

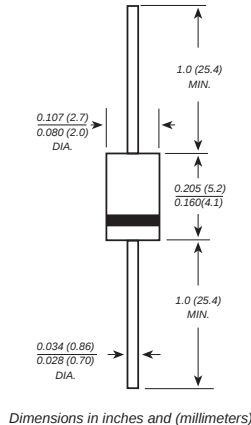


# SB120 THRU SB1200

## SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 200 Volts Forward Current - 1.0 Ampere

### DO-41



### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** JEDEC DO-41 molded plastic body  
**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Mounting Position:** Any  
**Weight:** 0.012 ounce, 0.33 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

| MDD Catalog Number                                                                                              | SYMBOLS           | SB 120      | SB 130 | SB 140 | SB 150 | SB 160 | SB 170 | SB 180      | SB 190 | SB 1B0 | SB 1150 | SB 1200 | UNITS |    |
|-----------------------------------------------------------------------------------------------------------------|-------------------|-------------|--------|--------|--------|--------|--------|-------------|--------|--------|---------|---------|-------|----|
| Maximum repetitive peak reverse voltage                                                                         | V <sub>RRM</sub>  | 20          | 30     | 40     | 50     | 60     | 70     | 80          | 90     | 100    | 150     | 200     | VOLTS |    |
| Maximum RMS voltage                                                                                             | V <sub>RMS</sub>  | 14          | 21     | 28     | 35     | 42     | 49     | 56          | 63     | 70     | 105     | 140     | VOLTS |    |
| Maximum DC blocking voltage                                                                                     | V <sub>DC</sub>   | 20          | 30     | 40     | 50     | 60     | 70     | 80          | 90     | 100    | 150     | 200     | VOLTS |    |
| Maximum average forward rectified current<br>0.375”(9.5mm) lead length(see fig.1)                               | I <sub>(AV)</sub> | 1.0         |        |        |        |        |        |             |        |        |         |         | Amp   |    |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on<br>rated load (JEDEC Method)          | I <sub>FSM</sub>  | 40.0        |        |        |        |        |        |             |        |        |         |         | Amps  |    |
| Maximum instantaneous forward voltage at 1.0A                                                                   | V <sub>F</sub>    | 0.55        |        |        | 0.70   |        | 0.85   |             |        |        |         | 0.95    | Volts |    |
| Maximum DC reverse current      T <sub>A</sub> =25°C<br>at rated DC blocking voltage      T <sub>A</sub> =100°C | I <sub>R</sub>    | 0.5         |        |        |        |        |        |             |        | 0.2    |         | mA      |       |    |
|                                                                                                                 |                   | 10.0        |        |        |        | 5.0    |        |             |        | 2.0    |         |         |       |    |
| Typical junction capacitance (NOTE 1)                                                                           | C <sub>J</sub>    | 110         |        |        | 80     |        |        |             |        |        |         |         |       | pF |
| Typical thermal resistance (NOTE 2)                                                                             | R <sub>θJA</sub>  | 50.0        |        |        |        |        |        |             |        |        |         |         | °C/W  |    |
| Operating junction temperature range                                                                            | T <sub>J</sub>    | -65 to +125 |        |        |        |        |        | -65 to +150 |        |        |         |         | °C    |    |
| Storage temperature range                                                                                       | T <sub>STG</sub>  | -65 to +150 |        |        |        |        |        |             |        |        |         |         | °C    |    |

**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

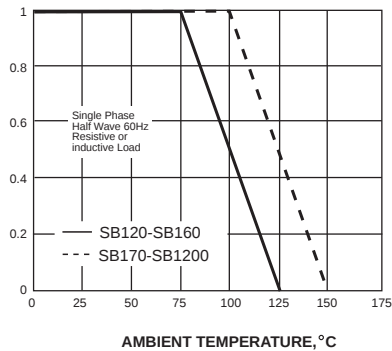
2. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

MDD ELECTRONIC

# RATINGS AND CHARACTERISTIC CURVES SB120 THRU SB1200

AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,  
AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

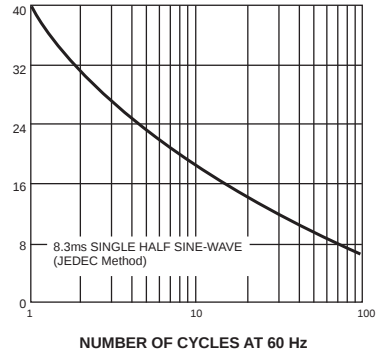
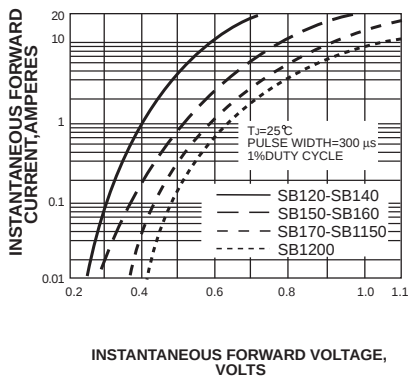


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT,  
MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

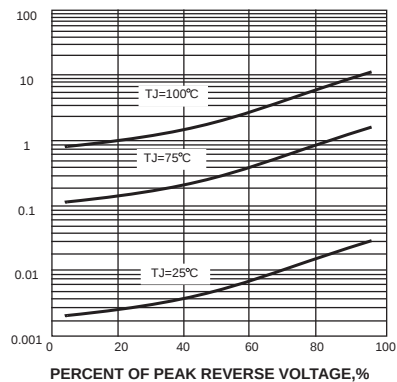
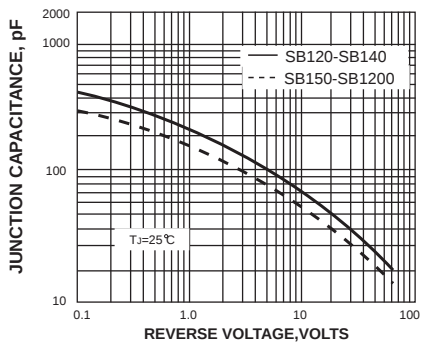


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

