

SMB Surface Mount Schottky Barrier Rectifier

Features

- For surface mounted applications
- High forward surge current capability
- Low power losses, high efficiency
- Built-in strain relief, ideal for automated placement
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Reverse Voltage  
20~120 V  
Forward Current  
1 Ampere

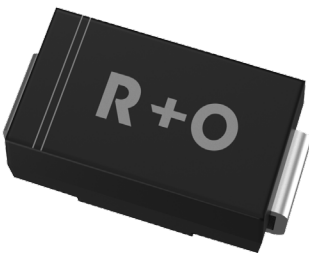
Applications

For use in low voltage high frequency inverters, free wheeling, DC/DC converters, and polarity protection applications.

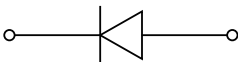
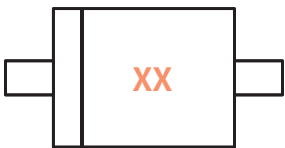
Mechanical Data

- Case: DO-214AA(SMB)  
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

DO-214AA(SMB)



Function Diagram



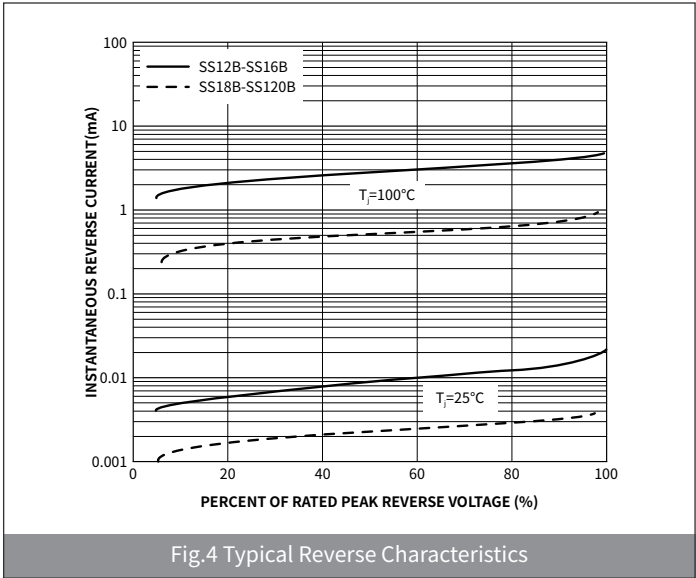
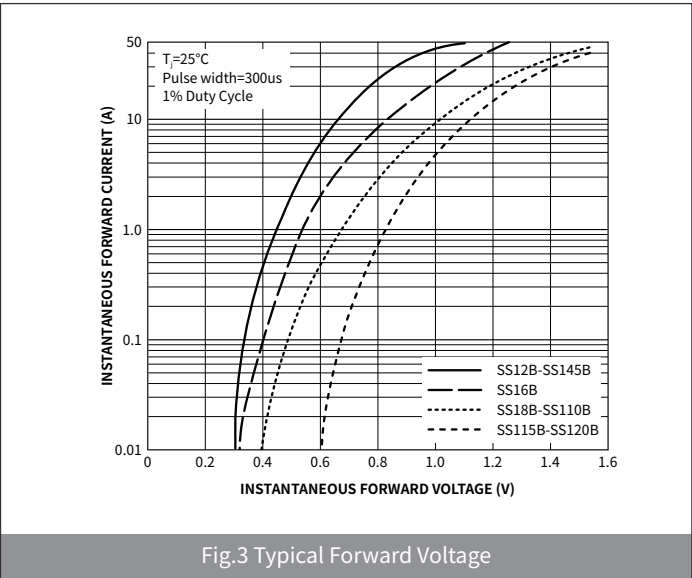
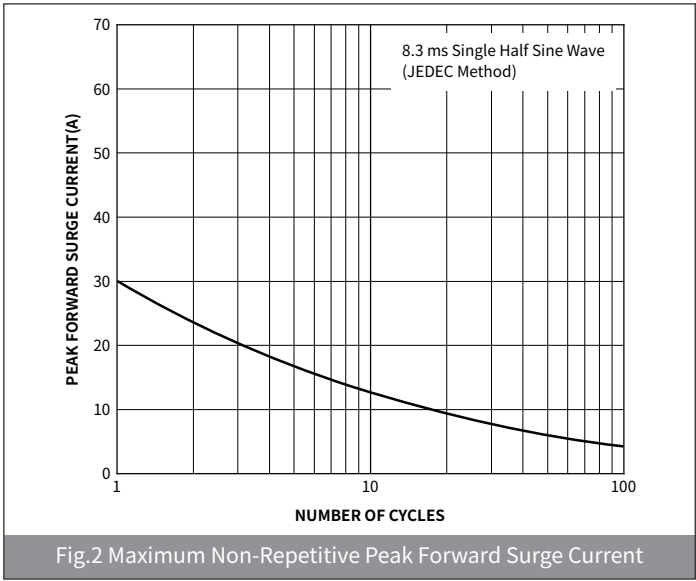
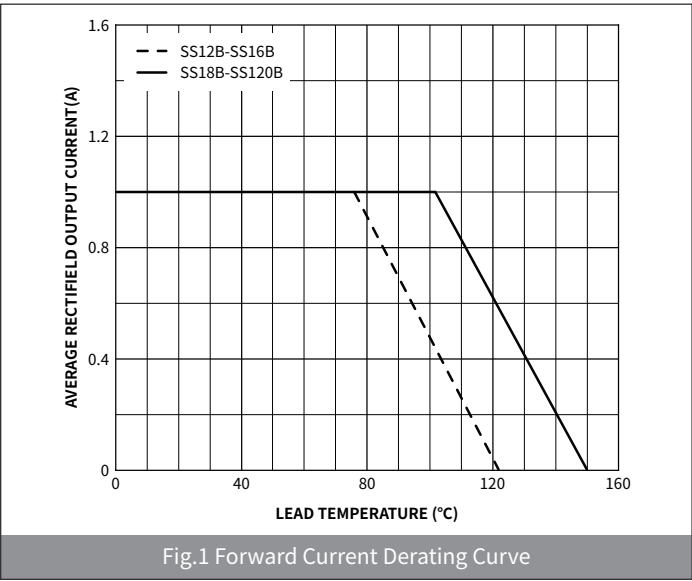
Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER                                                                              | SYMBOL           | UNIT  | SS12B      | SS14B | SS145B | SS16B | SS18B | SS110B | SS115B | SS120B |
|----------------------------------------------------------------------------------------|------------------|-------|------------|-------|--------|-------|-------|--------|--------|--------|
| Device marking code                                                                    |                  |       | SS12B      | SS14B | SS145B | SS16B | SS18B | SS110B | SS115B | SS120B |
| Maximum Repetitive Peak Reverse Voltage                                                | $V_{RRM}$        | V     | 20         | 40    | 45     | 60    | 80    | 100    | 150    | 200    |
| Maximum RMS Voltage                                                                    | $V_{RMS}$        | V     | 14         | 28    | 31.5   | 42    | 56    | 70     | 105    | 140    |
| Maximum DC blocking Voltage                                                            | $V_{DC}$         | V     | 20         | 40    | 45     | 60    | 80    | 100    | 150    | 200    |
| Maximum Average Forward Rectified Current @60Hz si newave, Resistance load, TL (Fig.1) | $I_{F(AV)}$      | A     | 1.0        |       |        |       |       |        |        |        |
| Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave                     | $I_{FSM}$        | A     | 30         |       |        |       |       |        |        |        |
| Storage temperature                                                                    | $T_{stg}$        | °C    | -55 ~ +150 |       |        |       |       |        |        |        |
| Junction temperature                                                                   | $T_j$            | °C    | -55 ~ +125 |       |        |       |       |        |        |        |
| Typical Thermal Resistance                                                             | $R_{\theta J-A}$ | °C /W | 60         |       |        |       |       |        |        |        |
|                                                                                        | $R_{\theta J-L}$ | °C /W | 15         |       |        |       |       |        |        |        |

