GOOD-ARK
SEMICONDUCTOR

# SK3B5B

Surface Mount Schottky Rectifier
Reverse Voltage 150V  Forward Current 3A

## Features

- Low forward voltage drop
- High junction temperature
- Moisture sensitivity: level 1, per J-STD-020
- Plastic package has underwriters laboratory flammability classification 94V-0
- Add suffix 'E' for halogen-free
- Halogen-free according to IEC 61249-2-21 definition
- AEC-Q101 qualified

RoHS COMPLIANT

Package: DO-214AA (SMB)

## Applications

For use in low voltage, high freqency inverters, free wheeling and polarity protection applications.

## Maximum Ratings ($T_A$ = 25°C unless otherwise noted)

| Parameter | Symbol | SK3B5B | Unit |
|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 150 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 105 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 150 | V |
| Maximum Average Forward Rectified Current | $I_{F(AV)}$ | 3.0 | A |
| Peak Forward Surge Current (8.3 ms single half sine-wave superimposed on rated load) | $I_{FSM}$ | 100 | A |
| Operating Junction and Storage Temperature Range | $T_J$, $T_{STG}$ | -55 to +150 | °C |

## Electrical Characteristics ($T_A$ = 25°C unless otherwise noted)

| Parameter | Test Conditions | Symbol | Value | Unit |
|---|---|---|---|---|
| Maximum Instantaneous Forward Voltage | $I_F$=3A | $V_F$ | 0.85 | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | $T_A$=25°C | $I_R$ | 30 | μA |
| | $T_A$=125°C | | 1000 | |
| Typical Junction Capacitance | 4.0 V, 1 MHz | $C_J$ | 80 | pF |

## Thermal Characteristics

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Typical Thermal Resistance(1) | $R_{\theta JA}$ | 70 | °C/W |
| | $R_{\theta JC}$ | 28 | |
| | $R_{\theta JI}$ | 15 | |

Note1: Thermal resistance from junction to lead, mounted on PCB with 8.0×8.0mm copper pads.

## Ratings and Characteristics Curves

($T_A$ = 25°C unless otherwise noted)

