

SBM1550UPC

Surface Mount Extreme Low V_f Schottky Barrier Rectifier

Voltage

50 V

Current

15 A

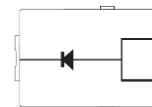
Features

- Extreme low forward voltage drop
- Low power loss, high efficiency
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : TO-277C package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.11 grams

TO-277C



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

| PARAMETER | | SYMBOL | LIMIT | UNITS |
|--|----------|-----------------|---------|----------------------|
| Maximum Recurrent Peak Reverse Voltage | | V_{RRM} | 50 | V |
| Maximum RMS Voltage | | V_{RMS} | 35 | V |
| Maximum DC Blocking Voltage | | V_{DC} | 50 | V |
| Maximum Average Forward Rectified Current | | $I_{F(AV)}$ | 15 | A |
| Peak Forward Surge Current : 8.3 ms single half sine-wave superimposed on rated load | | I_{FSM} | 275 | A |
| Typical Junction Capacitance Measured at 1 MHz And Applied $V_R = 4\text{ V}$ | | C_J | 830 | pF |
| Typical Thermal Resistance | (Note 1) | $R_{\theta JA}$ | 65 | $^{\circ}\text{C/W}$ |
| | (Note 2) | $R_{\theta JC}$ | 0.53 | |
| | (Note 2) | $R_{\theta JL}$ | 11 | |
| 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 | V_F | $I_F = 1\text{ A}, T_J = 25^\circ\text{C}$ | - | 0.28 | 0.33 | V |
| | | $I_F = 2\text{ A}, T_J = 25^\circ\text{C}$ | - | 0.31 | 0.36 | |
| | | $I_F = 15\text{ A}, T_J = 25^\circ\text{C}$ | - | 0.44 | 0.49 | |
| | | $I_F = 1\text{ A}, T_J = 125^\circ\text{C}$ | - | 0.18 | 0.23 | |
| | | $I_F = 2\text{ A}, T_J = 125^\circ\text{C}$ | - | 0.21 | 0.26 | |
| | | $I_F = 15\text{ A}, T_J = 125^\circ\text{C}$ | - | 0.4 | 0.45 | |
| Reverse current ^(Note 3) | I_R | $V_R = 40\text{ V}, T_J = 25^\circ\text{C}$ | - | 65 | 180 | uA |
| | | $V_R = 50\text{ V}, T_J = 25^\circ\text{C}$ | - | 112 | 320 | |
| | | $V_R = 40\text{ V}, T_J = 125^\circ\text{C}$ | - | 15 | 60 | mA |
| | | $V_R = 50\text{ V}, T_J = 125^\circ\text{C}$ | - | 20 | 100 | |

NOTES :

1. Mounted on an FR4 PCB, single-sided copper, standard footprint.
2. Mounted on a FR4 PCB, single-sided copper, with 100 cm² copper pad area.
3. Short duration pulse test used to minimize self-heating effect.

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TYPICAL CHARACTERISTIC CURVES

