



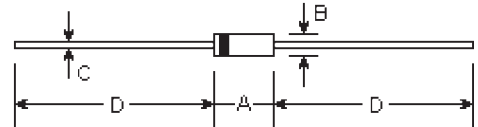
# SB120 THRU SB1B0

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

## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0  
Flame retardant epoxy molding compound
- 1.0 ampere operation at  $T_L=90^{\circ}\text{C}$  with no thermal runaway
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications

## DO-41



## Mechanical Data

- **Case:** Molded plastic, DO-41
- **Terminals:** Axial leads, solderable per MIL-STD-202, method 208
- **Polarity:** Color band denotes cathode
- **Mounting Position:** Any
- **Weight:** 0.012 ounce, 0.33 gram

DIM	DIMENSIONS				Note
	inches		mm		
	Min.	Max.	Min.	Max.	
A	0.165	0.205	4.2	5.2	
B	0.079	0.106	2.0	2.7	ϕ
C	0.028	0.034	0.71	0.86	ϕ
D	1.000	-	25.40	-	

## Maximum Ratings and Electrical Characteristics

Ratings at  $25^{\circ}\text{C}$  ambient temperature unless otherwise specified.  
 Single phase, half wave, 60Hz, resistive or inductive load.

	Symbols	SB120	SB130	SB140	SB150	SB160	SB170	SB180	SB190	SB1B0	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	70	80	90	100	Volts
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	49	56	63	70	Volts
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	70	80	90	100	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_L=90^{\circ}\text{C}$	$I_{(AV)}$	1.0									Amp
Peak forward surge current, $I_{FSM}$ (surge): 8.3mS single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method)	$I_{FSM}$	30.0									Amps
Maximum forward voltage at 1.0A	$V_F$	0.55		0.70			0.85			Volts	
Maximum full load reverse current, full cycle average at $T_A=75^{\circ}\text{C}$	$I_{R(AV)}$	30.0									mA
Maximum DC reverse current at rated DC blocking voltage $T_A=25^{\circ}\text{C}$ $T_A=100^{\circ}\text{C}$	$I_R$	1.0				10.0					mA
Typical junction capacitance (Note 1)	$C_j$	110.0									pF
Typical thermal resistance (Note 2)	$R_{\theta JA}$	80.0									$^{\circ}\text{C/W}$
Operating and storage temperature range	$T_J, T_{STG}$	-50 to +125									$^{\circ}\text{C}$

### Notes:

- (1) Measured at 1.0MHz and applied reverse voltage of 4.0 VDC
- (2) Thermal resistance junction to ambient

# RATINGS AND CHARACTERISTIC CURVES

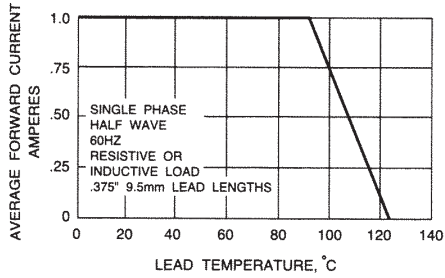


Fig. 1 - FORWARD CURRENT DERATING CURVE

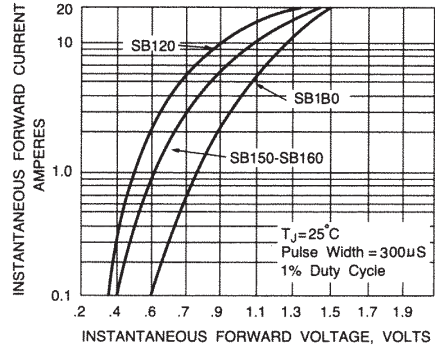


Fig. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

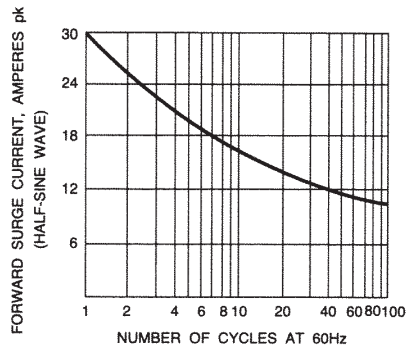


Fig. 3 - MAXIMUM NON-REPETITIVE SURGE CURRENT

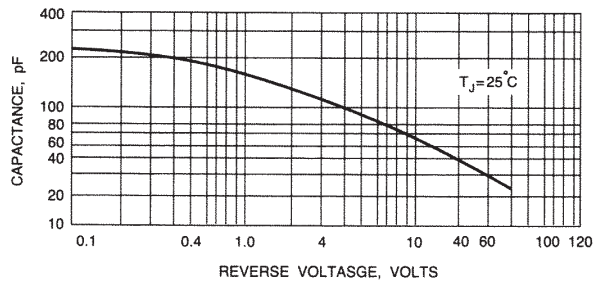


Fig. 4 - TYPICAL JUNCTION CAPACITANCE