● Electrical Characteristics (Ta=25°C Unless otherwise noted)

| PARAMETER                                               | TEST CONDITIONS                                         | SYMBOL          | UNIT | SS12B | SS14B | SS145B | SS16B | SS18B | SS110B | SS115B | SS120B |
|---------------------------------------------------------|---------------------------------------------------------|-----------------|------|-------|-------|--------|-------|-------|--------|--------|--------|
| Maximum instantaneous forward voltage                   | I <sub>F</sub> =1.0A                                    | V <sub>F</sub>  | V    | 0.55  |       |        | 0.70  | 0.85  |        | 0.95   |        |
| Maximum DC reverse current at rated DC blocking voltage | V <sub>R</sub> =V <sub>DC</sub> , T <sub>A</sub> =25°C  | I <sub>R1</sub> | mA   | 0.2   |       |        |       | 0.05  |        |        |        |
|                                                         | V <sub>R</sub> =V <sub>DC</sub> , T <sub>A</sub> =100°C | I <sub>R2</sub> |      | 10    |       |        |       | 5     |        |        |        |
| Typical junction capacitance                            | 4.0V DC, 1MHz                                           | C <sub>J</sub>  | pF   | 90    |       |        |       |       |        |        |        |

● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



# SS12B THRU SS120B

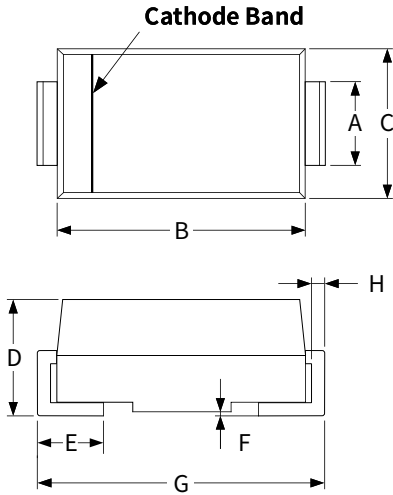
SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

## ● Ordering Information

| PACKAGE | PACKAGE CODE | UNIT WEIGHT(g) | REEL(pcs) | BOX(pcs) | CARTON(pcs) | DELIVERY MODE |
|---------|--------------|----------------|-----------|----------|-------------|---------------|
| SMB     | R3           | 0.098          | 3000      | 6000     | 48000       | 13"           |

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

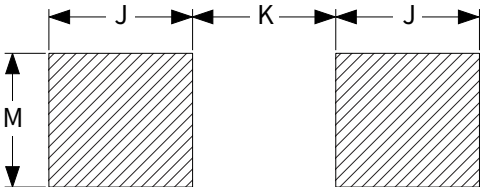
| Symbol | Dimensions  |       |        |       |
|--------|-------------|-------|--------|-------|
|        | Millimeters |       | Inches |       |
|        | Min.        | Max.  | Min.   | Max.  |
| A      | 1.85        | 2.21  | 0.073  | 0.087 |
| B      | 4.25        | 4.85  | 0.167  | 0.191 |
| C      | 3.30        | 3.94  | 0.130  | 0.155 |
| D      | 2.15        | 2.65  | 0.085  | 0.104 |
| E      | 0.75        | 1.52  | 0.030  | 0.060 |
| F      | -           | 0.203 | -      | 0.008 |
| G      | 5.08        | 5.59  | 0.200  | 0.220 |
| H      | 0.15        | 0.31  | 0.006  | 0.012 |



The diagram shows two views of the SMB package. The top view is a rectangle with dimensions B (width) and C (height). A vertical line on the left side is labeled 'Cathode Band'. The bottom view is a side profile showing dimensions D (total height), E (lead height), F (lead thickness), G (total width), and H (lead thickness).

## ● Suggested Pad Layout

| Symbol | Dimensions  |      |        |       |
|--------|-------------|------|--------|-------|
|        | Millimeters |      | Inches |       |
|        | Min.        | Max. | Min.   | Max.  |
| M      | 2.26        | -    | 0.089  | -     |
| J      | 2.10        | -    | 0.085  | -     |
| K      | -           | 2.74 | -      | 0.107 |



The diagram shows a top-down view of the pad layout. It consists of two rectangular pads. The width of each pad is labeled J, the height is labeled M, and the distance between the pads is labeled K.