

## Features

 $I_{F(AV)}$  3A

 $V_{RRM}$  20V~100V

High surge current capability

Polarity: Color band denotes cathode

Low peak forward voltage

## Applications

Rectifier

SMBF


**Marking:**SK3XBF

X: 2 To 10

## Limiting Values(Absolute Maximum Rating)

| Item                                 | Symbol             | Unit | Test Conditions                                    | SK3        |     |     |            |     |     |      |
|--------------------------------------|--------------------|------|----------------------------------------------------|------------|-----|-----|------------|-----|-----|------|
|                                      |                    |      |                                                    | 2BF        | 3BF | 4BF | 5BF        | 6BF | 8BF | 10BF |
| Repetitive Peak Reverse Voltage      | V <sub>RRM</sub>   | V    |                                                    | 20         | 30  | 40  | 50         | 60  | 80  | 100  |
| Maximum RMS Voltage                  | V <sub>RMS</sub>   | V    |                                                    | 14         | 21  | 28  | 35         | 42  | 56  | 70   |
| Maximum DC Blocking Voltage          | V <sub>DC</sub>    | V    |                                                    | 20         | 30  | 40  | 50         | 60  | 80  | 100  |
| Average Forward Current              | I <sub>F(AV)</sub> | A    | 60Hz Half-sine wave,<br>Resistance load, Ta(Fig.1) | 3.0        |     |     |            |     |     |      |
| Surge(Non-repetitive)Forward Current | I <sub>FSM</sub>   | A    | 60Hz Half-sine wave,<br>1 cycle, Ta=25℃            | 70         |     |     |            |     |     |      |
| Junction Temperature                 | T <sub>J</sub>     | ℃    |                                                    | -55 ~ +125 |     |     | -55 ~ +150 |     |     |      |
| Storage Temperature                  | T <sub>STG</sub>   | ℃    |                                                    | -55 ~ +150 |     |     |            |     |     |      |

## Electrical Characteristics (T=25°C Unless otherwise specified)

| Item                                                        | Symbol            | Unit | Test Condition                                               |          | SK3  |     |     |      |     |      |      |
|-------------------------------------------------------------|-------------------|------|--------------------------------------------------------------|----------|------|-----|-----|------|-----|------|------|
|                                                             |                   |      |                                                              |          | 2BF  | 3BF | 4BF | 5BF  | 6BF | 8BF  | 10BF |
| Peak Forward Voltage                                        | V <sub>F</sub>    | V    | I <sub>F</sub> =3.0A                                         | Ta=25°C  | 0.55 |     |     | 0.70 |     | 0.85 |      |
| Peak Reverse Current                                        | I <sub>RRM1</sub> | mA   | V <sub>RM</sub> =V <sub>RRM</sub>                            | Ta=25°C  | 1    |     |     |      |     |      |      |
|                                                             | I <sub>RRM2</sub> |      |                                                              | Ta=100°C | 50   |     |     |      |     |      |      |
| Typical Junction Capacitance<br>Thermal Resistance(Typical) | C <sub>J</sub>    | pF   | Measured at 1MHz and applied<br>reverse voltage of 4.0V D.C. |          | 500  |     |     | 300  |     |      |      |
|                                                             | R <sub>θJ-A</sub> | °C/W | Between junction and ambient                                 |          | 78   |     |     |      |     |      |      |

