

MBR38AFC ~ MBR320AFC Series

Surface Mount Schottky Barrier Rectifier

Voltage

80~200 V

Current

3 A

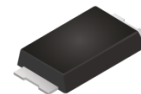
Features

- 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
(Note 1) Typical Thermal Resistance (Note 2) (Note 3)	R_{θJA} R_{θJL} R_{θJC}	150 20 22					°C/W
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

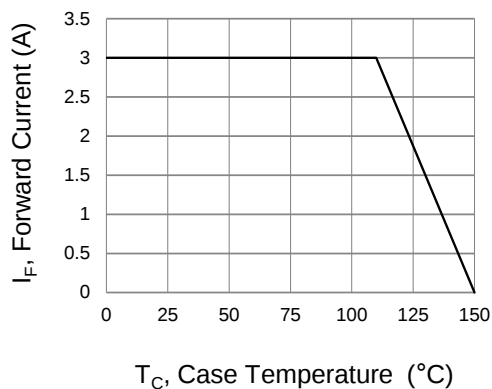


Fig.1 Forward Current Derating Curve

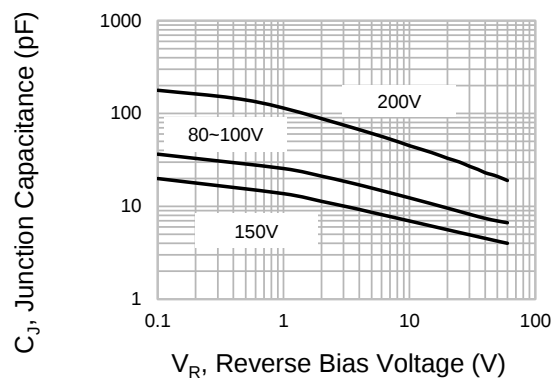


Fig.2 Typical Junction Capacitance

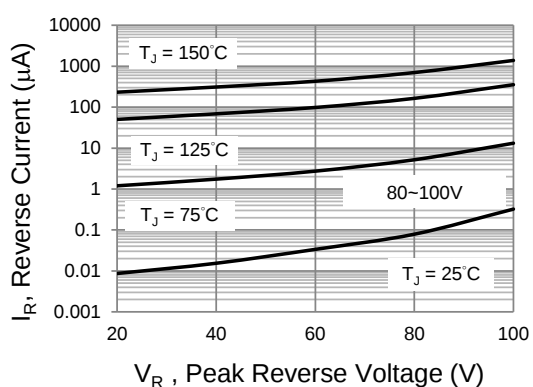


Fig.3 Typical Reverse Characteristics

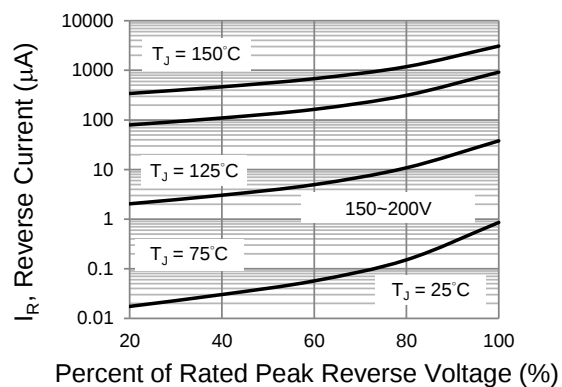


Fig.4 Typical Reverse Characteristics

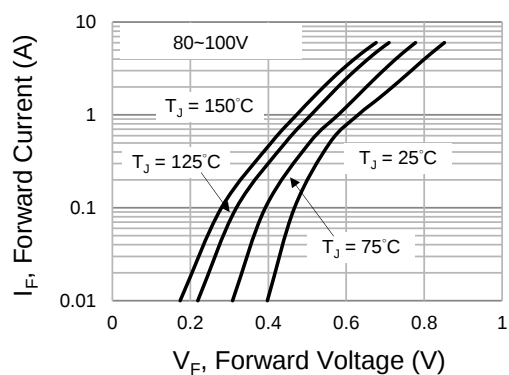


