



## MBR38AFC ~ MBR320AFC Series

### Surface Mount Schottky Barrier Rectifier

**Voltage**

**80~200 V**

**Current**

**3 A**

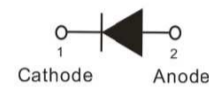
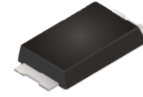
#### Features

- 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<sub>A</sub> = 25°C unless otherwise noted)

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

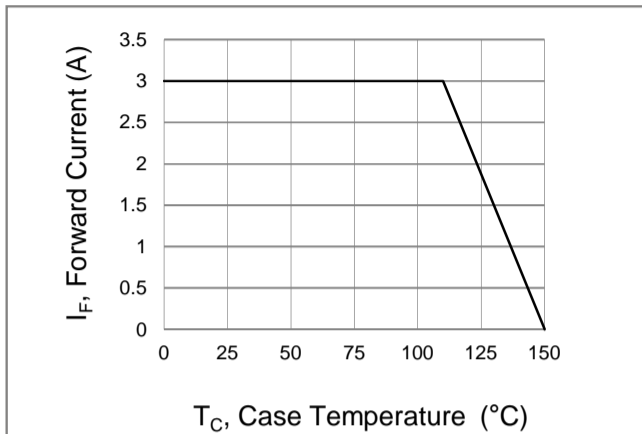
NOTES:

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

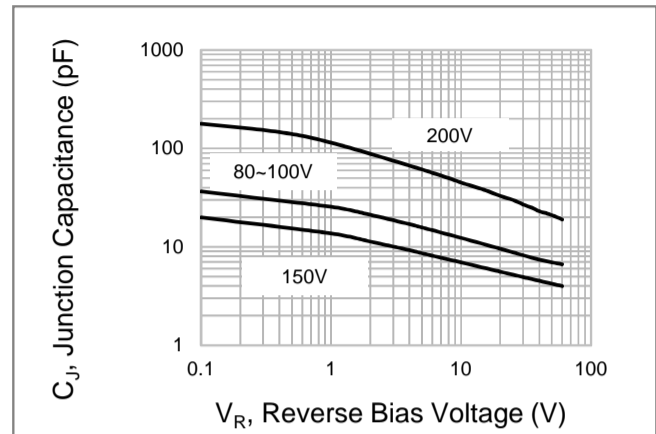


# MBR38AFC ~ MBR320AFC Series

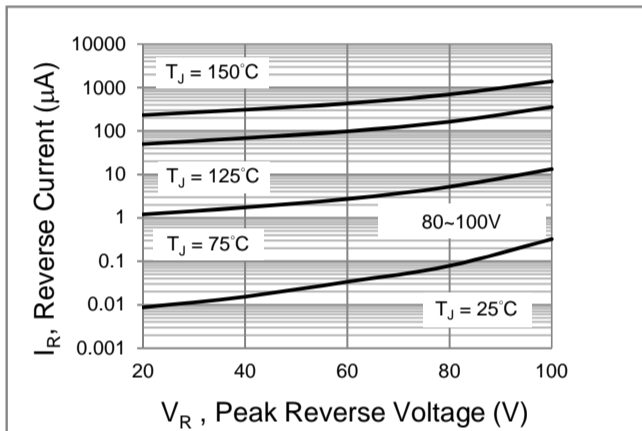
## TYPICAL CHARACTERISTIC CURVES



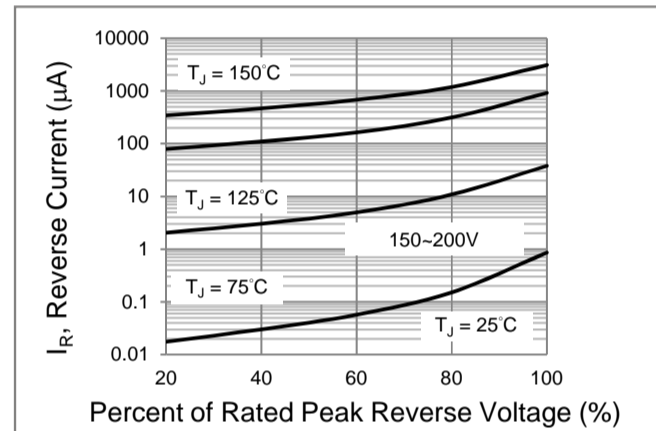
**Fig.1 Forward Current Derating Curve**



