



SBA520AF SERIES

EXTREME LOW VF SCHOTTKY BARRIER RECTIFIER

Voltage

20~40 V

Current

5 A

Features

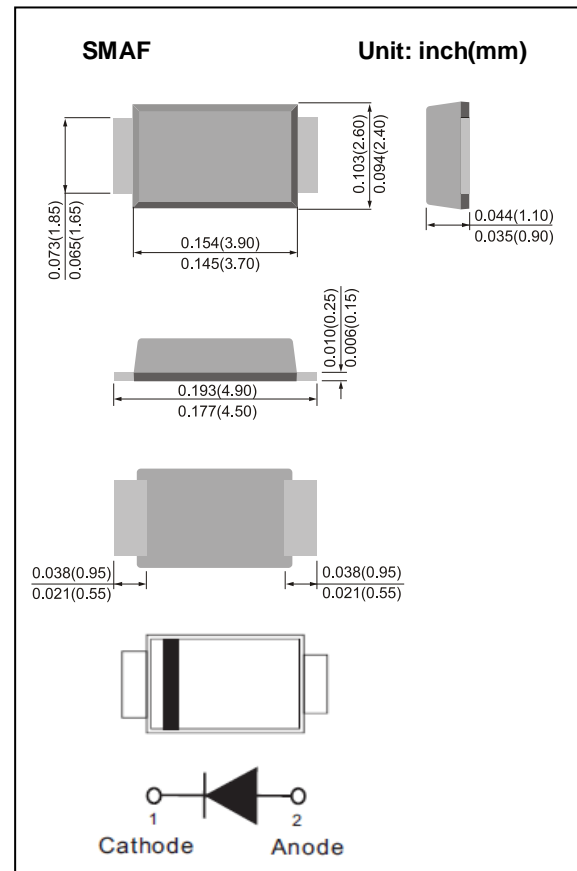
- Ultra low forward voltage drop, low power loss
- Fast switching speed
- Surface mount package
- Ultra thin profile package for space constrained utilization
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

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	SBA520AF	SBA530AF	SBA540AF	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	$I_{F(AV)}$	5			A
Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	80			A
Typical forward voltage at 10mA	V_F	0.17	0.17	0.17	V
Typical forward voltage at 1A	V_F	0.31	0.31	0.32	V
Typical forward voltage at 2A	V_F	0.34	0.35	0.36	V
Maximum forward voltage at 5A	V_F	0.45	0.46	0.49	V
Maximum dc reverse current at $T_J=25^{\circ}\text{C}$	I_R	300	300	250	μA
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 100cm² copper pad area.

2. Mounted on a FR4 PCB, single-sided copper, mini pad.



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TYPICAL CHARACTERISTIC CURVES

