



## SB52AFC ~ SB56AFC Series

### Surface Mount Schottky Barrier Rectifier

**Voltage**

**20~60 V**

**Current**

**5 A**

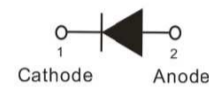
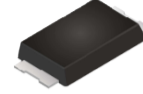
#### Features

- 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                  | SB52AFC        | SB53AFC | SB54AFC | SB56AFC | UNIT |
|--|-------------------------|----------------|---------|---------|---------|------|
| Maximum Recurrent Peak Reverse Voltage   | V <sub>RRM</sub>        | 20             | 30      | 40      | 60      | V    |
| Maximum RMS Voltage  | V <sub>RMS</sub>        | 14             | 21      | 28      | 42      | V    |
| Maximum DC Blocking Voltage  | V <sub>R</sub>          | 20             | 30      | 40      | 60      | V    |
| Maximum Average Forward Rectified Current  | I <sub>F(AV)</sub>      | 5              |         |         |         | A    |
| Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load | I <sub>FSM</sub>        | 100            |         |         |         | A    |
| Instantaneous Forward Voltage at 5A  | V <sub>F</sub>          | 0.54           |         |         | 0.66    | V    |
| Reverse Current <sup>(Note 3)</sup>  | T <sub>J</sub> = 25 °C  | I <sub>R</sub> | 100     |         |         | uA   |
| Reverse Current <sup>(Note 3)</sup>  | T <sub>J</sub> = 100 °C | I <sub>R</sub> | 30      |         | 20      | mA   |
| Typical Junction Capacitance Measured at 1 MHz And Applied V <sub>R</sub> = 10V      | C <sub>J</sub>          | 159            |         |         | 125     | pF   |
| Typical Thermal Resistance <sup>(Note 1)</sup>                                       | R <sub>θJL</sub>        | 15             |         |         |         | °C/W |
| <sup>(Note 2)</sup>  | R <sub>θJA</sub>        | 150            |         |         |         |      |
| Operating Junction Temperature Range   | T <sub>J</sub>          | -55 to +150    |         |         |         | °C   |
| Storage Temperature Range  | T <sub>STG</sub>        | -55 to +150    |         |         |         | °C   |

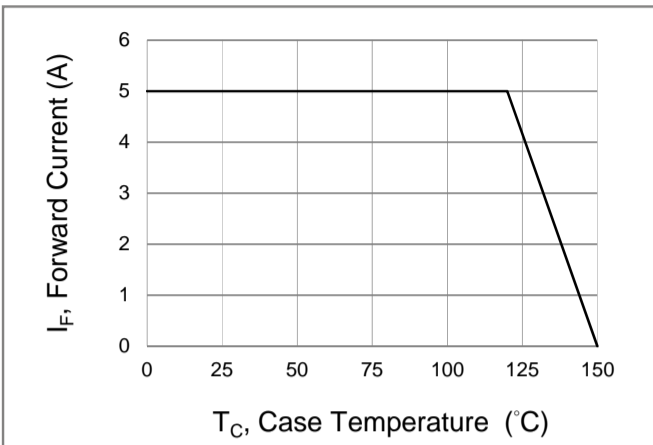
NOTES:

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

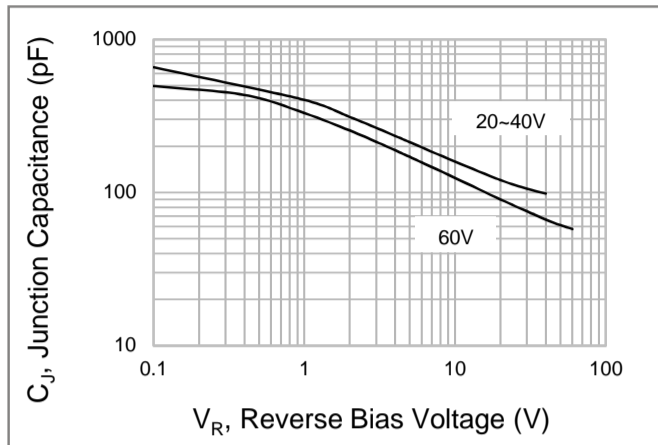


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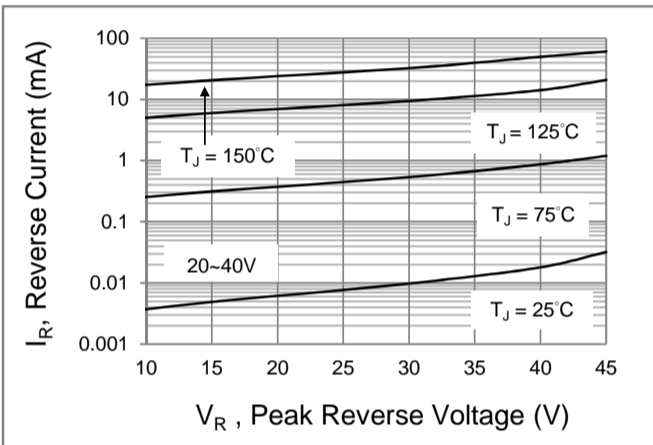
## TYPICAL CHARACTERISTIC CURVES