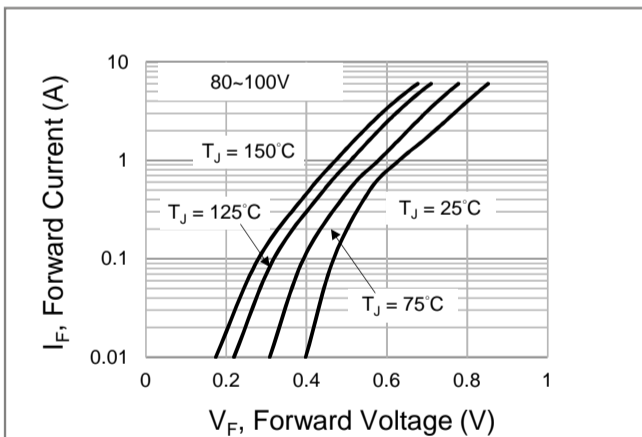
**Fig.2 Typical Junction Capacitance**



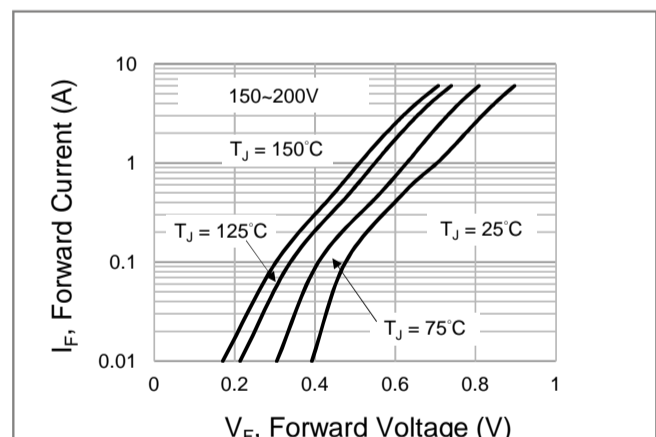
**Fig.3 Typical Reverse Characteristics**



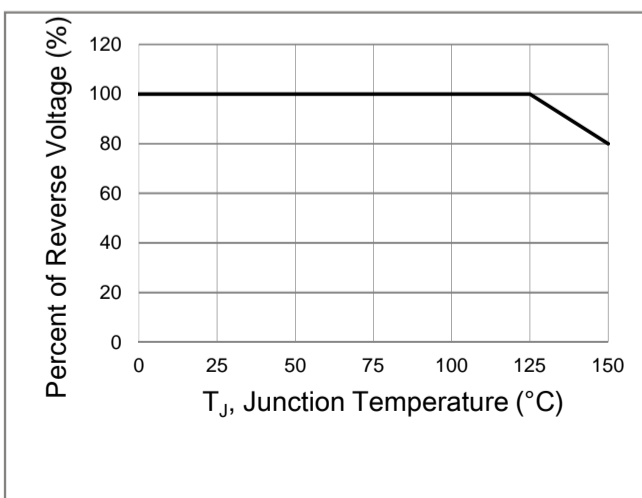
**Fig.4 Typical Reverse Characteristics**



