



MBR38AFC ~ MBR320AFC Series

Surface Mount Schottky Barrier Rectifier

Voltage

80~200 V

Current

3 A

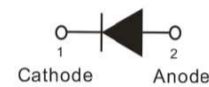
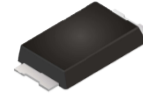
Features

- Low power loss, high efficiency
- High surge current capability
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : Molded plastic, SMAF-C
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0012 ounces, 0.034 grams

SMAF-C



Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	MBR38AFC	MBR39AFC	MBR310AFC	MBR315AFC	MBR320AFC	UNIT
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	80	90	100	150	200	V
Maximum RMS Voltage	V _{RMS}	56	63	70	105	140	V
Maximum DC Blocking Voltage	V _R	80	90	100	150	200	V
Maximum Average Forward Rectified Current	I _{F(AV)}	3					A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	I _{FSM}	80					A
Instantaneous Forward Voltage at 3A	V _F	0.8			0.9		V
Reverse Current ^(Note 4)	I _R	50					uA
Typical Junction Capacitance Measured at 1 MHz And Applied V _R = 4V	C _J	20			10	85	pF
Typical Thermal Resistance	^(Note 1) R _{θJA}	150					°C/W
	^(Note 2) R _{θJL}	20					
	^(Note 3) R _{θJC}	22					
Operating Junction Temperature Range	T _J	-55 to +150					°C
Storage Temperature Range	T _{STG}	-55 to +150					°C

NOTES:

1. Mounted on a FR4 PCB, single-sided copper, standard footprint
2. Mounted on a FR4 PCB, single-sided copper, with 48cm² copper pad area
3. Mounted on a FR4 PCB, single-sided copper, with 100cm² copper pad area
4. Short duration pulse test used to minimize self-heating effect



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TYPICAL CHARACTERISTIC CURVES

