



SB020 thru SB060

Miniature Schottky Barrier Rectifiers
Reverse Voltage 20 to 60 Volts Forward Current 0.6 Ampere

Features

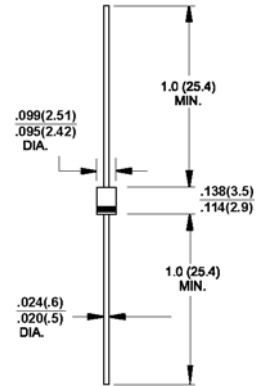
- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Low power loss, high efficiency
- ◆ For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- ◆ Guardring for overvoltage protection



R-1

Mechanical Data

- ◆ Case: Molded plastic body, R-1
- ◆ Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
High temperature soldering guaranteed:
250°C/10 seconds 0.375" (9.5mm) lead length,
5lbs. (2.3kg) tension
- ◆ Polarity: Color band denotes cathode end
- ◆ Mounting Position: Any
- ◆ Weight: 0.007 ounce, 0.20 gram



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbols	SB020	SB030	SB040	SB050	SB060	Units
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	Volts
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	Volts
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	Volts
Maximum average forward rectified current at 0.375" (9.5mm) lead length (See Fig.1)	$I_{F(AV)}$	0.6					Amp
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	20.0					Amps
Max. instantaneous forward voltage at 0.6A (Note 1)	V_F	0.55			0.70		Volts
Maximum instantaneous reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage ⁽¹⁾ $T_A = 100^\circ\text{C}$	I_R	0.5			5.0		mA
Typical thermal resistance (Note 2)	$R_{\theta JA}$ $R_{\theta JB}$	80 20					$^\circ\text{C/W}$
Operating junction temperature range	T_J	-55 to +125			-55 to +150		$^\circ\text{C}$
Storage temperature range	T_{STG}	-55 to +150					$^\circ\text{C}$

- Notes:**
1. Pulse test: 300us pulse width, 1% duty cycle
 2. Thermal resistance junction to lead P.C.B. mounted 0.375" (9.5mm) lead length

RATINGS AND CHARACTERISTIC CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

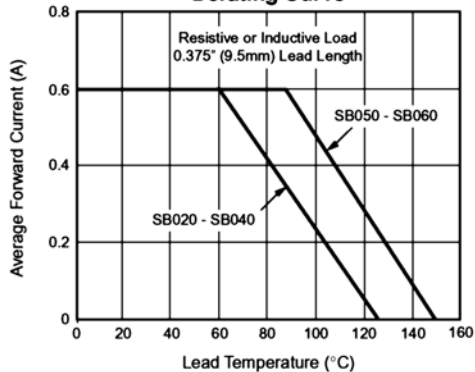


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

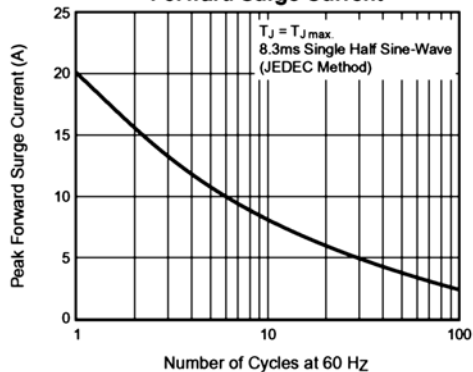


Fig. 3 – Typical Instantaneous Forward Characteristics

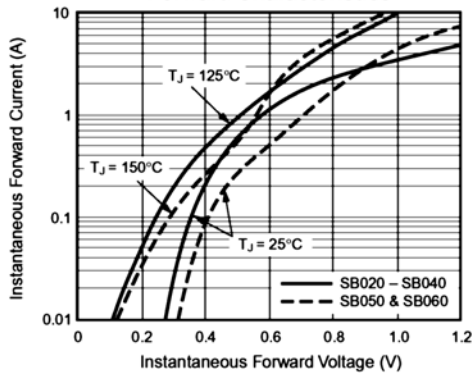


Fig. 4 – Typical Reverse Leakage Characteristics

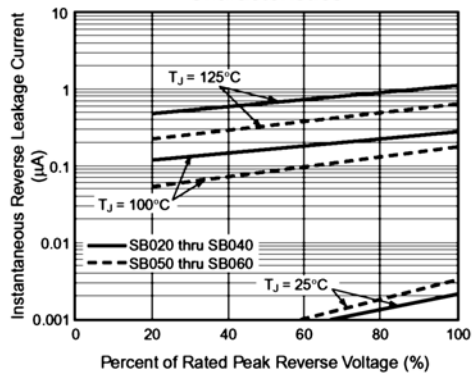


Fig. 5 – Typical Junction Capacitance

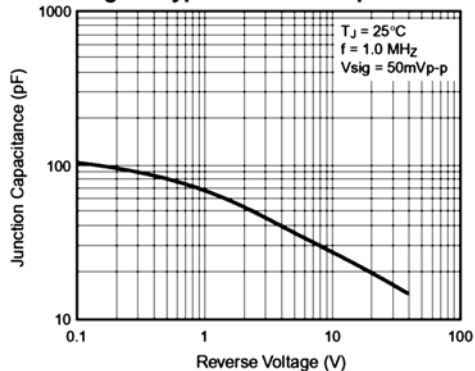


Fig. 6 – Transient Thermal Impedance

