MBR38AFC ~ MBR320AFC Series

Surface Mount Schottky Barrier Rectifier

Voltage	80~200 V	Current	3 A

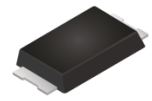
Features

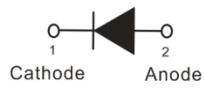
- Low power loss, high efficiency
- High surge current capability
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

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)	$R_{\theta JA}$	150					°C/W
(Note 2)	$R_{\theta JL}$	20					
(Note 3)	$R_{\theta JC}$	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 48cm^2 copper pad area
3. Mounted on a FR4 PCB, single-sided copper, with 100cm^2 copper pad area
4. Short duration pulse test used to minimize self-heating effect

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TYPICAL CHARACTERISTIC CURVES

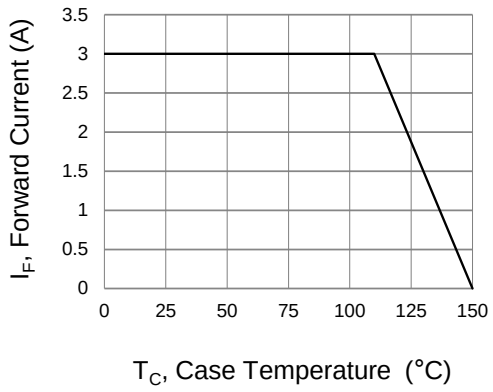

Fig.1 Forward Current Derating Curve

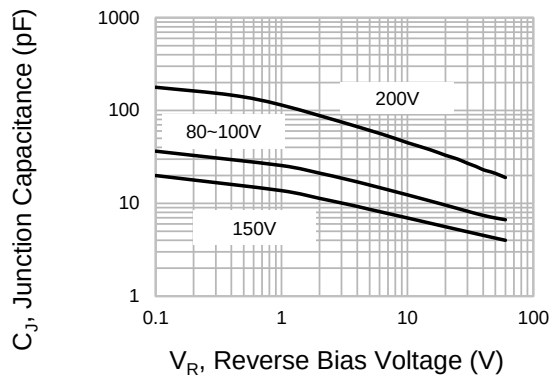

Fig.2 Typical Junction Capacitance

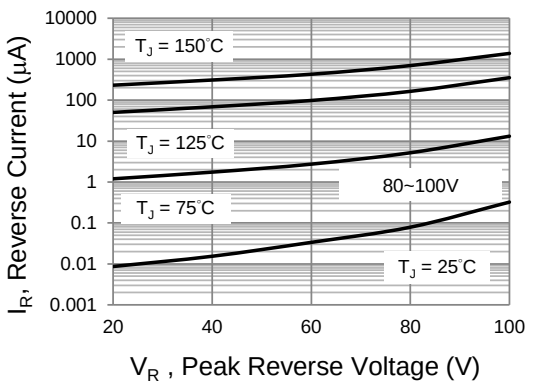

Fig.3 Typical Reverse Characteristics

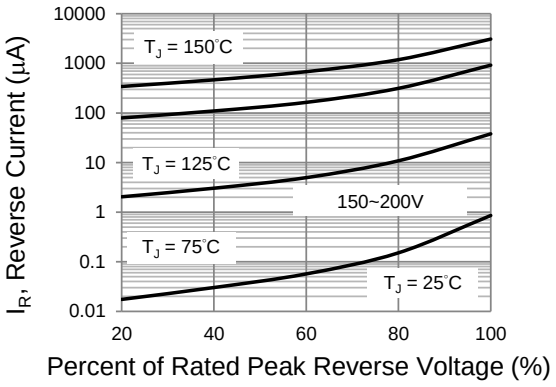

Fig.4 Typical Reverse Characteristics

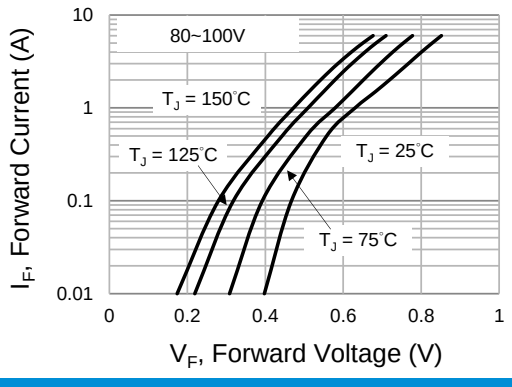

Fig.5 Typical Forward Characteristics

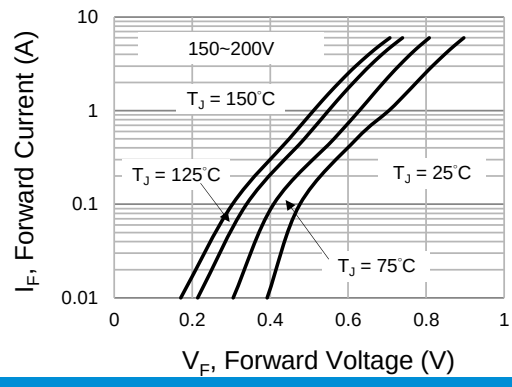

Fig.6 Typical Forward Characteristics

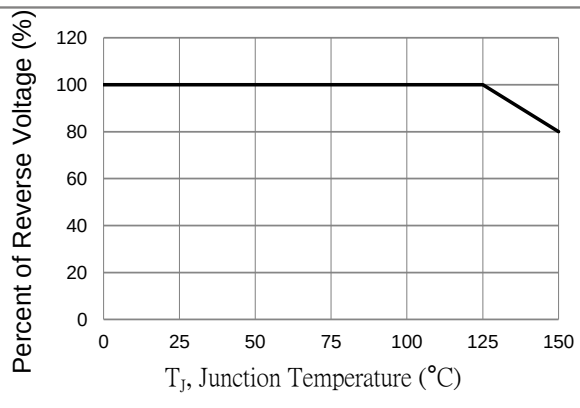

Fig.7 Operating Temperature Derating Curve

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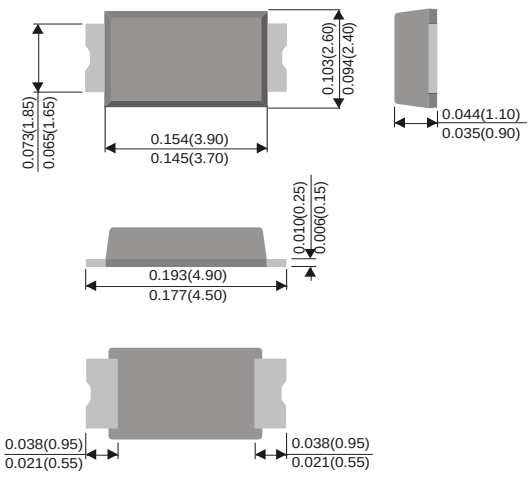
Product and Packing Information

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

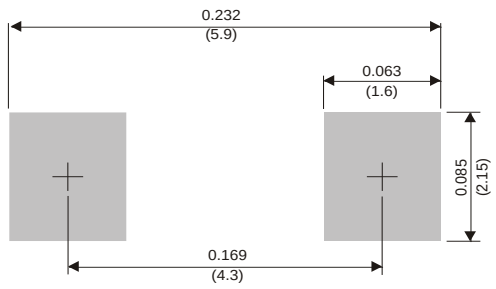
SMAF-C Dimension

Unit: inch(mm)



SMAF-C Pad Layout

Unit: inch(mm)



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