# SB120 THRU SB1100

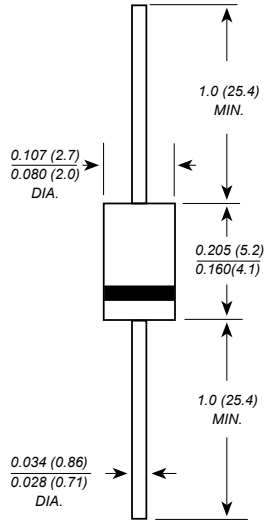
## SCHOTTKY BARRIER RECTIFIER

**Reverse Voltage - 20 to 100 Volts  Forward Current - 1.0 Ampere**

## 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℃/10 seconds,0.375″(9.5mm) lead length,
  5 lbs. (2.3kg) tension

**DO-41**




*Dimensions in inches and (millimeters)*

## 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

RoHS Compliant

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

| Characteristic | Symbol | SB120 | SB130 | SB140 | SB150 | SB160 | SB180 | SB1100 | Unit |
|---|---|---|---|---|---|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 20 | 30 | 40 | 50 | 60 | 80 | 100 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 14 | 21 | 28 | 35 | 42 | 56 | 70 | V |
| Average Rectified Output Current @$T_L$ = 100°C (Note 1) | $I_O$ | 1.0 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 40 | | | | | | | A |
| Forward Voltage @$I_F$ = 1.0A | $V_{FM}$ | 0.50 | | | 0.70 | | 0.85 | | V |
| Peak Reverse Current @$T_A$ = 25°C<br>At Rated DC Blocking Voltage @$T_A$ = 100°C | $I_{RM}$ | 0.5<br>10 | | | | | | | mA |
| Typical Junction Capacitance (Note 2) | $C_j$ | 110 | | | 80 | | | | pF |
| Typical Thermal Resistance (Note 1) | $R_{\theta JL}$<br>$R_{\theta JA}$ | 15<br>50 | | | | | | | °C/W |
| Operating and Storage Temperature Range | $T_j$, $T_{STG}$ | -65 to +150 | | | | | | | °C |

Note: 1. Valid provided that leads are kept at ambient temperature at a distance of 9.5mm from the case.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

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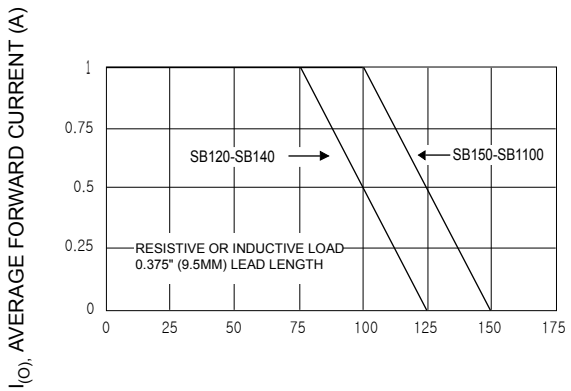
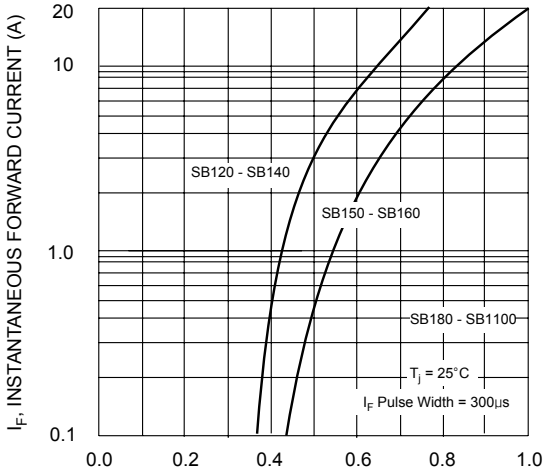
## RATINGS AND CHARACTERISTIC CURVES



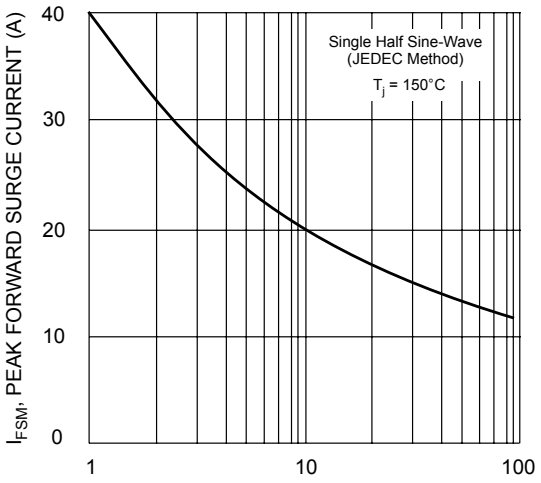

$T_L$, LEAD TEMPERATURE (°C)

Fig. 1 Forward Current Derating Curve



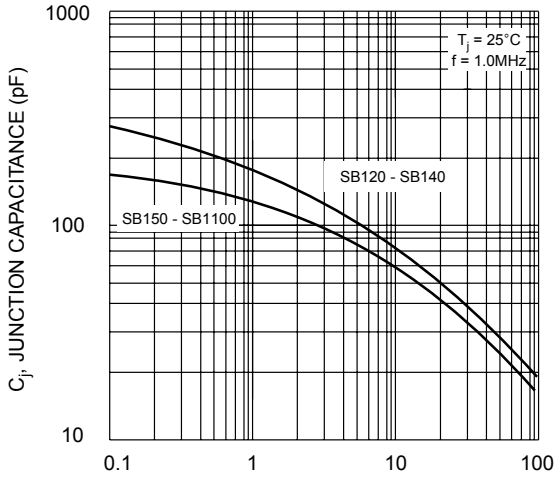

$V_F$, INSTANTANEOUS FORWARD VOLTAGE (V)

Fig. 2 Typical Forward Characteristics



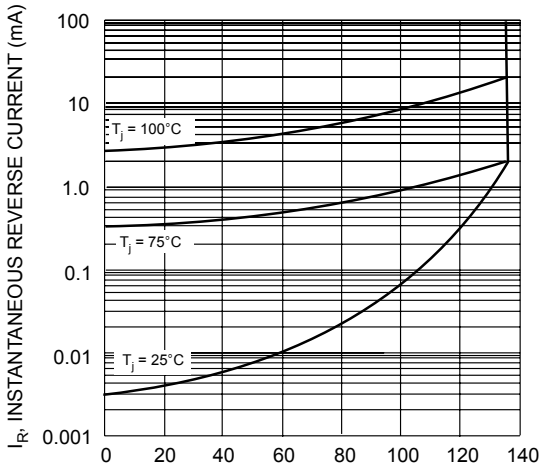

NUMBER OF CYCLES AT 60 Hz

Fig. 3 Max Non-Repetitive Peak Fwd Surge Current




$V_R$, REVERSE VOLTAGE (V)

Fig. 4 Typical Junction Capacitance




PERCENT OF RATED PEAK REVERSE VOLTAGE (%)

Fig. 5 Typical Reverse Characteristics