



# SBM3060VDC-AU

## Surface Mount Low $V_F$ Schottky Barrier Rectifier

**Voltage**

**60 V**

**Current**

**30 A**

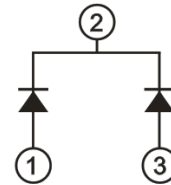
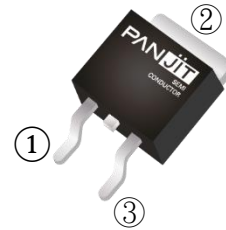
### Features

- Low forward voltage drop
- Low power loss, high efficiency
- High surge current capability
- AEC-Q101 qualified
- Lead free in comply with EU RoHS 2.0
- Green molding compound as per IEC61249 Standard

### Mechanical Data

- Case : TO-263 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 1.38 grams

TO-263



### Maximum Ratings and Thermal Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

| PARAMETER  | SYMBOL      | LIMIT           | UNITS            |
|--|-------------|-----------------|------------------|
| Maximum Repetitive Peak Reverse Voltage  | $V_{RRM}$   | 60              | V                |
| Maximum RMS Voltage  | $V_{RMS}$   | 42              | V                |
| Maximum DC Blocking Voltage  | $V_{DC}$    | 60              | V                |
| Maximum Average Forward Current  | $I_{F(AV)}$ | per device      | 30               |
|  |             | per diode       | 15               |
| Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load Per Diode | $I_{FSM}$   | 250             | A                |
| Typical Junction Capacitance<br>Measured at 1 MHz And Applied $V_R = 4\text{ V}$               | $C_J$       | 650             | pF               |
| Typical Thermal Resistance   | (Note 1)    | $R_{\theta JA}$ | 52               |
|  | (Note 2)    | $R_{\theta JC}$ | 4.5              |
|  | (Note 2)    | $R_{\theta JL}$ | 3.2              |
| Operating Junction Temperature Range   | $T_J$       | -55~150         | $^\circ\text{C}$ |
| Storage Temperature Range  | $T_{STG}$   | -55~150         | $^\circ\text{C}$ |



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### Electrical Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

| PARAMETER                                     | SYMBOL | TEST CONDITION                               | MIN. | TYP. | MAX. | UNITS         |
|---|--------|--|------|------|------|---------------|
| Forward Voltage Per Diode                     | $V_F$  | $I_F = 3\text{ A}, T_J = 25^\circ\text{C}$   | -    | 0.36 | -    | V             |
|   |        | $I_F = 5\text{ A}, T_J = 25^\circ\text{C}$   | -    | 0.4  | -    |               |
|   |        | $I_F = 15\text{ A}, T_J = 25^\circ\text{C}$  | -    | -    | 0.59 |               |
|   |        | $I_F = 3\text{ A}, T_J = 125^\circ\text{C}$  | -    | 0.29 | -    |               |
|   |        | $I_F = 5\text{ A}, T_J = 125^\circ\text{C}$  | -    | 0.35 | -    |               |
|   |        | $I_F = 15\text{ A}, T_J = 125^\circ\text{C}$ | -    | 0.57 | -    |               |
| Reverse Current Per Diode <sup>(Note 3)</sup> | $I_R$  | $V_R = 42\text{ V}, T_J = 25^\circ\text{C}$  | -    | 30   | -    | $\mu\text{A}$ |
|   |        | $V_R = 60\text{ V}, T_J = 25^\circ\text{C}$  | -    | -    | 220  |               |
|   |        | $V_R = 60\text{ V}, T_J = 125^\circ\text{C}$ | -    | 16   | -    | mA            |

NOTES :

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



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## TYPICAL CHARACTERISTIC CURVES