### Notes:

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

## Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

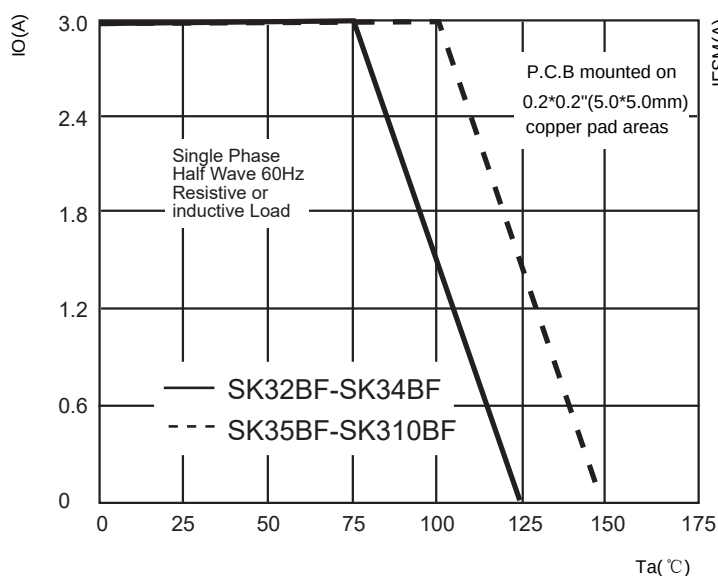


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

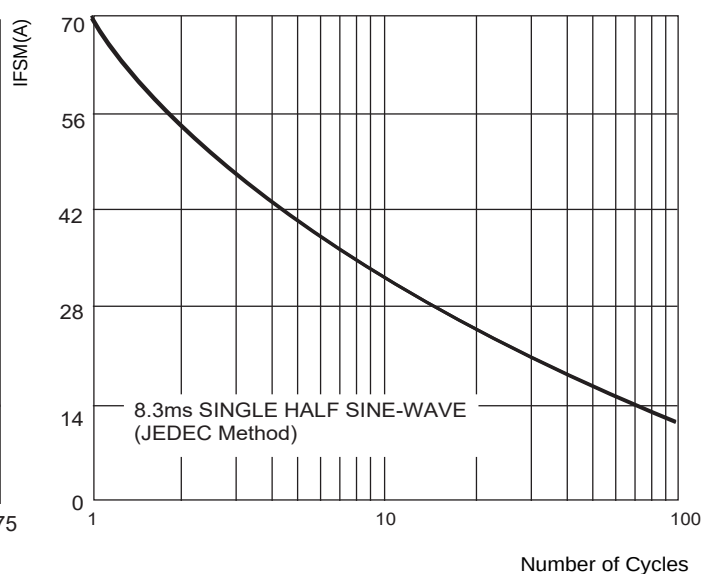


FIG.3: TYPICAL FORWARD CHARACTERISTICS

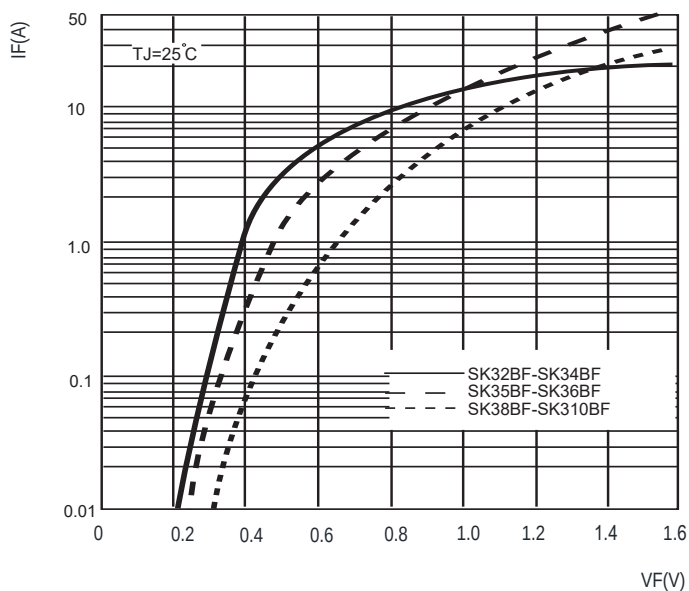


FIG.4: TYPICAL REVERSE CHARACTERISTICS