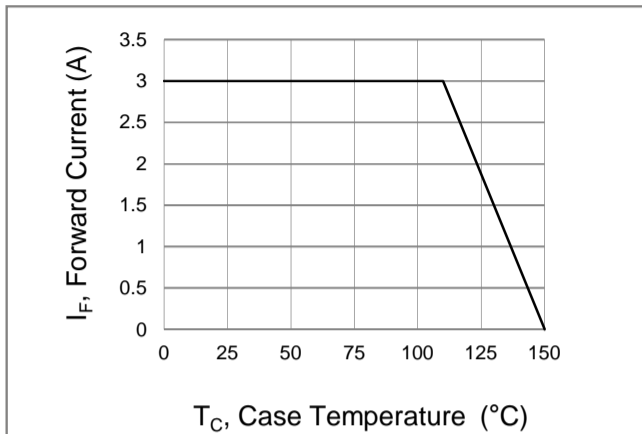


Fig.1 Forward Current Derating Curve

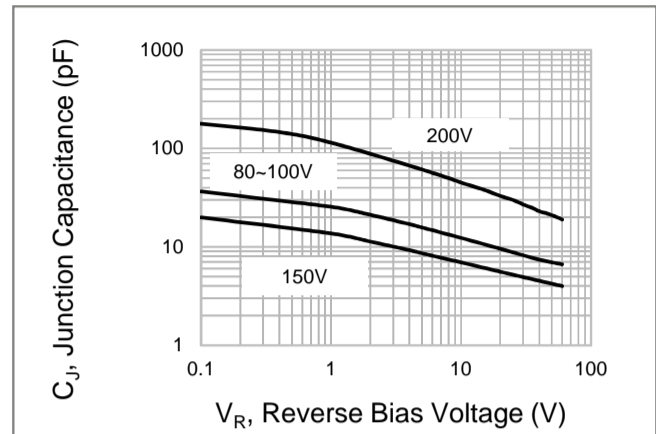


Fig.2 Typical Junction Capacitance

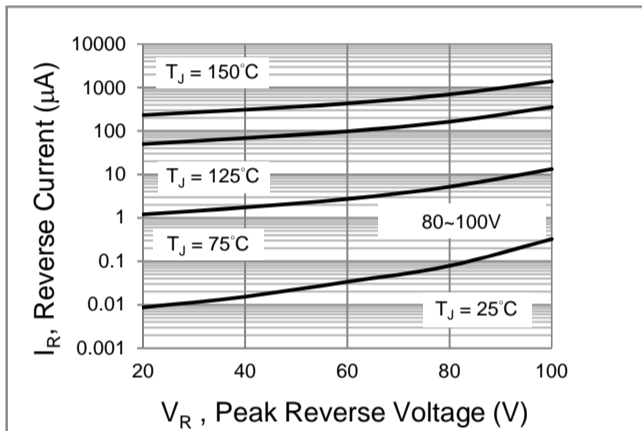


Fig.3 Typical Reverse Characteristics

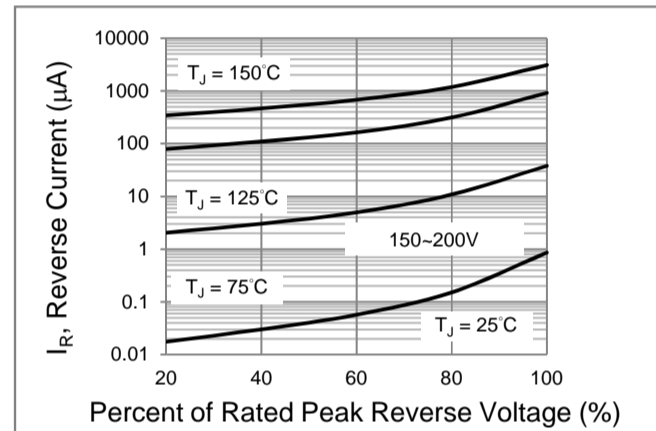


Fig.4 Typical Reverse Characteristics

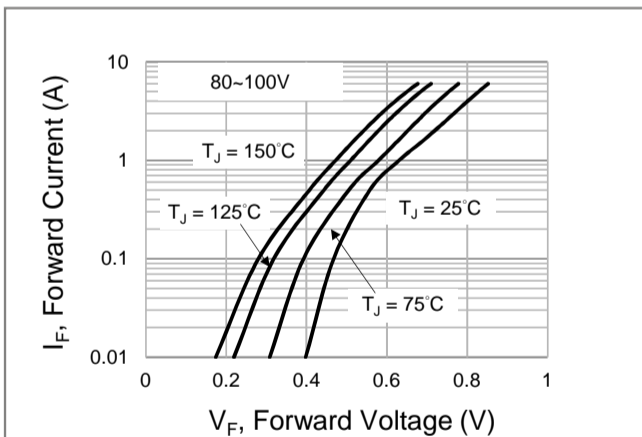


Fig.5 Typical Forward Characteristics

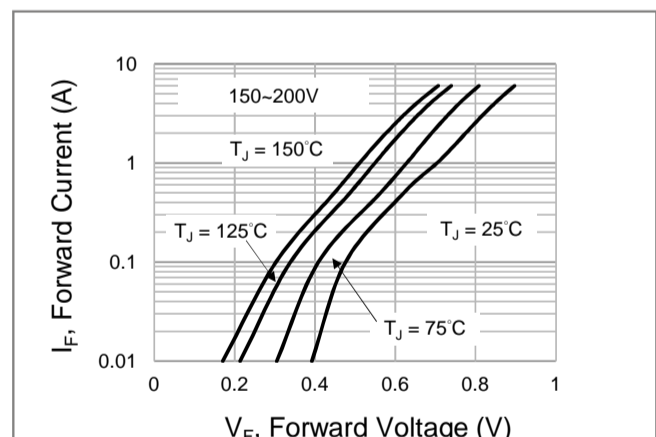
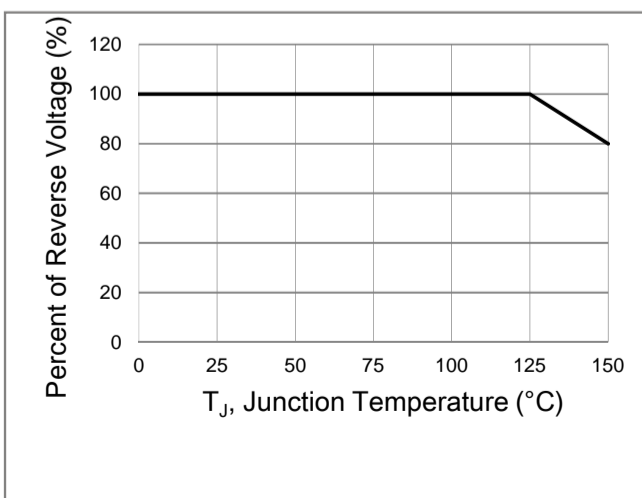


