

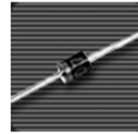


# SB020 thru SB060

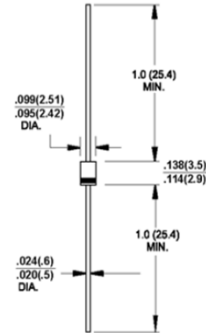
Miniature Schottky Barrier Rectifiers  
Reverse Voltage 20V to 60V Forward Current 0.6 Amperes

## 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



Dimensions in inches and (millimeters)

## Mechanical Data

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

## MAXIMUM RATINGS and ELECTRICAL CHARACTERISTICS

T<sub>a</sub> = 25 °C unless otherwise specified

PARAMETER	SYMBOL	SB020	SB030	SB040	SB050	SB060	UNIT
Maximum repetitive peak reverse voltage	VRRM	20	30	40	50	60	V
Maximum RMS voltage	VRMS	14	21	21	35	42	V
Maximum DC blocking voltage	VDC	20	30	30	50	60	V
Maximum average forward rectified current 0.375"(9.5mm) lead length (see Fig 1)	IF(AV)	0.6					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	IFSM	20					A
Maximum forward voltage at 0.6A (Note 1)	VF	0.5			0.70		V
Maximum forward voltage at 9.4A (Note 1)	VF	0.850		0.900		0.950	V
Maximum DC reverse current at rated DC blocking voltage <sup>(1)</sup>	T <sub>J</sub> =25°C	0.1					mA
	T <sub>J</sub> =125°C	10			8.0		
Typical thermal resistance(Note 2)	R <sub>θJA</sub>	100					°C/W
	R <sub>θJC</sub>	55					
	R <sub>θJL</sub>	50					
Typical junction capacitance at 4.0v, 1.0MHZ	C <sub>j</sub>	110					pF
Operating junction temperature range	T <sub>J</sub>	- 55 to + 125			- 55 to + 150		°C
Storage temperature range	T <sub>STG</sub>	- 55 to + 150					°C

Notes: 1. Pulse test: 300 us pulse width, 1% duty cycle

2. Thermal Resistance at .375(9.5mm) Lead Length, PC Board Mounted



GOOD-ARK

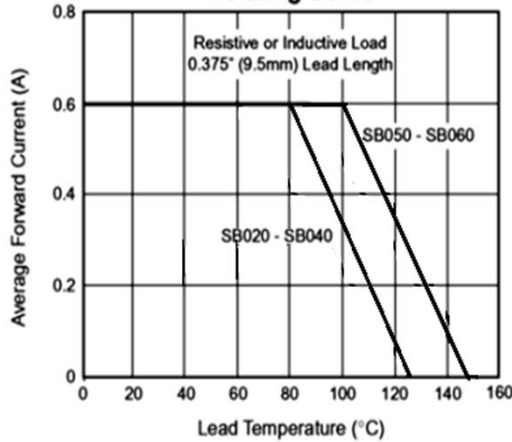
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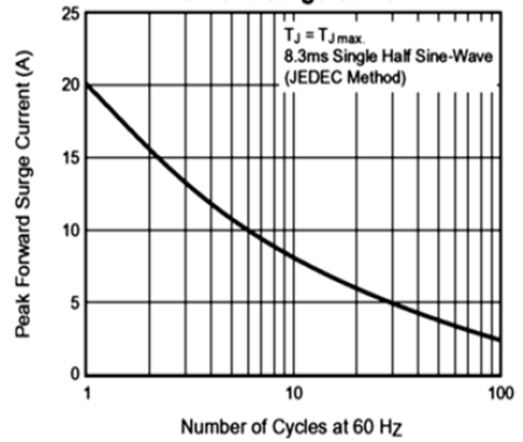
## RATINGS AND CHARACTERISTICS CURVES

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

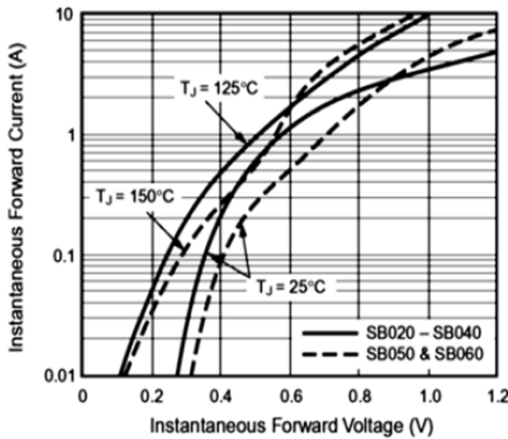
**Fig. 1 – Forward Current Derating Curve**



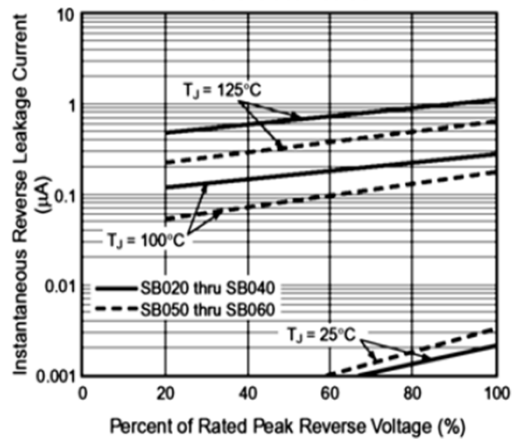
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



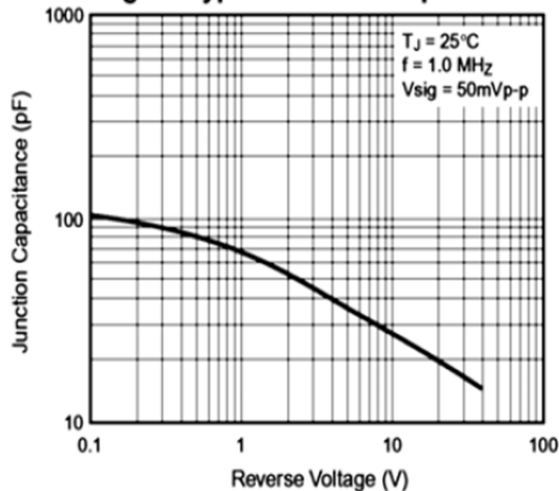
**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Leakage Characteristics**



**Fig. 5 – Typical Junction Capacitance**



**Fig. 6 – Transient Thermal Impedance**

