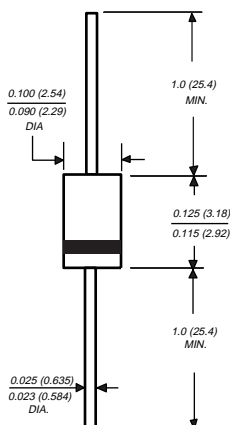


# SB020 THRU SB040

## MINIATURE SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 40 Volts Forward Current - 0.6 Ampere

### Case Style MPG06



Dimensions in inches  
and  
(millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High current capability, low forward voltage drop
- ◆ High surge capability
- ◆ Guardring for overvoltage protection
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3 kg) tension

### MECHANICAL DATA

**Case:** Molded plastic body

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.0064 ounce, 0.181 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	SB020	SB030	SB040	UNITS
Maximum repetitive peak reverse voltage	VRRM	20	30	40	Volts
Maximum RMS voltage	VRMS	14	21	28	Volts
Maximum DC blocking voltage	VDC	20	30	40	Volts
Maximum average forward rectified current at 0.375" (9.5mm) lead length T <sub>L</sub> =60°C	I <sub>(AV)</sub>	0.6			Amp
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T <sub>L</sub> =70°C	I <sub>FSM</sub>	20.0			Amps
Maximum instantaneous forward voltage at 0.6A (NOTE 1)	V <sub>F</sub>	0.55			Volts
Maximum instantaneous reverse current at rated DC blocking voltage T <sub>A</sub> =25°C (NOTE 1) T <sub>A</sub> =100°C	I <sub>R</sub>	0.5 10.0			mA
Typical thermal resistance (NOTE 2)	R <sub>θJA</sub> R <sub>θJL</sub>	60.0 20.0			°C/W
Operating junction temperature range	T <sub>J</sub>	-55 to +125			°C
Storage temperature range	T <sub>STG</sub>	-55 to +150			°C

#### NOTES:

(1) Pulse test: 300μs pulse width, 1% duty cycle

(2) Thermal resistance from junction to ambient vertical P.C.B. mounted, 0.5" 1.27mm lead length with 1.5 x 1.5" (38 x 38mm) copper pad

# RATINGS AND CHARACTERISTIC CURVES SB020 THRU SB040

FIG. 1 - FORWARD CURRENT DERATING CURVE

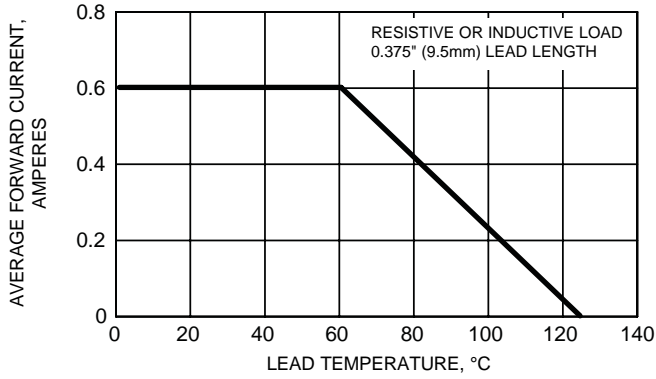


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

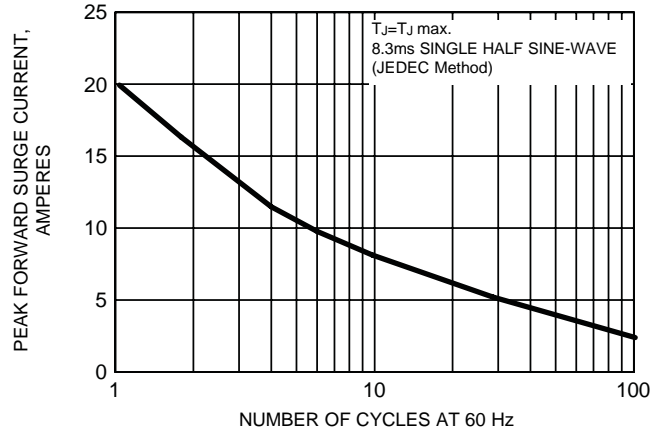


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

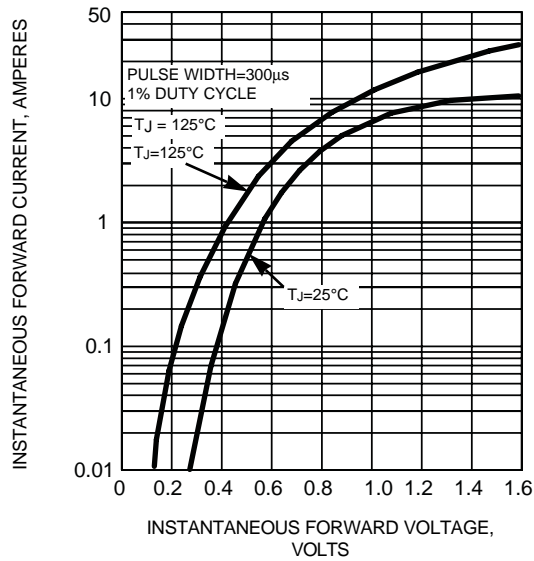


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

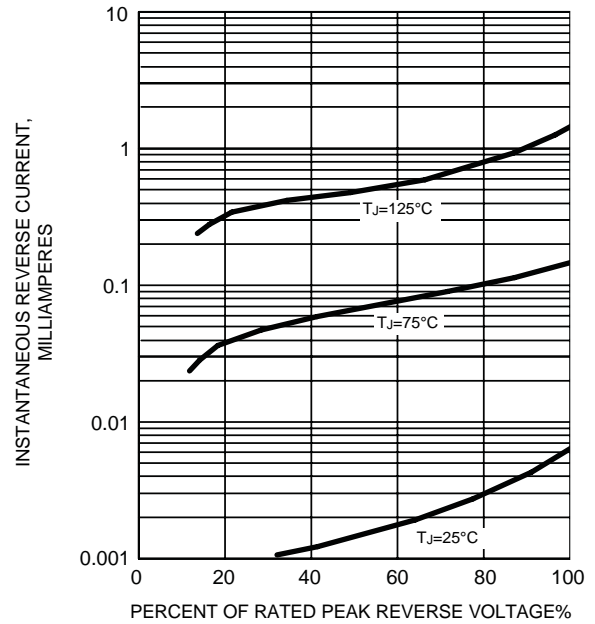


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

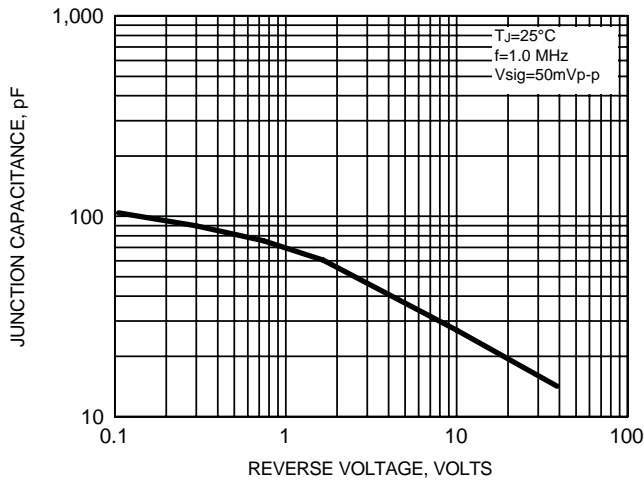


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