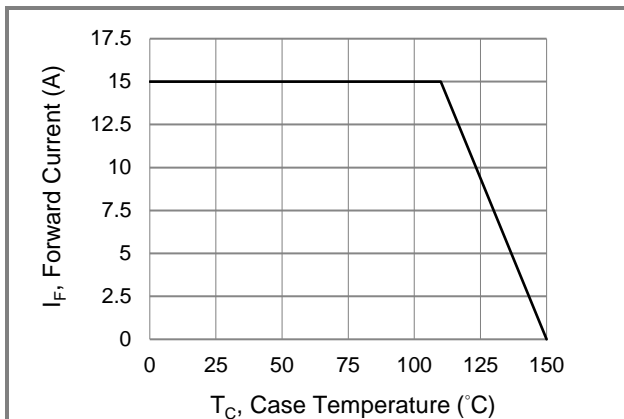


Fig.1 Forward Current Derating Curve

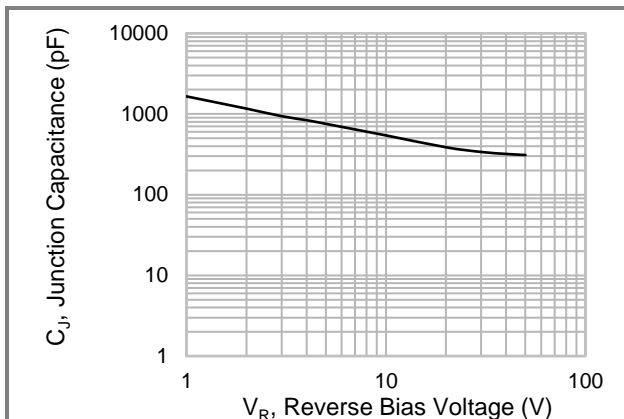


Fig.2 Typical Junction Capacitance

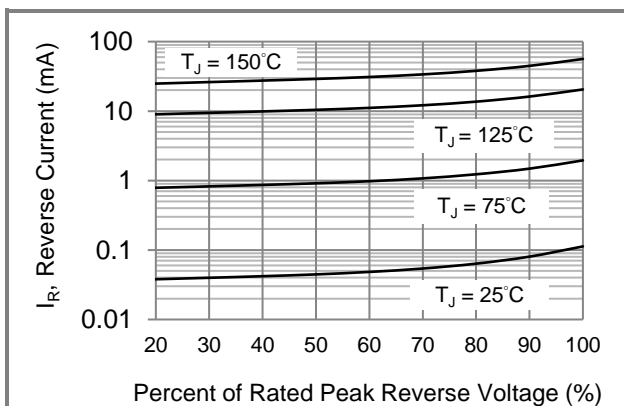


Fig.3 Typical Reverse Characteristics

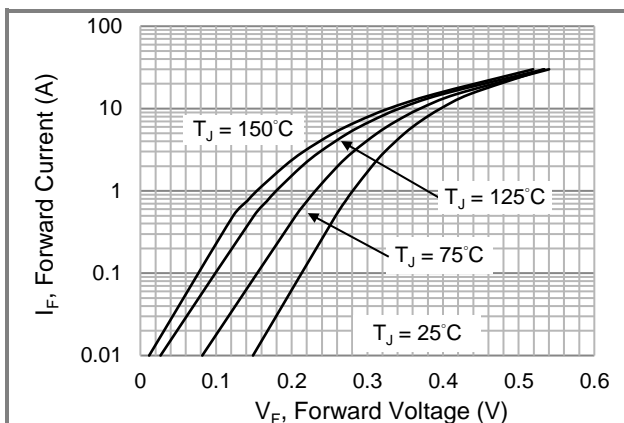


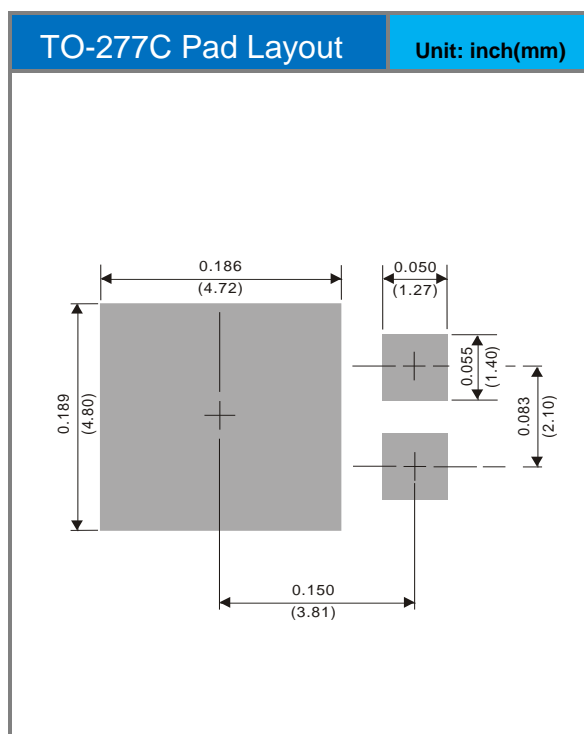
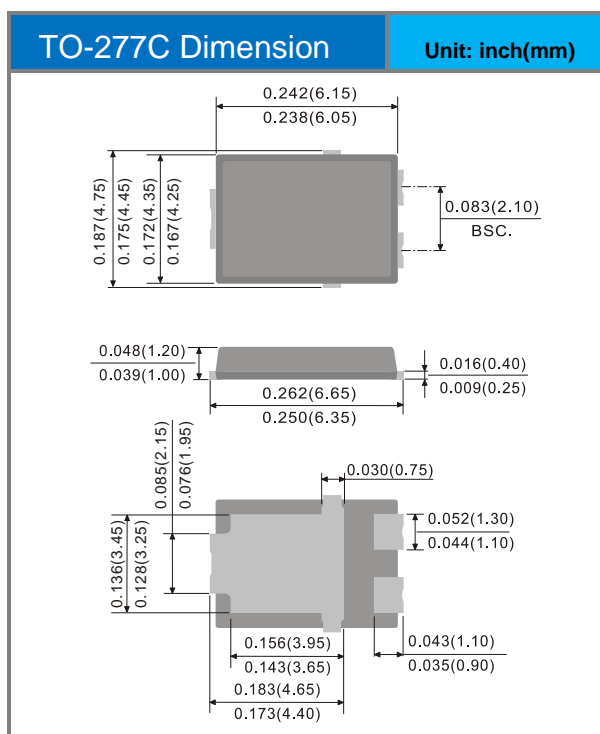
Fig.4 Typical Forward Characteristics

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Product and Packing Information

| Part No. | Package Type | Packing Type | Marking |
|------------|--------------|-------------------|------------|
| SBM1550UPC | TO-277C | 5K pcs / 13" reel | SBM1550UPC |

Packaging Information & Mounting Pad Layout



SBM1550UPC

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