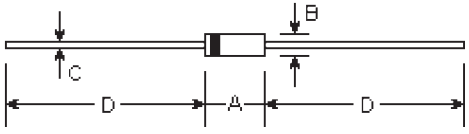
SB120 THRU SB1B0

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℃ 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

DIMENSIONS					
DIM	inches		mm		Note
	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℃ 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℃	$I_{(AV)}$	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℃	$I_{R(AV)}$	30.0									mA
Maximum DC reverse current at rated DC blocking voltage T_A=25℃ / T_A=100℃	I_R	1.0 10.0									mA
Typical junction capacitance (Note 1)	C_J	110.0									ρF
Typical thermal resistance (Note 2)	$R_{\theta JA}$	80.0									℃/W
Operating and storage temperature range	T_J, T_{STG}	-50 to +125									℃

Notes:

(1) Measured at 1.0MHz and applied reverse voltage of 4.0 VDC

(2) Thermal resistance junction to ambient

RATINGS AND CHARACTERISTIC CURVES

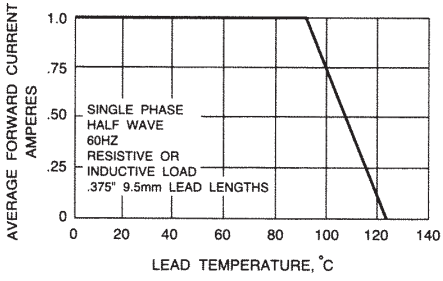


Fig. 1 – FORWARD CURRENT DERATING CURVE

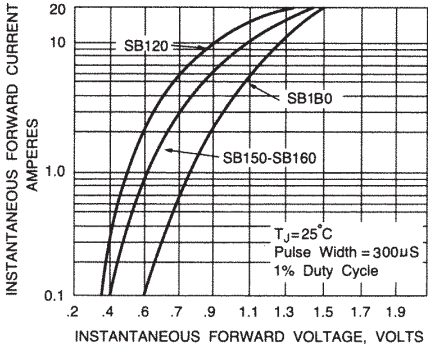


Fig. 2 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

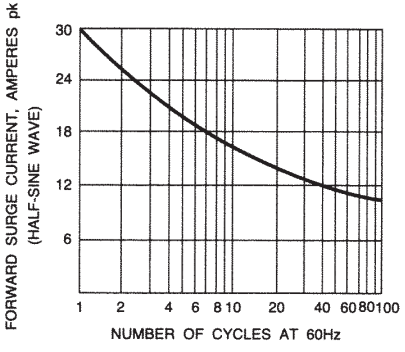


Fig. 3 – MAXIMUM NON-REPETITIVE SURGE CURRENT

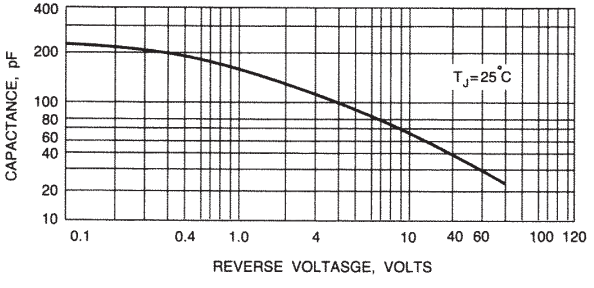


Fig. 4 – TYPICAL JUNCTION CAPACITANCE