Fig.5 Typical Forward Characteristics

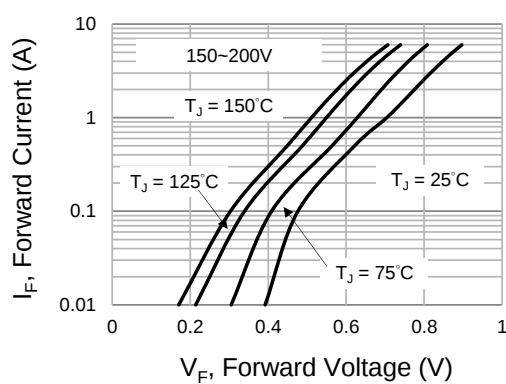


Fig.6 Typical Forward Characteristics

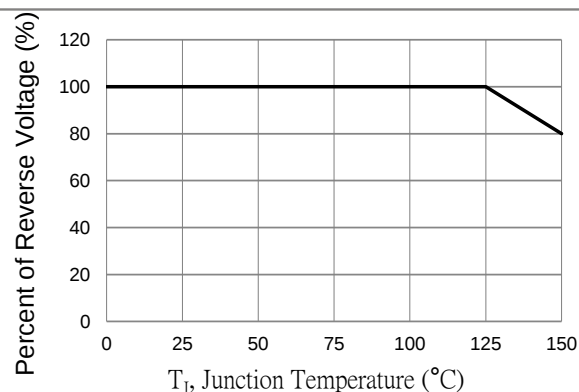


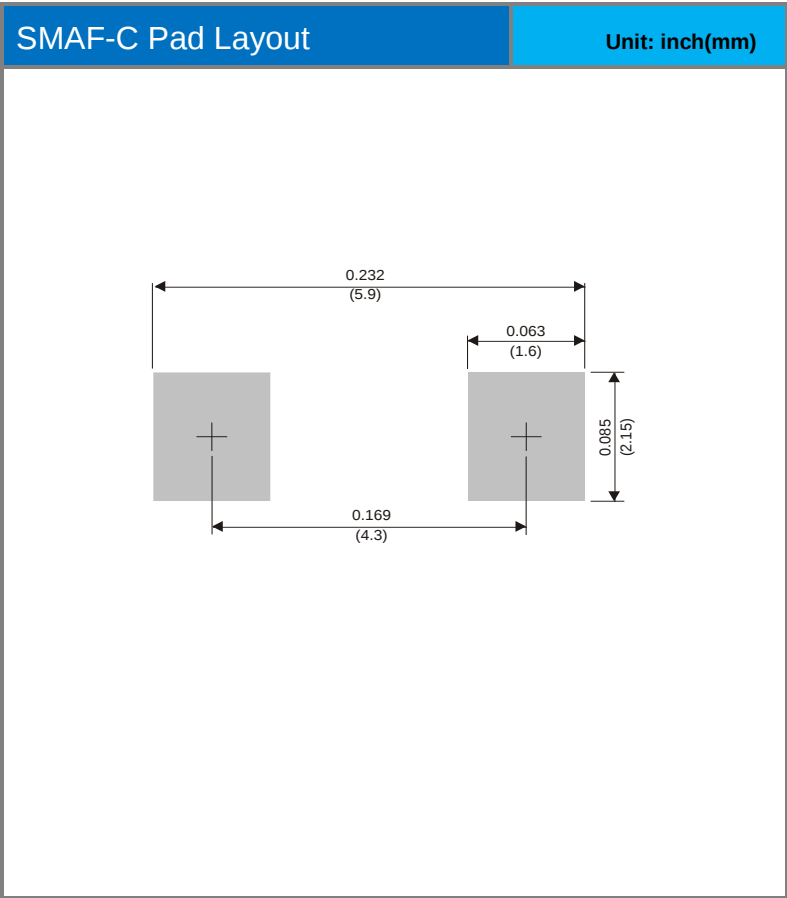
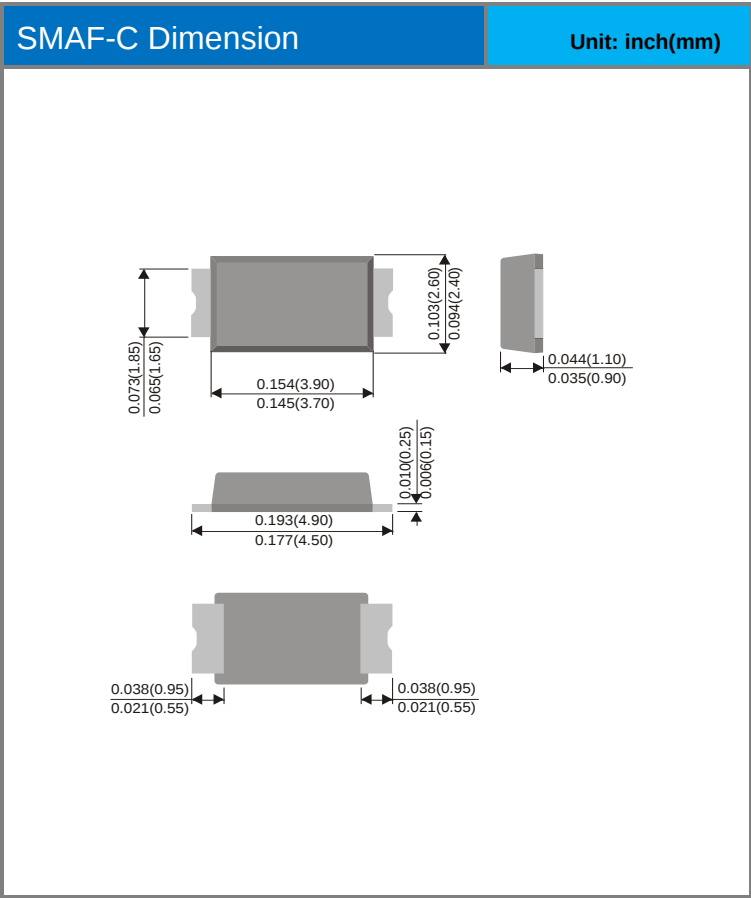
Fig.7 Operating Temperature Derating Curve

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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
MBR38AFC	SMAF-C	3K pcs / 7" reel	MBR38
MBR39AFC	SMAF-C	3K pcs / 7" reel	MBR39
MBR310AFC	SMAF-C	3K pcs / 7" reel	MBR310
MBR315AFC	SMAF-C	3K pcs / 7" reel	MBR315
MBR320AFC	SMAF-C	3K pcs / 7" reel	MBR320

Packaging Information & Mounting Pad Layout



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