

## Fast Recovery Rectifier

## RS3KBF--RS3MBF

### Features

- For surface mounted applications
- Low profile package
- Low forward voltage drop
- High surge current capability
- RoHS Compliant



### Mechanical Data

- Case: SMBF molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Solder plated, solderable per MIL-STD-202, Method 208
- Polarity: Color band denotes cathode end

### Maximum Ratings (@T<sub>A</sub> = 25°C unless otherwise specified)

| Characteristic                                             |                        | Symbol             | RS3KBF | RS3MBF | Units |
|------------------------------------------------------------|------------------------|--------------------|--------|--------|-------|
| Peak repetitive reverse voltage                            |                        | V <sub>RRM</sub>   | 800    | 1000   | V     |
| RMS reverse voltage                                        |                        | V <sub>RMS</sub>   | 560    | 700    | V     |
| DC blocking voltage                                        |                        | V <sub>DC</sub>    | 800    | 1000   | V     |
| Maximum average forward output current                     |                        | I <sub>F(AV)</sub> | 3.0    |        | A     |
| Peak forward surge current,<br>8.3ms single half-sine-wave | @T <sub>J</sub> = 25°C | I <sub>FSM</sub>   | 100    |        | A     |

### Thermal Characteristics

| Parameter                              | Symbol           | RS3KBF          | RS3MBF | Units |
|----------------------------------------|------------------|-----------------|--------|-------|
| Typical thermal resistance<br>(Note 1) | R <sub>θJA</sub> | 65              |        | °C /W |
|                                        | R <sub>θJC</sub> | 16              |        |       |
|                                        | R <sub>θJL</sub> | 15              |        |       |
| Operating junction temperature range   | T <sub>J</sub>   | - 55 ---- + 150 |        | °C    |
| Storage temperature range              | T <sub>STG</sub> | - 55 ---- + 150 |        | °C    |

Note:

1. Device mounted on PCB with 10 mm x 20 mm x 0.1mm copper pad areas

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### Electrical Characteristics (@T<sub>A</sub> = 25°C unless otherwise specified)

| Parameter                             | Symbol         | Test conditions                                                       |                        | Typ. | Max. | Units |
|---------------------------------------|----------------|-----------------------------------------------------------------------|------------------------|------|------|-------|
| Maximum instantaneous forward voltage | V <sub>F</sub> | I <sub>F</sub> =3.0A                                                  |                        | --   | 1.3  | V     |
| Maximum Reverse current               | I <sub>R</sub> | Rated V <sub>R</sub> ,                                                | @T <sub>A</sub> =25°C  | --   | 5    | μ A   |
|                                       |                |                                                                       | @T <sub>A</sub> =125°C | --   | 200  |       |
| Maximum Reverse Recovery Time         | trr            | I <sub>F</sub> =0.5A, I <sub>RM</sub> =1A, I <sub>R(REC)</sub> =0.25A |                        | --   | 500  | ns    |

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### Ratings and Characteristic Curves ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Fig.1-Forward Current Derating Curve