Fig.6 Typical Forward Characteristics



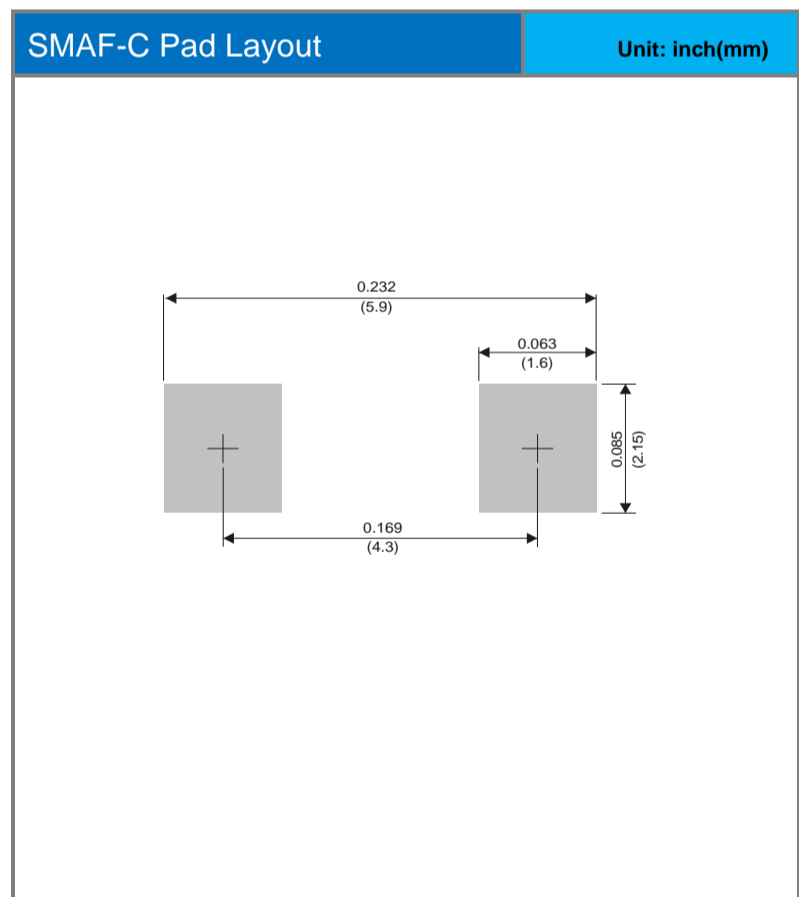
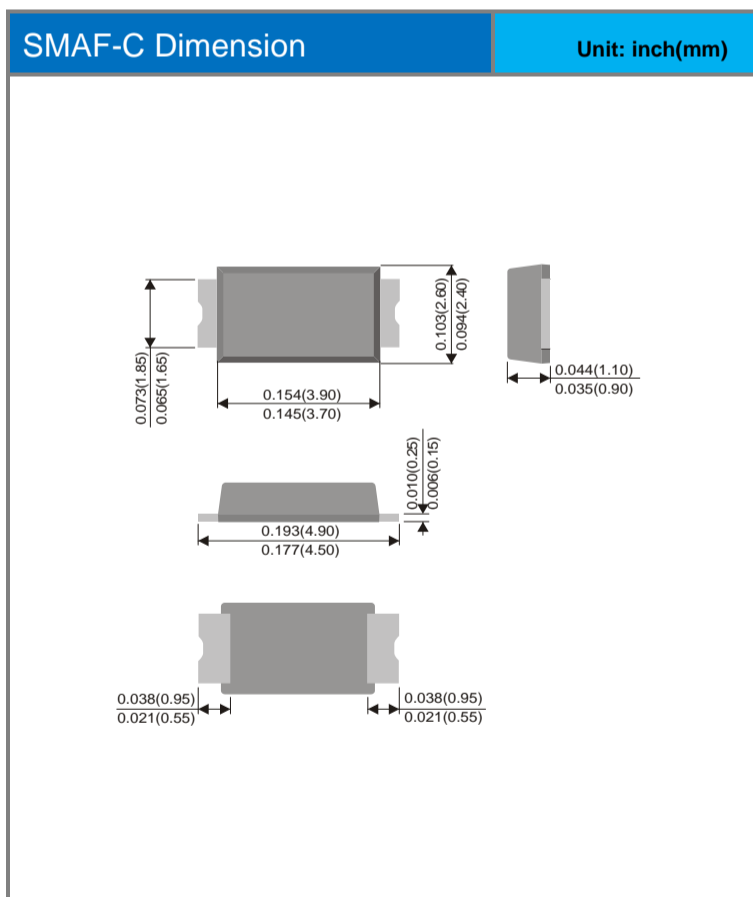


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Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
MBR38AFC_R1_00001	SMAF-C	3K pcs / 7" reel	MBR38	Halogen free
MBR39AFC_R1_00001	SMAF-C	3K pcs / 7" reel	MBR39	Halogen free
MBR310AFC_R1_00001	SMAF-C	3K pcs / 7" reel	MBR310	Halogen free
MBR315AFC_R1_00001	SMAF-C	3K pcs / 7" reel	MBR315	Halogen free
MBR320AFC_R1_00001	SMAF-C	3K pcs / 7" reel	MBR320	Halogen free

Packaging Information & Mounting Pad Layout





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