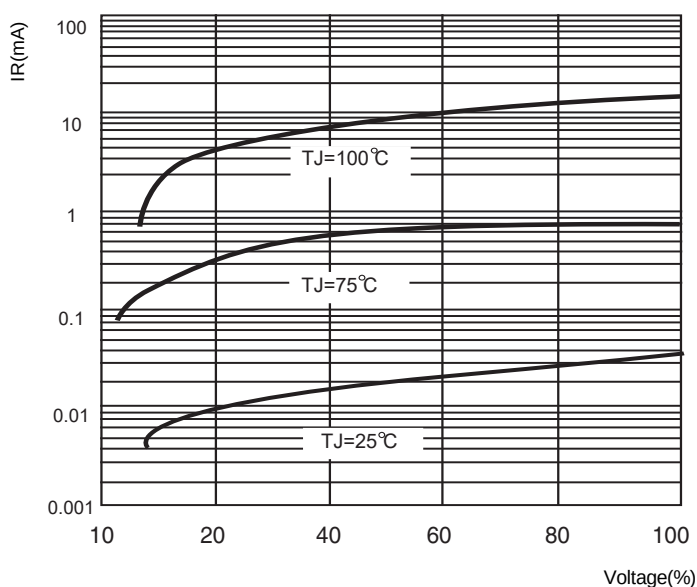
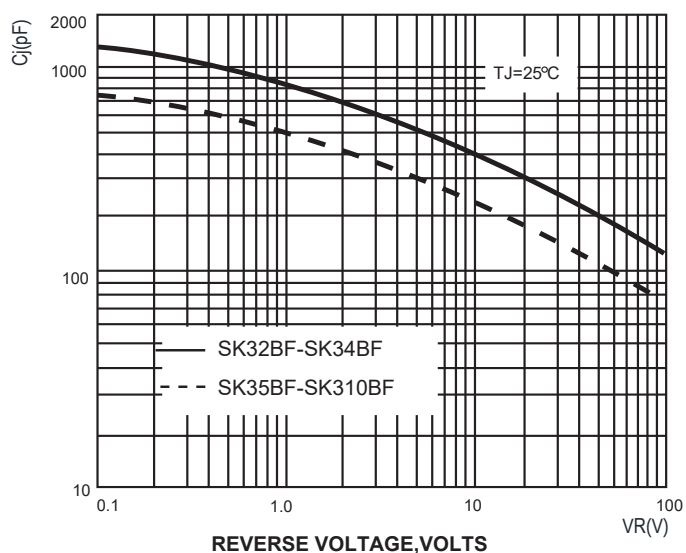
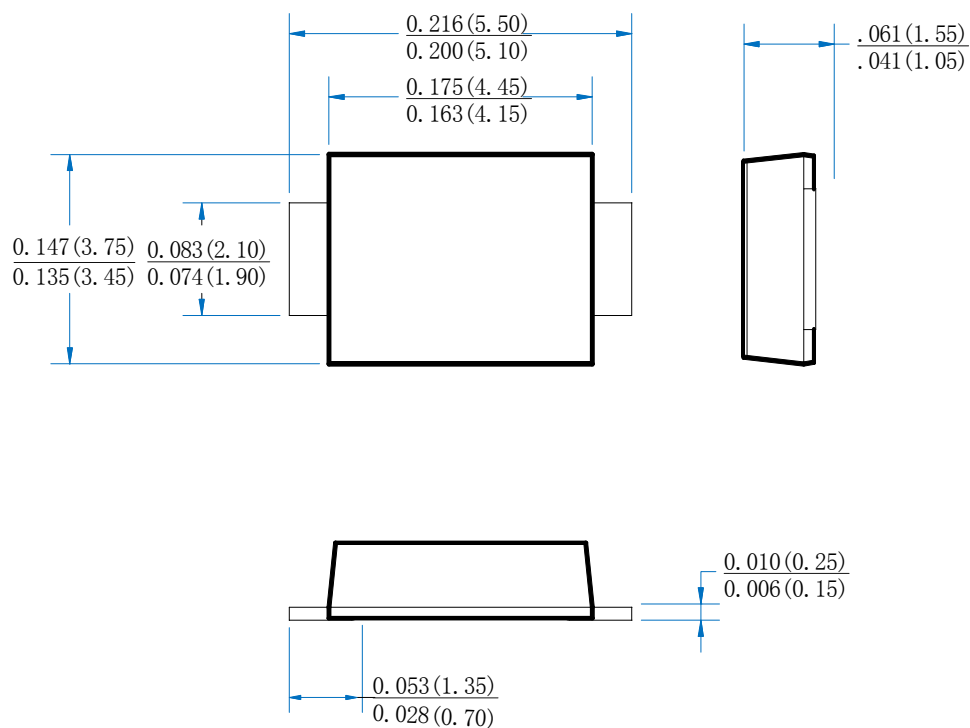


FIG.5: TYPICAL JUNCTION CAPACITANCE

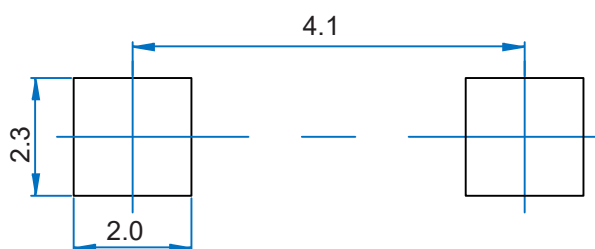


## SMBF Package outline Dimensions



Dimensions in inches and (millimeters)

## SMBF Suggested pad Layout



### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$  mm.
3. The pad layout is for reference purposes only.