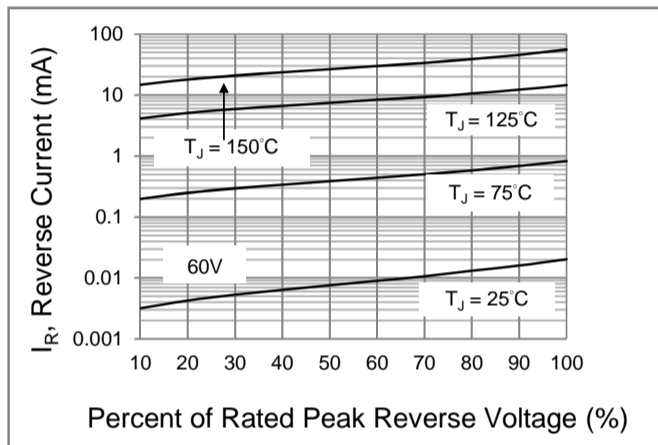
**Fig.1 Forward Current Derating Curve**



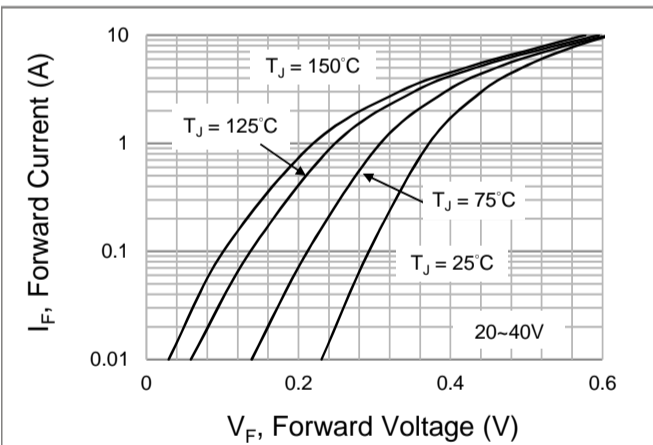
**Fig.2 Typical Junction Capacitance**



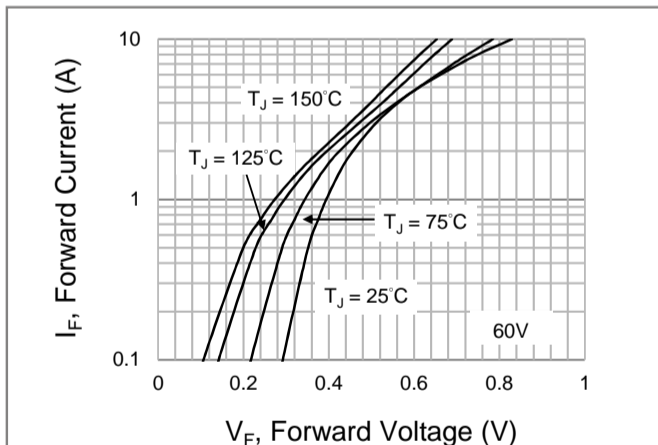
**Fig.3 Typical Reverse Characteristics**



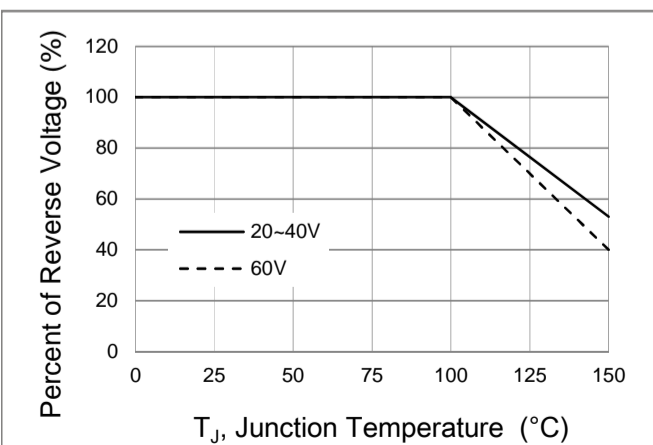
**Fig.4 Typical Reverse Characteristics**



