SB020 thru SB060

Miniature Schottky Barrier Rectifiers

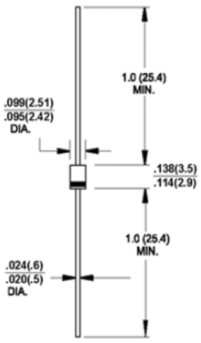
Reverse Voltage 20V to 60V Forward Current 0.6 Amperes

2018

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℃/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

Ta= 25 °C unless otherwised

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 (1)	T_J=25℃	IR	0.1					mA
	T_J=125℃		10			8.0		
Typical thermal resistance(Note 2)		$R_{\theta JA}$	100					℃/W
		$R_{\theta JC}$	55					
		$R_{\theta JL}$	50					
Typical junction capacitance at 4.0v,1.0MHZ		C_j	110					pF
Operating junction temperature range		T_J	- 55 to + 125			- 55 to + 150		°C
Storage temperature range		T_{STG}	- 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

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

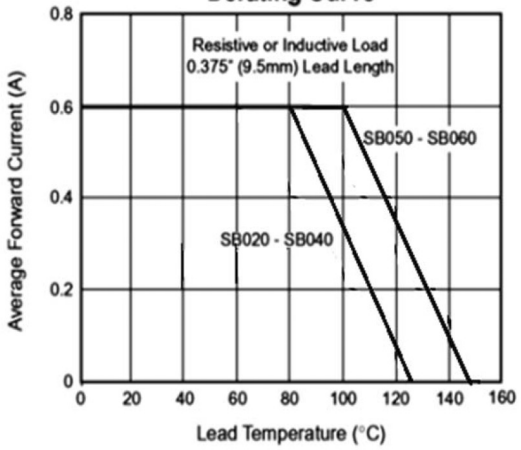


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

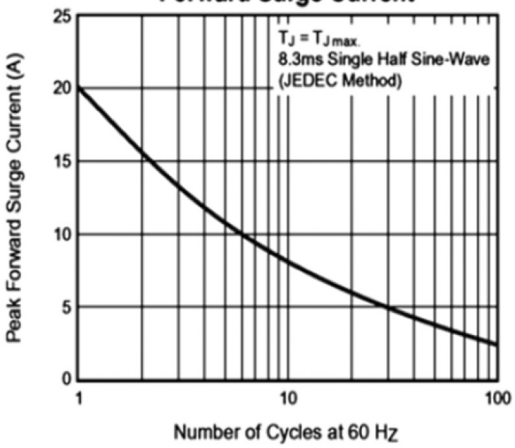


Fig. 3 – Typical Instantaneous Forward Characteristics

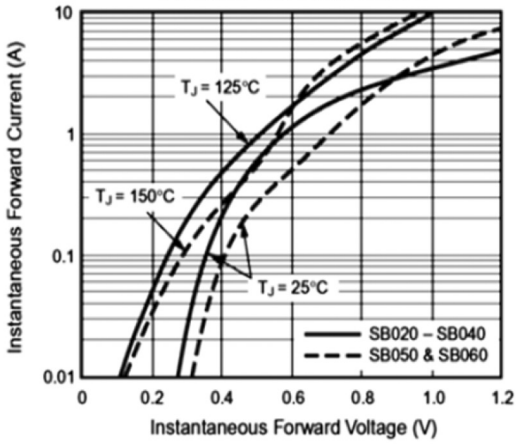


Fig. 4 – Typical Reverse Leakage Characteristics

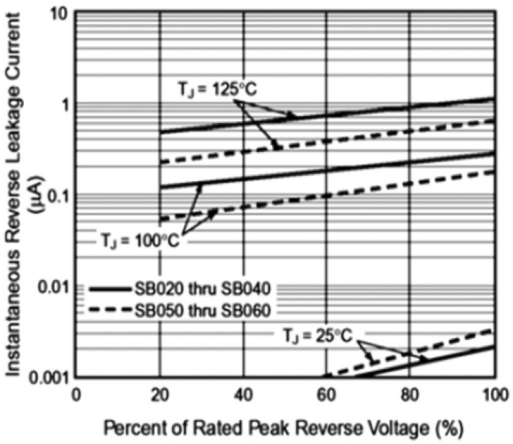


Fig. 5 – Typical Junction Capacitance

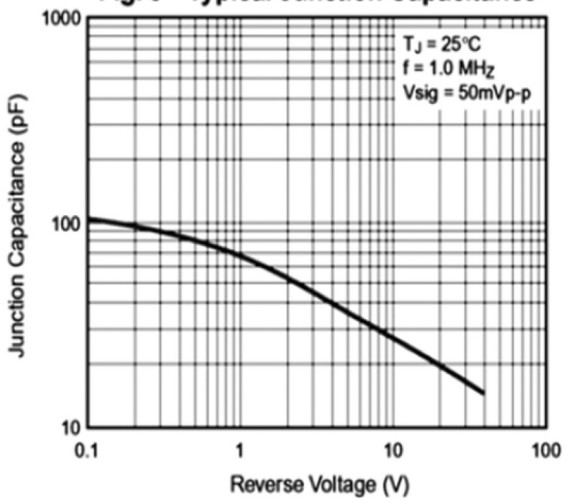


Fig. 6 – Transient Thermal Impedance