



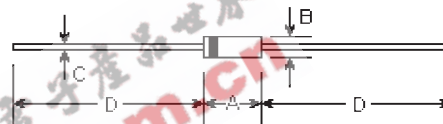
# SB120S THRU SB1B0S

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

## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 utilizing 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

## A-405



## Mechanical Data

- **Case:** Molded plastic, A-405
- **Terminals:** Axial leads, solderable per MIL-STD-202, method 208
- **Polarity:** Color band denotes cathode
- **Mounting Position:** Any
- **Weight:** 0.008 ounce, 0.22 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	0.020	0.024	0.5	0.6	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	SB 120S	SB 130S	SB 140S	SB 150S	SB 160S	SB 180S	SB 1B0S	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	80	100	Volts
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	56	70	Volts
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	80	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							$^\circ\text{C}/\text{W}$
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

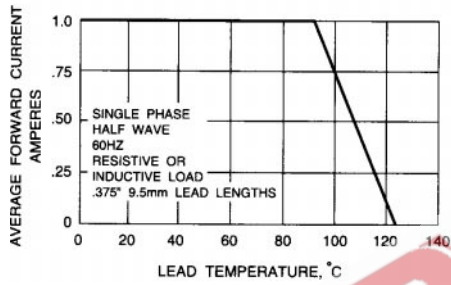


Fig. 1 - FORWARD CURRENT DERATING CURVE

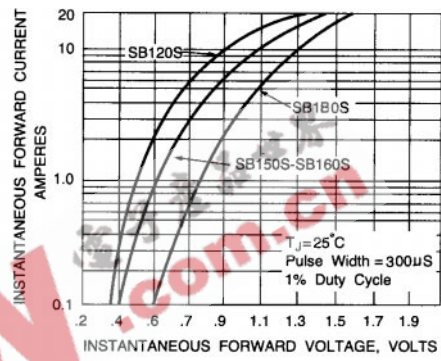


Fig. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

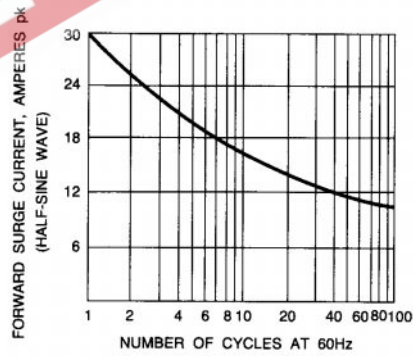


Fig. 3 - MAXIMUM NON-REPETITIVE SURGE CURRENT

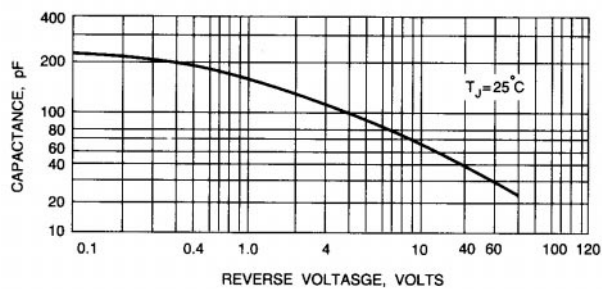


Fig. 4 - TYPICAL JUNCTION CAPACITANCE