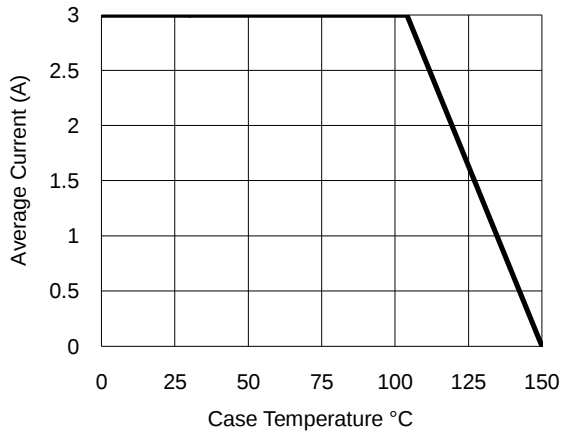


Fig.2- Surge Current Derating Curve

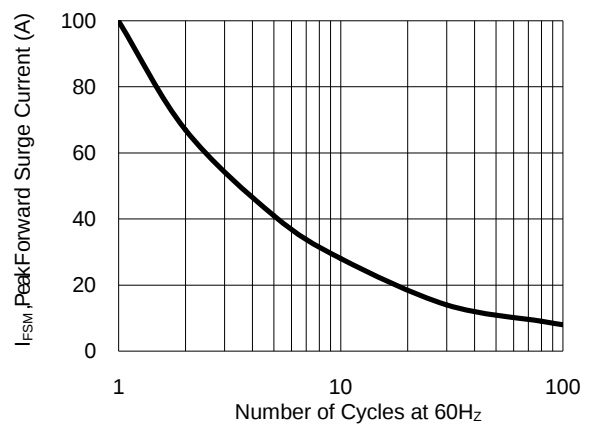


Fig.3- Typical Forward Voltage Characteristic

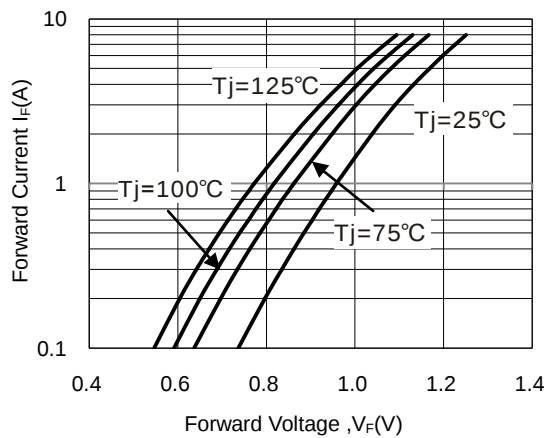
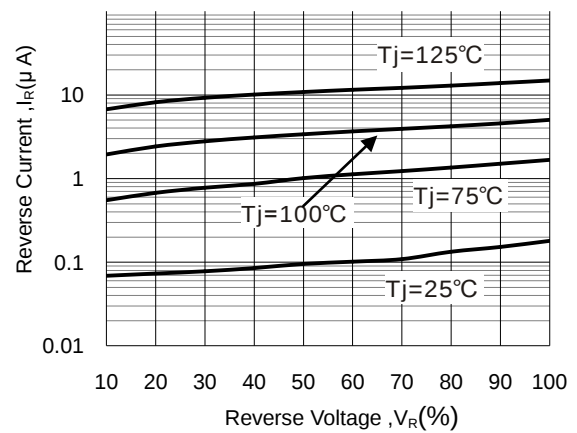


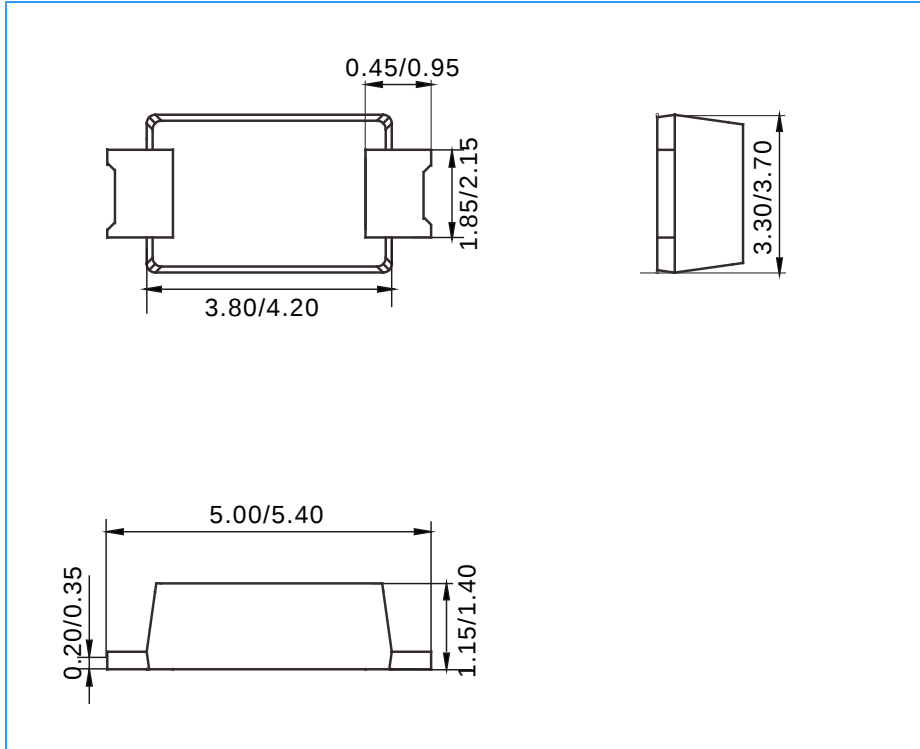
Fig.4- Typical Reverse Characteristic



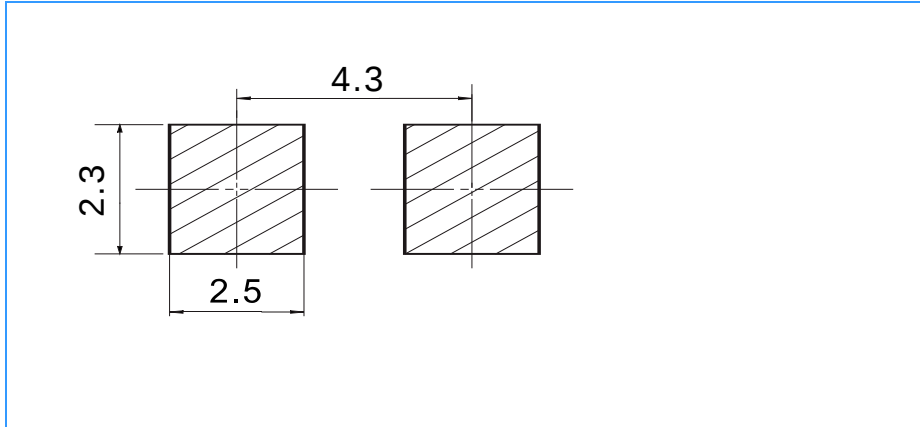
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### Package Outline Dimensions(unit:mm)



### Mounting Pad Layout(unit:mm)



### Ordering Information

| Part No. | Marking | Package | Shipping         |
|----------|---------|---------|------------------|
| RS3KBF   | RS3KBF  | SMBF    | 4000 / Tape&Reel |
| RS3MBF   | RS3MBF  | SMBF    | 4000 / Tape&Reel |