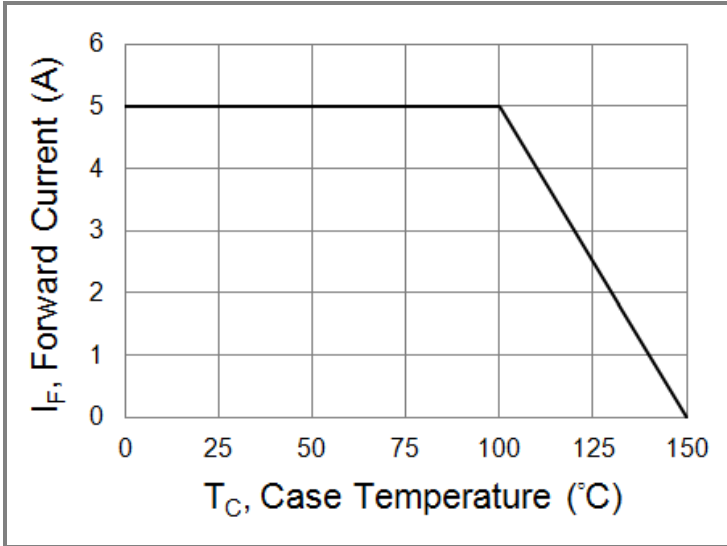


Fig.1 Forward Current Derating Curve

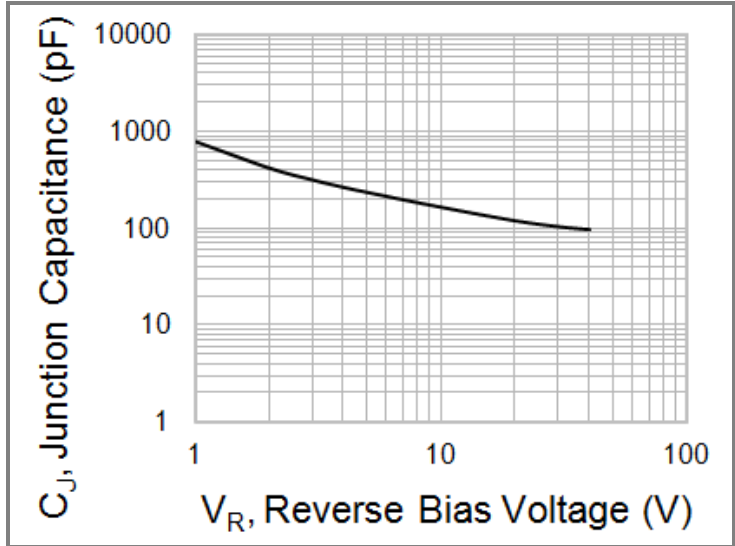


Fig. 2 Typical Junction Capacitance

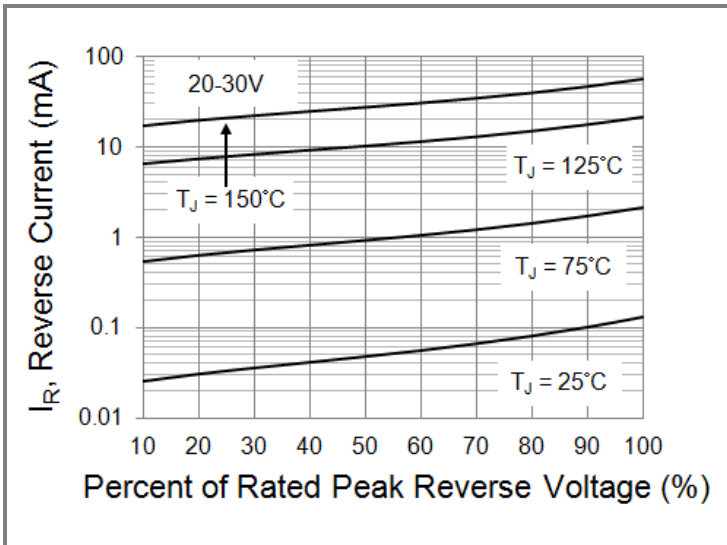


Fig.3 Typical Reverse Characteristics

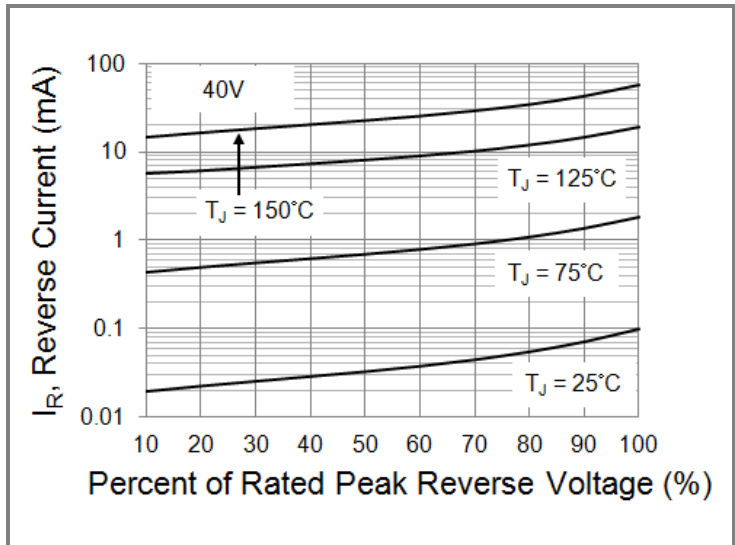


Fig.4 Typical Reverse Characteristics

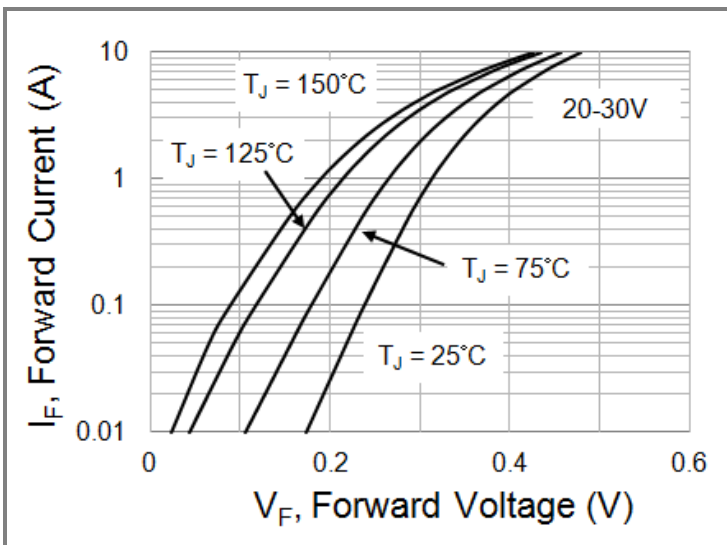


Fig.5 Typical Forward Characteristics

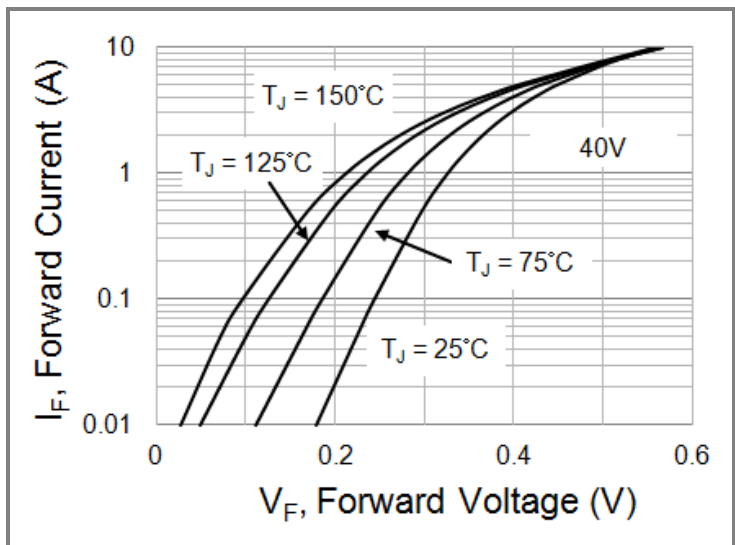
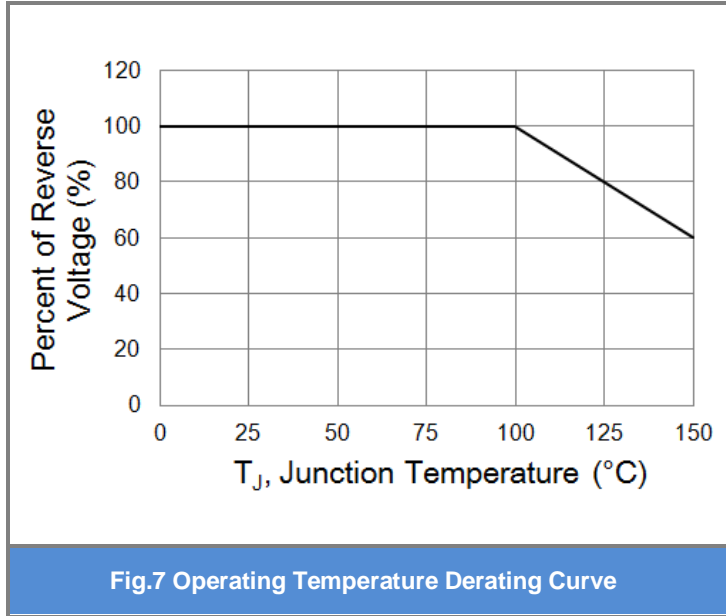


Fig.6 Typical Forward Characteristics



