

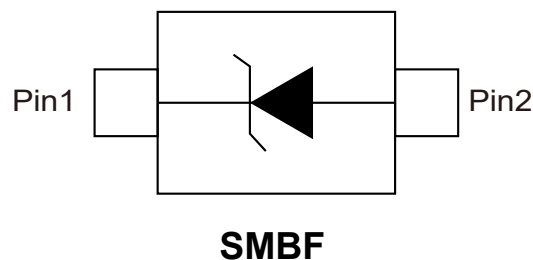
## 1.Features

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

## 2.Mechanical Data

- Case: SMBF
- Approx.Weight: 57mg/0.002oz
- Terminals: Solderable per MIL-STD-750 Method 2026

## 3.Pinning information





#### 4. Maximum Ratings And Electrical Characteristics

| Parameter  |                       | Symbol             | SS 22BF    | SS 24BF | SS 26BF | SS 28BF | SS 210BF | SS 212BF | SS 215BF | SS 220BF | Units |
|--|-----------------------|--------------------|------------|---------|---------|---------|----------|----------|----------|----------|-------|
| Maximum Repetitive Peak Reverse Voltage  |                       | V <sub>RRM</sub>   | 20         | 40      | 60      | 80      | 100      | 120      | 150      | 200      | V     |
| Maximum RMS Voltage  |                       | V <sub>RMS</sub>   | 14         | 28      | 42      | 56      | 70       | 84       | 105      | 140      | V     |
| Maximum DC Blocking Voltage  |                       | V <sub>DC</sub>    | 20         | 40      | 60      | 80      | 100      | 120      | 150      | 200      | V     |
| Maximum Average Forward Rectified Current  |                       | I <sub>F(AV)</sub> | 2          |         |         |         |          |          |          |          | A     |
| Peak Forward Surge Current,8.3ms<br>Single Half Sine-wave Superimposed<br>on Rated Load (JEDEC method) |                       | I <sub>FSM</sub>   | 55         |         |         |         | 45       |          |          |          | A     |
| Max Instantaneous Forward Voltage at 2A  |                       | V <sub>F</sub>     | 0.55       |         | 0.70    |         | 0.85     |          | 0.95     |          | V     |
| Maximum DC Reverse Current<br>at Rated DC Reverse Voltage  | T <sub>A</sub> =25°C  | I <sub>R</sub>     | 0.5        |         |         | 0.3     |          |          |          | mA       |       |
|  | T <sub>A</sub> =100°C |                    | 5          |         |         | 3       |          |          |          | mA       |       |
| Typical Junction Capacitance (Note1)   |                       | C <sub>J</sub>     | 250        |         |         | 110     |          |          |          | pF       |       |
| Typical Thermal Resistance (Note 2)  |                       | R <sub>θJA</sub>   | 65         |         |         |         |          |          |          |          | °C/W  |
| Junction Temperature Range   |                       | T <sub>J</sub>     | -55 to 125 |         |         |         |          |          |          |          | °C    |
| Storage Temperature Range  |                       | T <sub>STG</sub>   | -55 to 150 |         |         |         |          |          |          |          | °C    |

Absolute Maximum Ratings and Electrical characteristics Ratings at ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20 %

Notes:

- (1) Measured at 1MHz and applied reverse voltage of 4 V D.C.
- (2) P.C.B. mounted with 0.5 X 0.5" (12.7X12.7mm) copper pad areas.