**Fig.5 Typical Forward Characteristics**



**Fig.6 Typical Forward Characteristics**



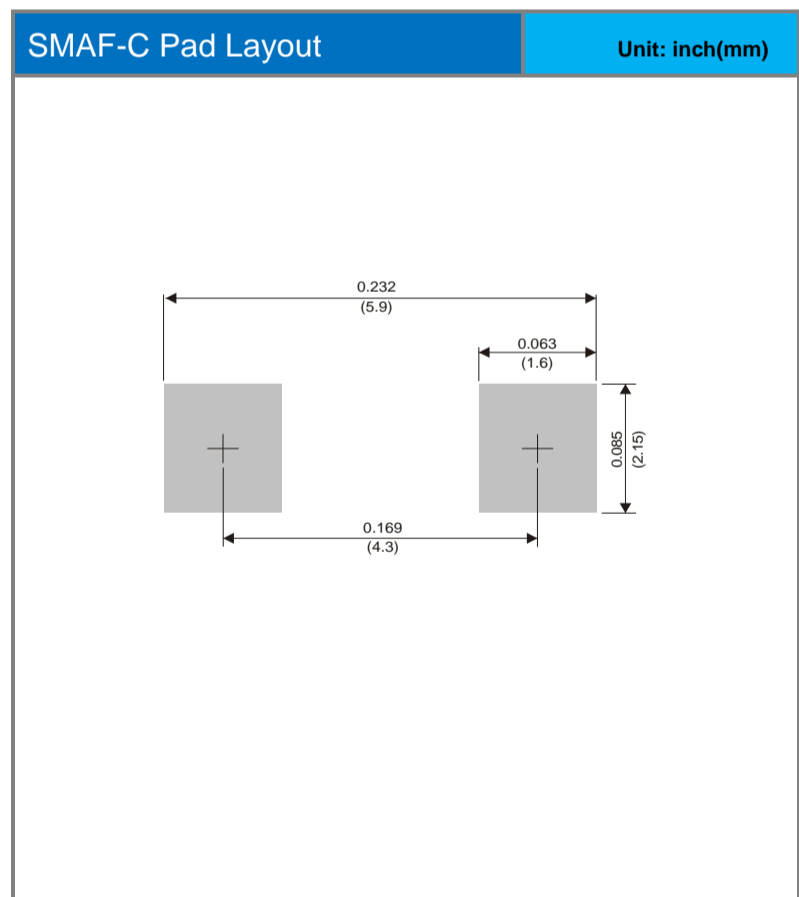
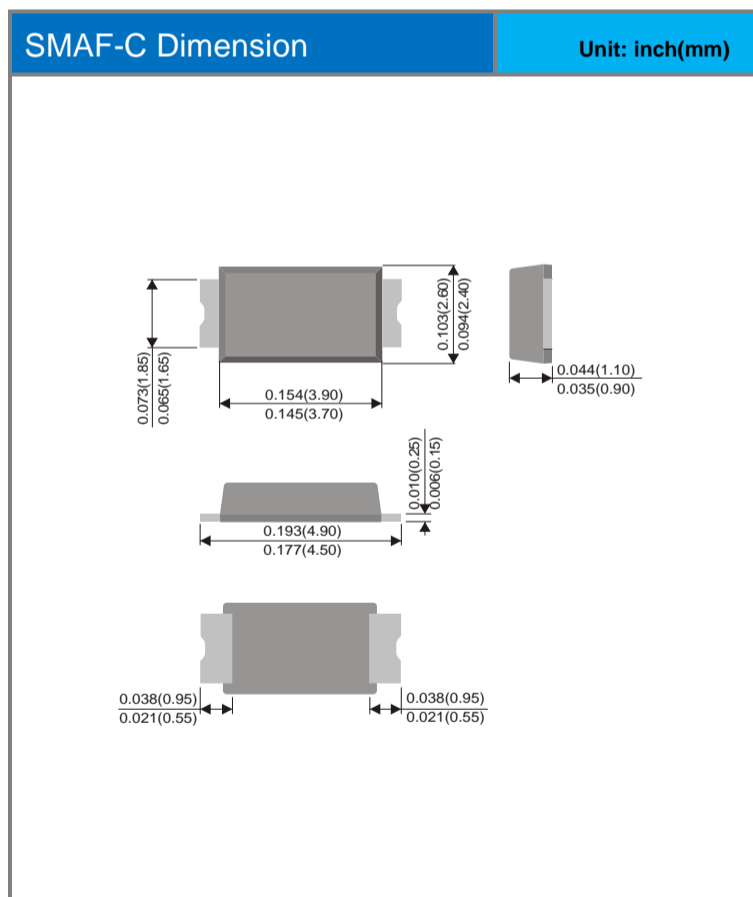


## MBR38AFC ~ MBR320AFC Series

### 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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