



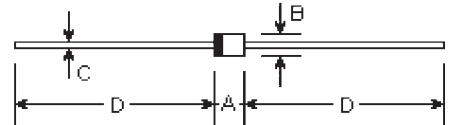
# SBO20 THRU SBOB0

**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  $T_A=90^\circ\text{C}$  with no thermal runaway
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications

**R-1**



## Mechanical Data

- **Case:** Molded plastic, R-1
- **Terminals:** Axial leads, solderable per MIL-STD-202, method 208
- **Polarity:** Color band denotes cathode
- **Mounting Position:** Any
- **Weight:** 0.007 ounce, 0.20 gram

DIMENSIONS					Note
DIM	inches		mm		
	Min.	Max.	Min.	Max.	
A	0.114	0.138	2.9	3.5	
B	0.095	0.099	2.42	2.51	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 O20	SB O30	SB O40	SB O50	SB O60	SB O70	SB O80	SB O90	SB OB0	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 $T_A=90^\circ\text{C}$	$I_{(AV)}$	1.0									Amp
Peak forward surge current, $I_{FM}$ (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

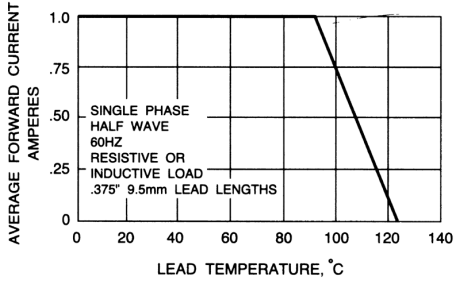


Fig. 1 – FORWARD CURRENT DERATING CURVE

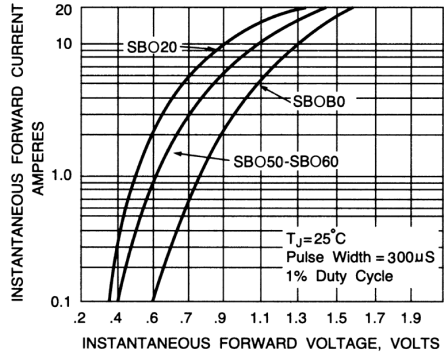


Fig. 2 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

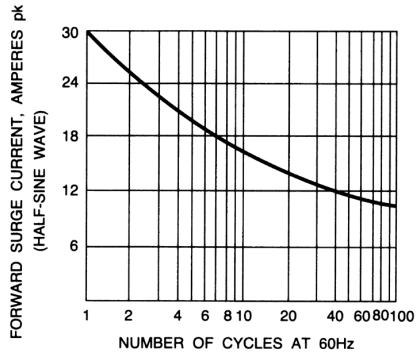


Fig. 3 – MAXIMUM NON-REPETITIVE SURGE CURRENT

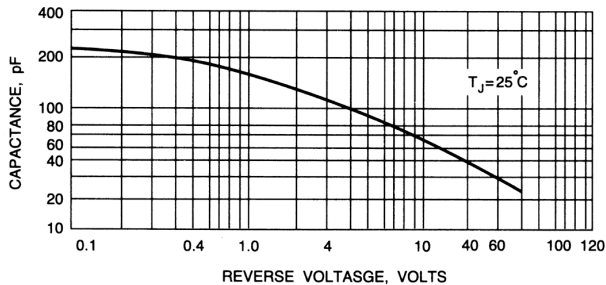


Fig. 4 – TYPICAL JUNCTION CAPACITANCE