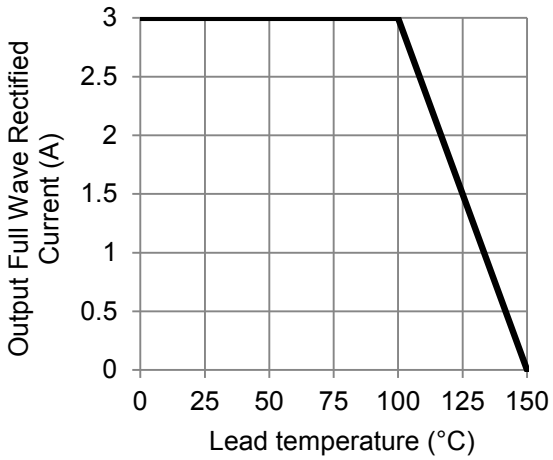



Figure 1. Forward Current Derating Curve

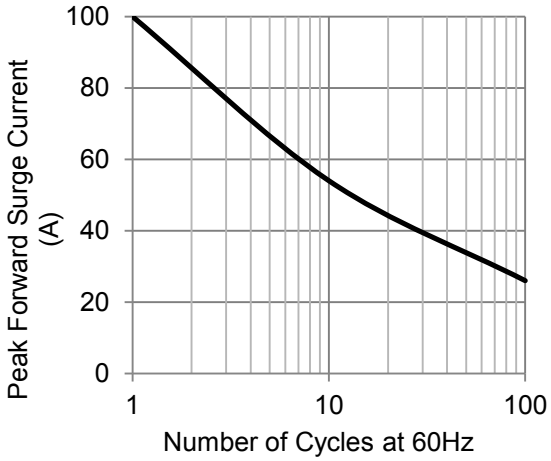



Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

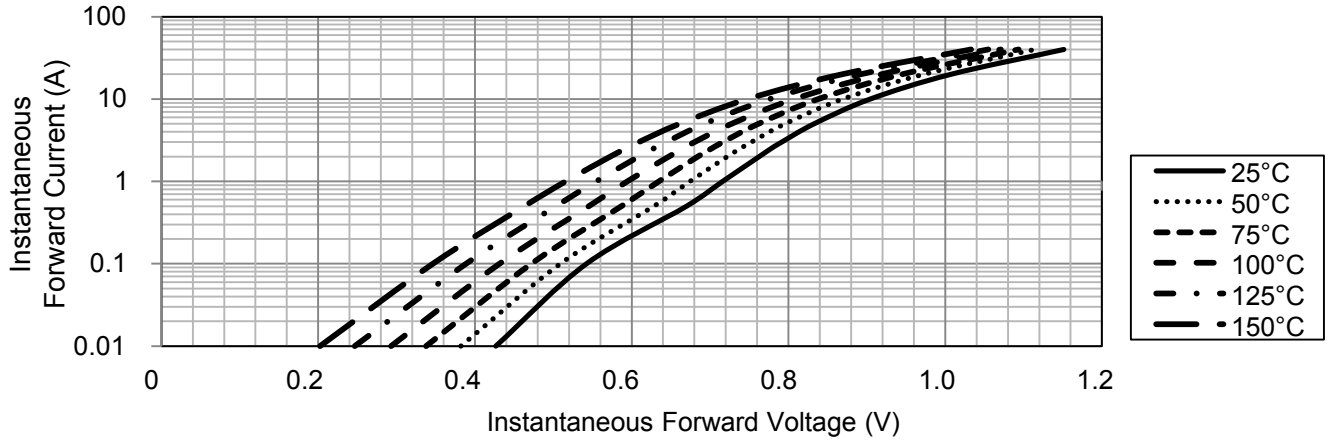



Figure 3. Typical Instantaneous Forward Characteristics

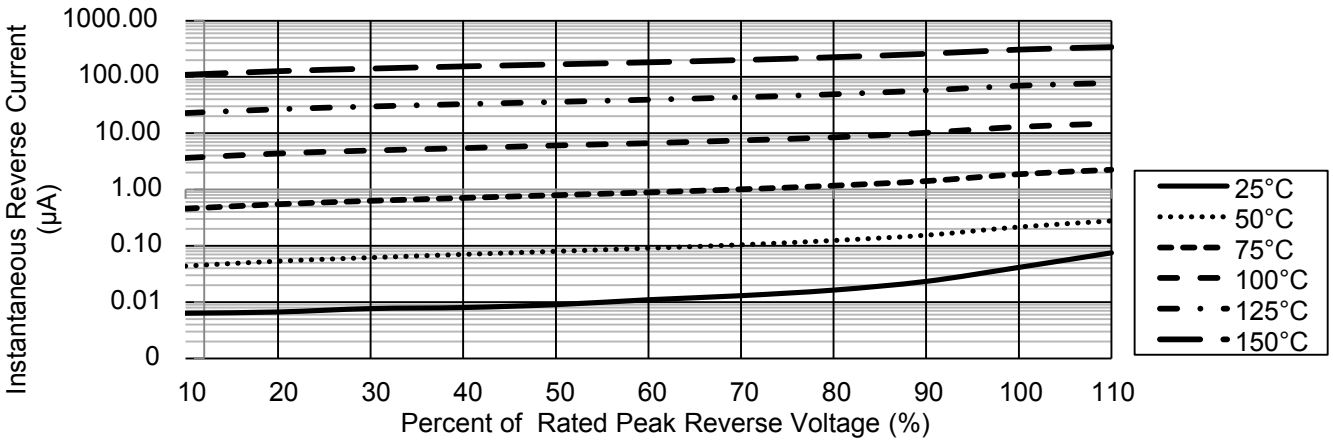
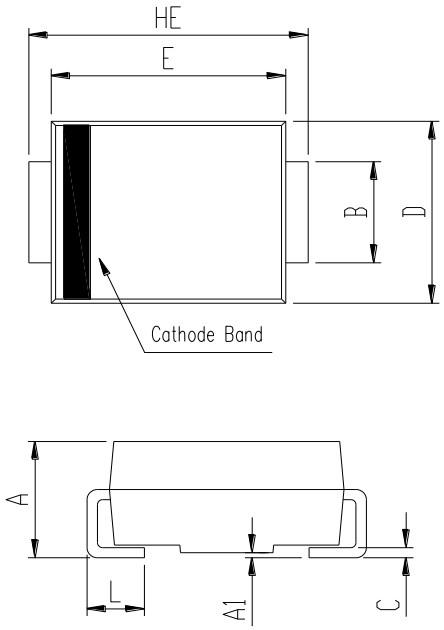


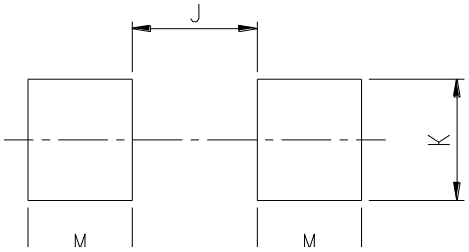

Figure 4. Typical Reverse Characteristics

## Package Outline Dimensions (DO-214AA (SMB))




| SMB (DO-214AA) | | | | |
|---|---|---|---|---|
| DIM | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| A | 1.99 | 2.61 | 0.078 | 0.103 |
| A1 | 0.00 | 0.30 | 0.000 | 0.012 |
| B | 1.70 | 2.30 | 0.067 | 0.091 |
| C | 0.15 | 0.31 | 0.006 | 0.012 |
| D | 3.30 | 3.94 | 0.130 | 0.155 |
| E | 4.06 | 4.75 | 0.160 | 0.187 |
| HE | 4.70 | 5.70 | 0.185 | 0.224 |
| L | 0.76 | 1.52 | 0.030 | 0.060 |

## Recommended Pad Layout




| SMB Recommended Pad Layout (Reference Only) | | | | |
|---|---|---|---|---|
| DIM | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| J | - | 2.60 | - | 0.102 |
| K | 2.20 | - | 0.087 | - |
| M | 1.80 | - | 0.071 | - |