**Fig.5 Typical Forward Characteristics**



**Fig.6 Typical Forward Characteristics**



**Fig.7 Operating Temperature Derating Curve**

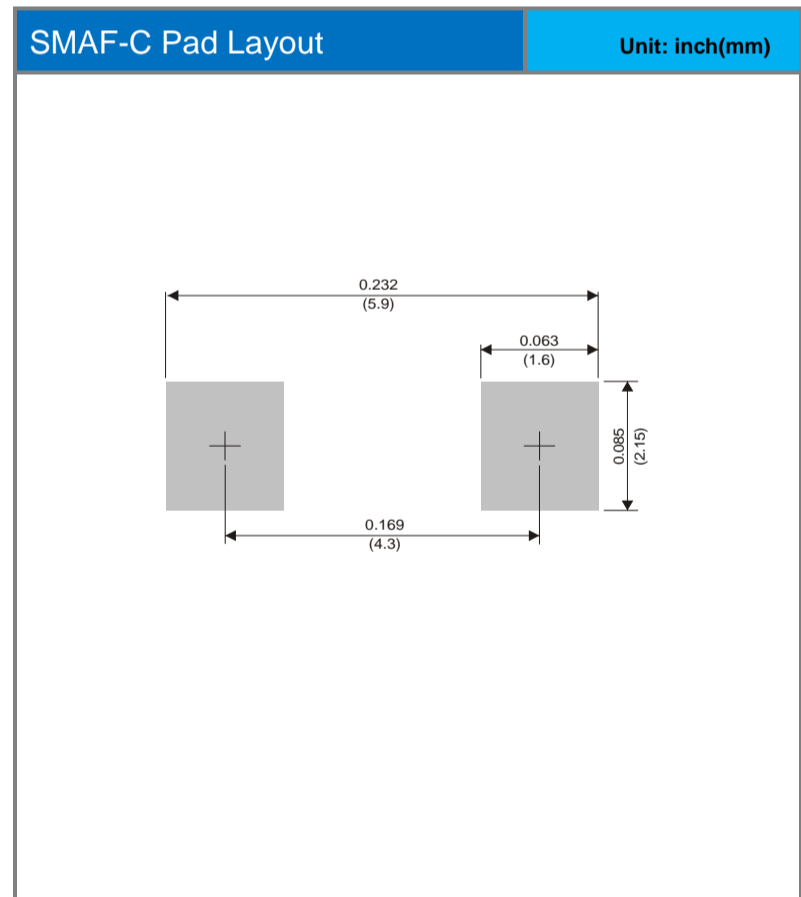
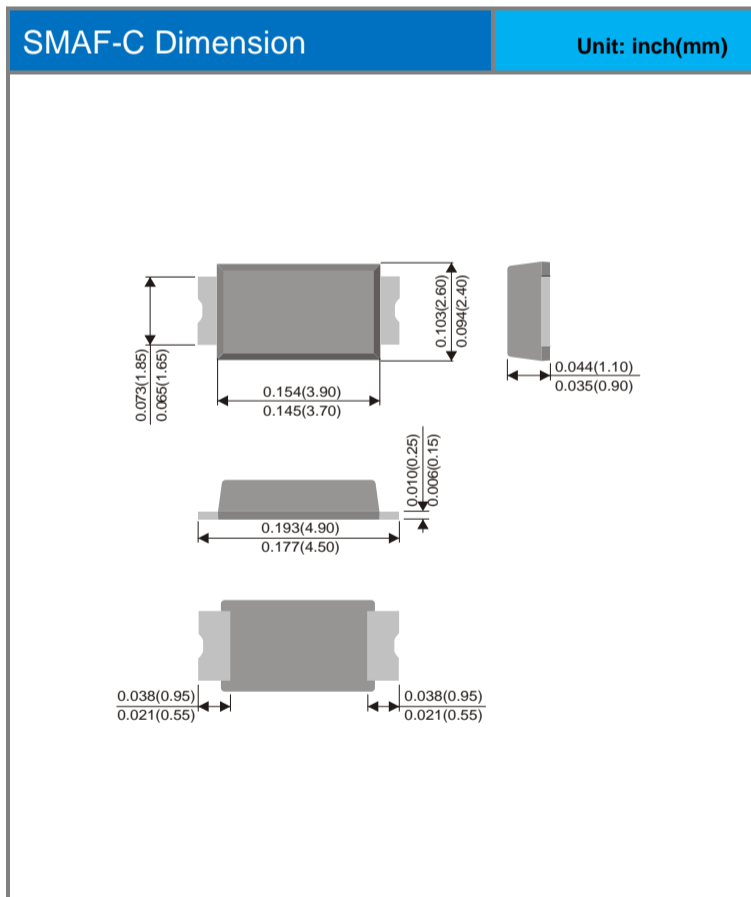


## SB52AFC ~ SB56AFC Series

### Part No. Packing Code Version

| Part No. Packing Code | Package Type | Packing Type     | Marking | Version      |
|-----------------------|--------------|------------------|---------|--------------|
| SB52AFC_R1_00001      | SMAF-C       | 3K pcs / 7" reel | SB52    | Halogen free |
| SB53AFC_R1_00001      | SMAF-C       | 3K pcs / 7" reel | SB53    | Halogen free |
| SB54AFC_R1_00001      | SMAF-C       | 3K pcs / 7" reel | SB54    | Halogen free |
| SB56AFC_R1_00001      | SMAF-C       | 3K pcs / 7" reel | SB56    | Halogen free |

### Packaging Information & Mounting Pad Layout





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