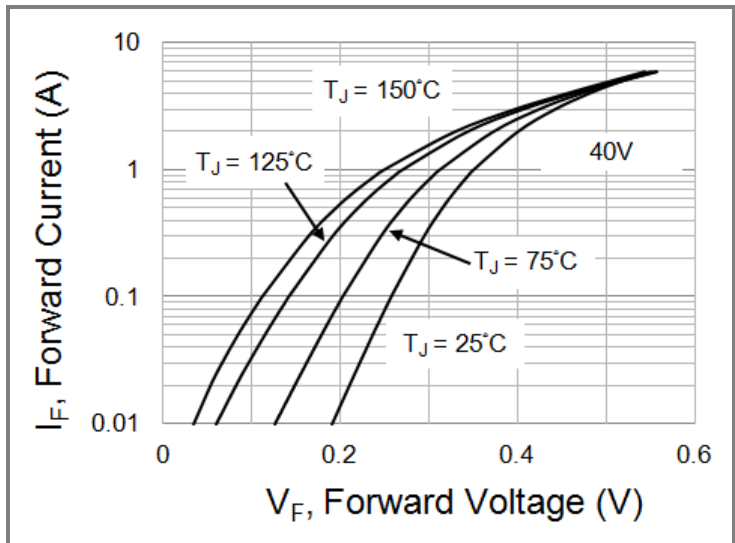
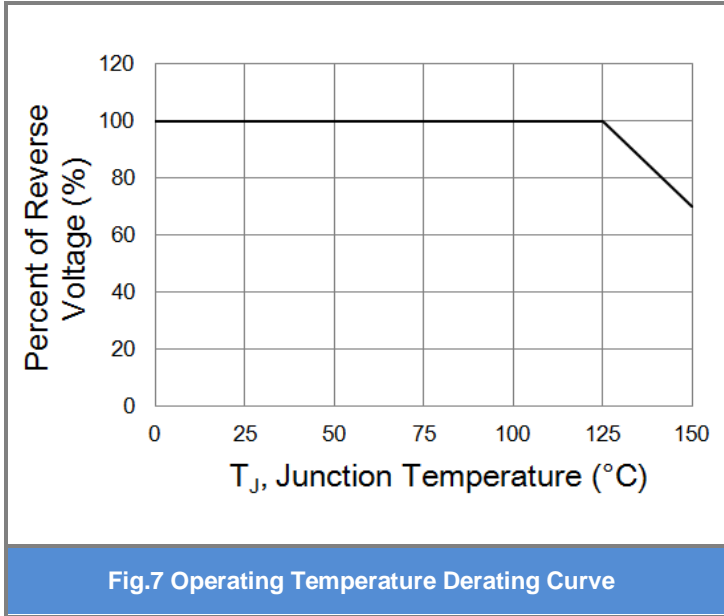


Fig.6 Typical Forward Characteristics



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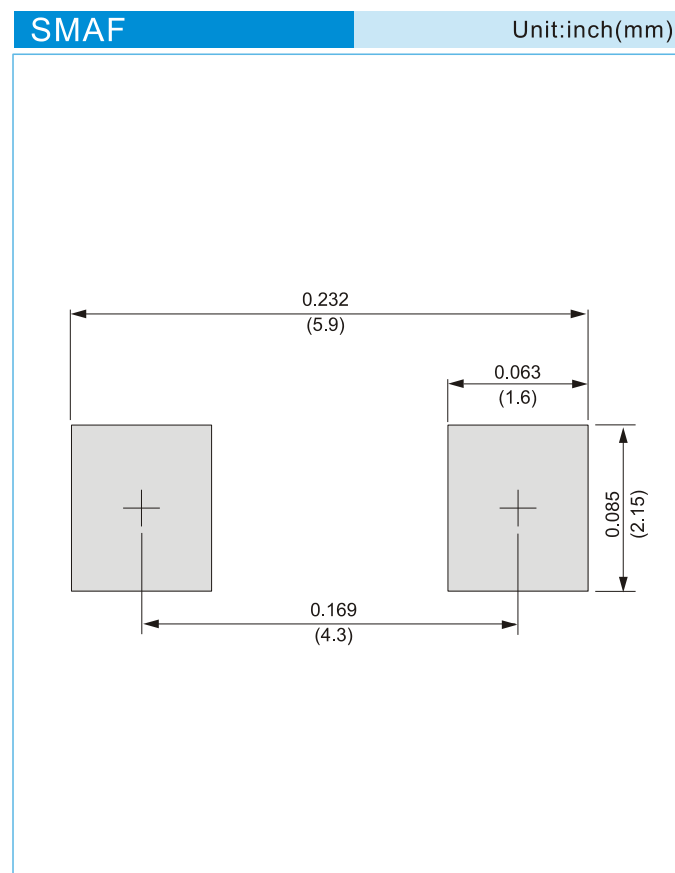


## SBA320AF SERIES

### Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
SBA320AF_R1_00001	SMAF	3K pcs / 7" reel	SBA320AF	Halogen free
SBA320AF_R2_00001	SMAF	10K pcs / 13" reel	SBA320AF	Halogen free
SBA330AF_R1_00001	SMAF	3K pcs / 7" reel	SBA330AF	Halogen free
SBA330AF_R2_00001	SMAF	10K pcs / 13" reel	SBA330AF	Halogen free
SBA340AF_R1_00001	SMAF	3K pcs / 7" reel	SBA340AF	Halogen free
SBA340AF_R2_00001	SMAF	10K pcs / 13" reel	SBA340AF	Halogen free

### Mounting Pad Layout





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