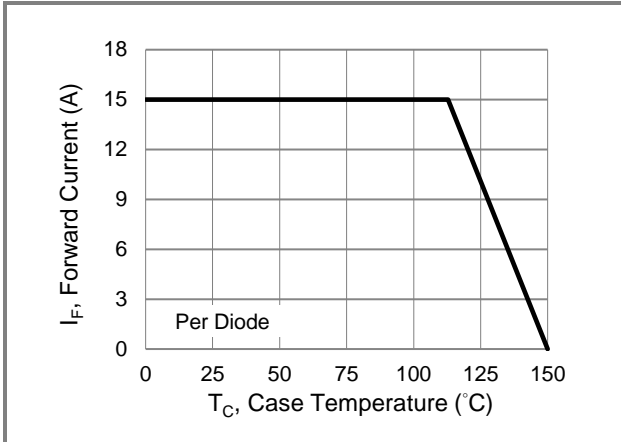


Fig.1 Forward Current Derating Curve

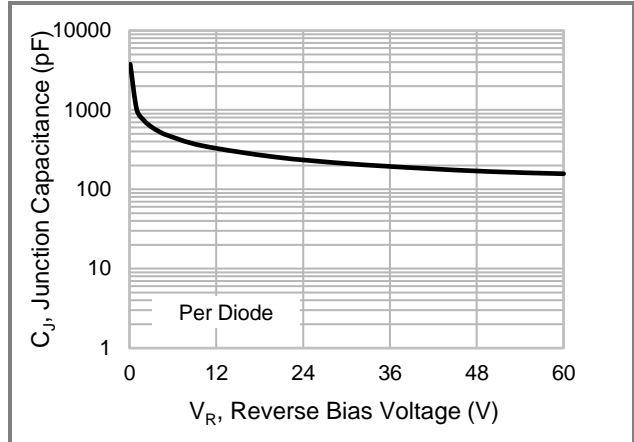


Fig.2 Typical Junction Capacitance

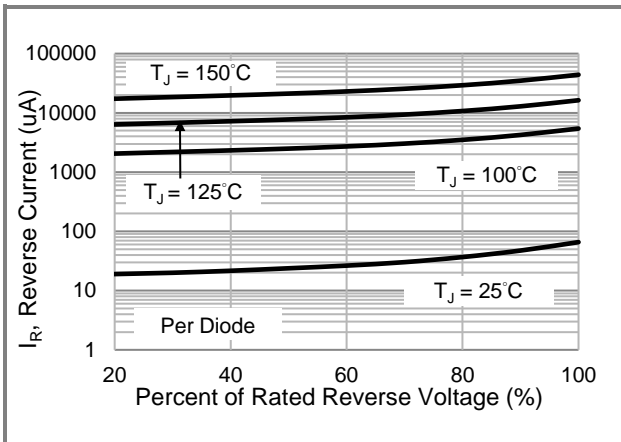


Fig.3 Typical Reverse Characteristics

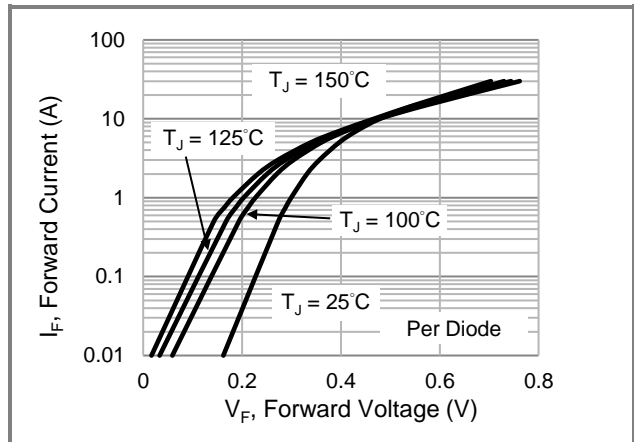


Fig.4 Typical Forward Characteristics

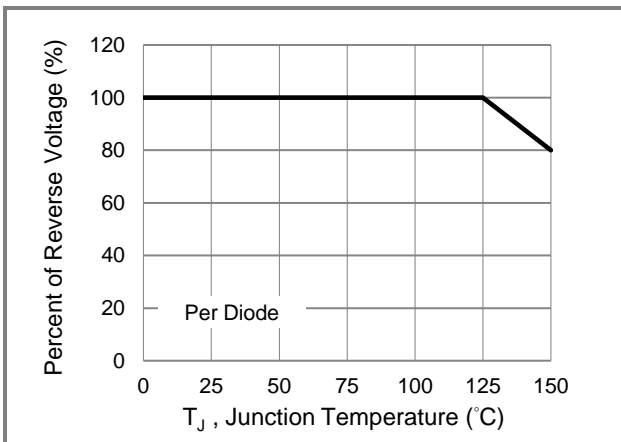


Fig.5 Operating Temperature Derating Curve



# SBM3060VDC-AU

Part No. Packing Code Version

| Part No.      | Package Type | Packing Type       | Marking    | Version                        |
|---------------|--------------|--------------------|------------|--------------------------------|
| SBM3060VDC-AU | TO-263       | 800 pcs / 13" reel | SBM3060VDC | Halogen free<br>RoHS compliant |

## Packaging Information & Mounting Pad Layout