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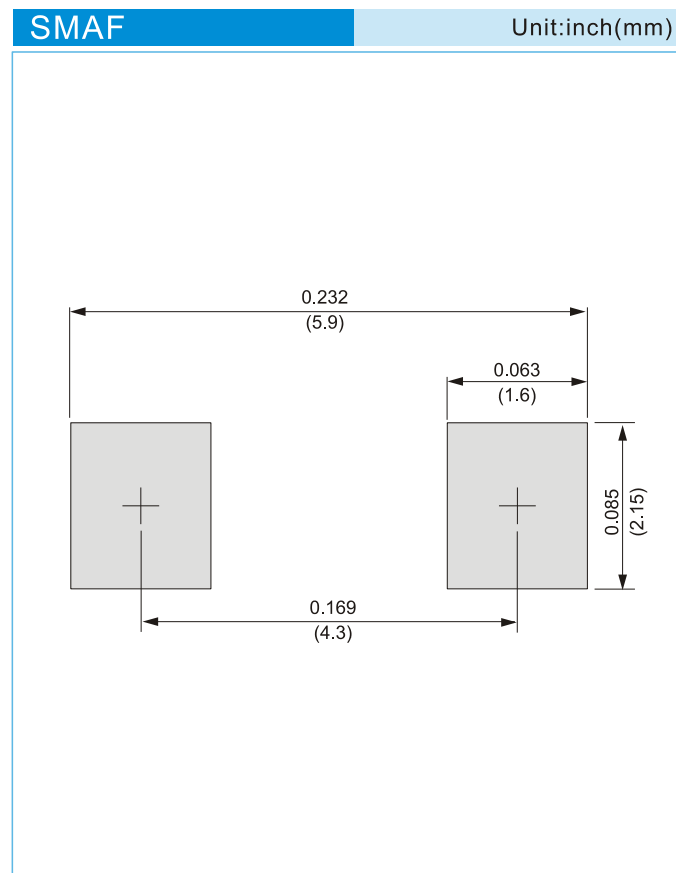


SBA520AF SERIES

Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
SBA520AF_R1_00001	SMAF	3K pcs / 7" reel	SBA520AF	Halogen free
SBA520AF_R2_00001	SMAF	10K pcs / 13" reel	SBA520AF	Halogen free
SBA530AF_R1_00001	SMAF	3K pcs / 7" reel	SBA530AF	Halogen free
SBA530AF_R2_00001	SMAF	10K pcs / 13" reel	SBA530AF	Halogen free
SBA540AF_R1_00001	SMAF	3K pcs / 7" reel	SBA540AF	Halogen free
SBA540AF_R2_00001	SMAF	10K pcs / 13" reel	SBA540AF	Halogen free

Mounting Pad Layout





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