## 5. Typical characteristic

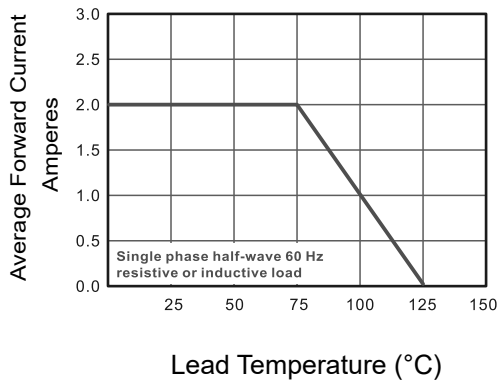


Figure 1: Forward Current Derating Curve

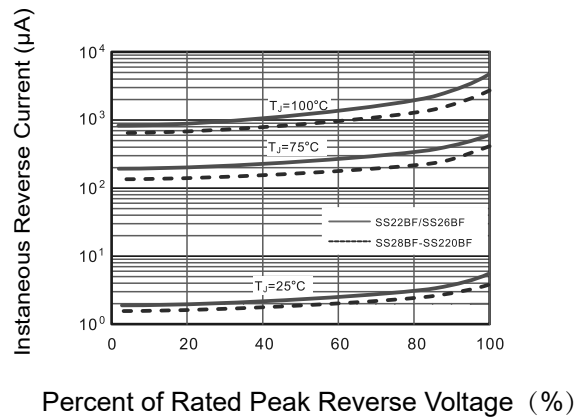


Figure 2: Typical Reverse Characteristics

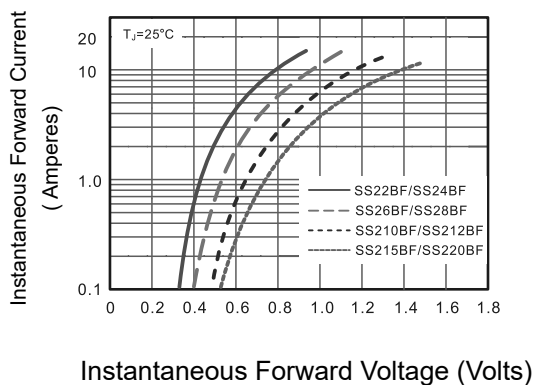


Figure 3: Typical Forward Characteristic

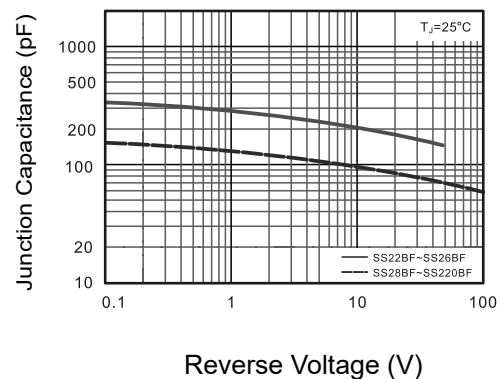


Figure 4: Typical Junction Capacitance

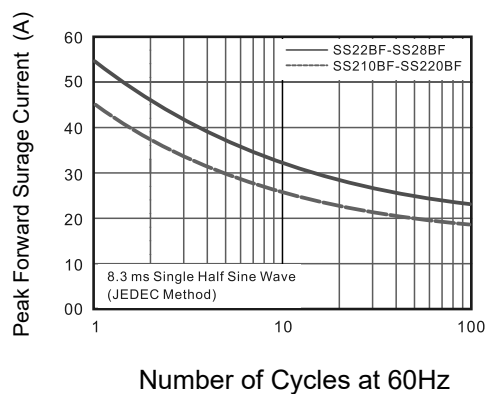


Figure 5: Maximum Non-Repetitive Peak Forward Surge Current

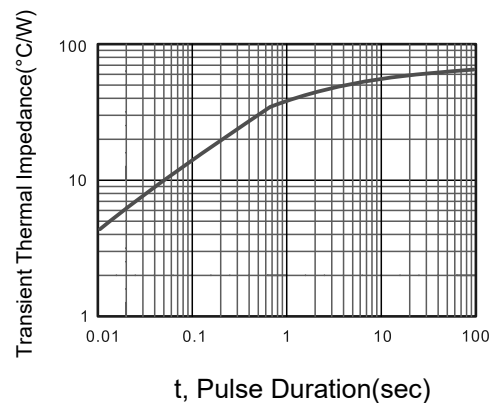
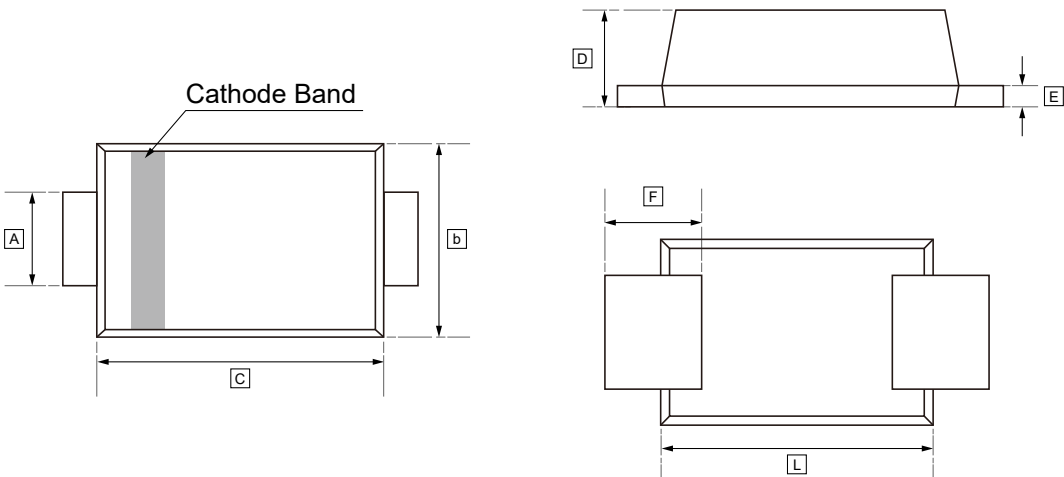


Figure 6: Typical Transient Thermal Impedance



6.SMBF Package Outline Dimensions



DIMENSIONS (mm are the original dimensions)

| Symbol | A    | b    | C   | D    | E    | F    | L    |
|--------|------|------|-----|------|------|------|------|
| Min    | 1.90 | 3.50 | 4.2 | 1.10 | 0.18 | 1.0  | 5.10 |
| Max    | 2.20 | 3.70 | 4.4 | 1.30 | 0.26 | 1.30 | 5.5  |



7 .Ordering information



| Order Code  | Marking | Package | Base QTY | Delivery Mode |
|-------------|---------|---------|----------|---------------|
| UMW SS22BF  | S22B    | SMBF    | 5000     | Tape and reel |
| UMW SS24BF  | S24B    | SMBF    | 5000     | Tape and reel |
| UMW SS26BF  | S26B    | SMBF    | 5000     | Tape and reel |
| UMW SS28BF  | S28B    | SMBF    | 5000     | Tape and reel |
| UMW SS210BF | S210B   | SMBF    | 5000     | Tape and reel |
| UMW SS212BF | S212B   | SMBF    | 5000     | Tape and reel |
| UMW SS215BF | S215B   | SMBF    | 5000     | Tape and reel |
| UMW SS220BF | S220B   | SMBF    | 5000     | Tape and reel |



## 8.Disclaimer

UMW reserves the right to make changes to all products, specifications. Customers should obtain the latest version of product documentation and verify the completeness and currency of the information before placing an order.

When applying our products, please do not exceed the maximum rated values, as this may affect the reliability of the entire system. Under certain conditions, any semiconductor product may experience faults or failures. Buyers are responsible for adhering to safety standards and implementing safety measures during system design, prototyping, and manufacturing when using our products to prevent potential failure risks that could lead to personal injury or property damage.

Unless explicitly stated in writing, UMW products are not intended for use in medical, life-saving, or life-sustaining applications, nor for any other applications where product failure could result in personal injury or death. If customers use or sell the product for such applications without explicit authorization, they assume all associated risks.

When reselling, applying, or exporting, please comply with export control laws and regulations of China, the United States, the United Kingdom, the European Union, and other relevant countries, regions, and international organizations.

This document and any actions by UMW do not grant any intellectual property rights, whether express or implied, by estoppel or otherwise. The product names and marks mentioned herein may be trademarks of their respective owners.