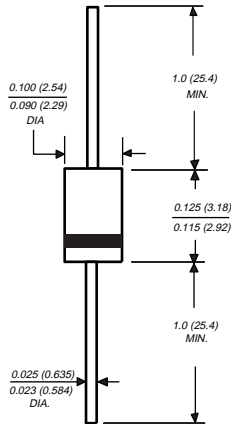


# SB020 THRU SB040

## 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	V <sub>RRM</sub>	20	30	40	Volts
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	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

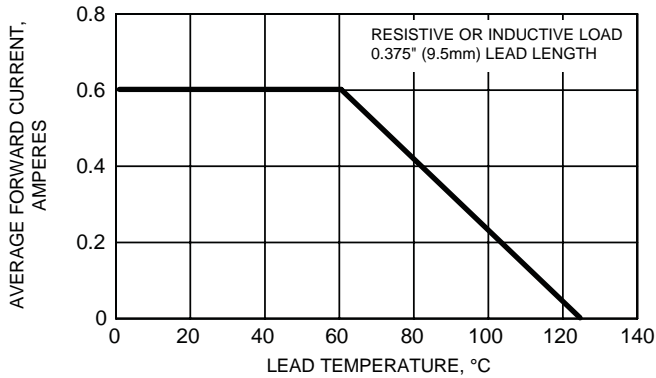


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

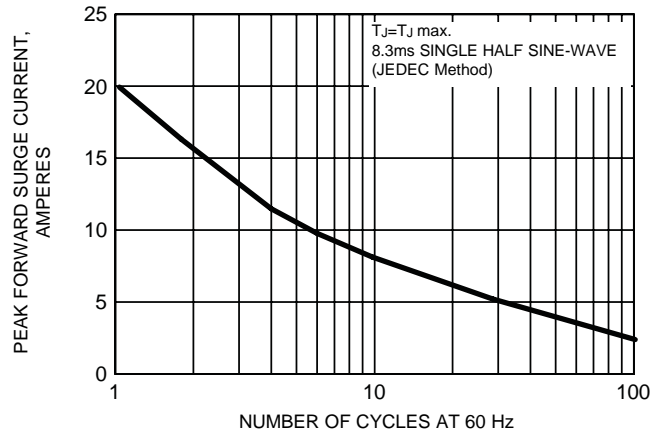


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

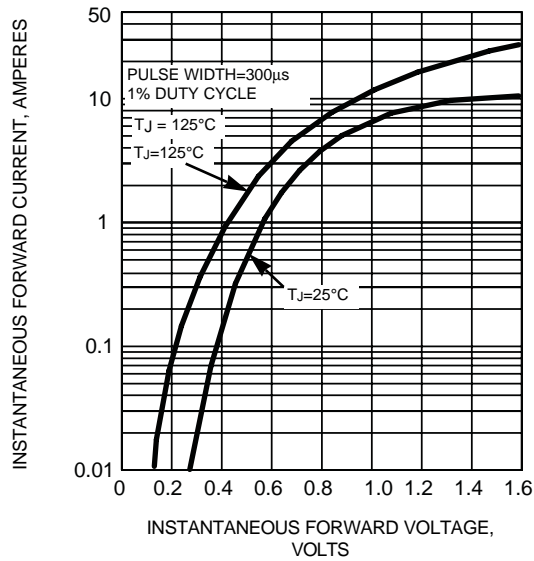


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

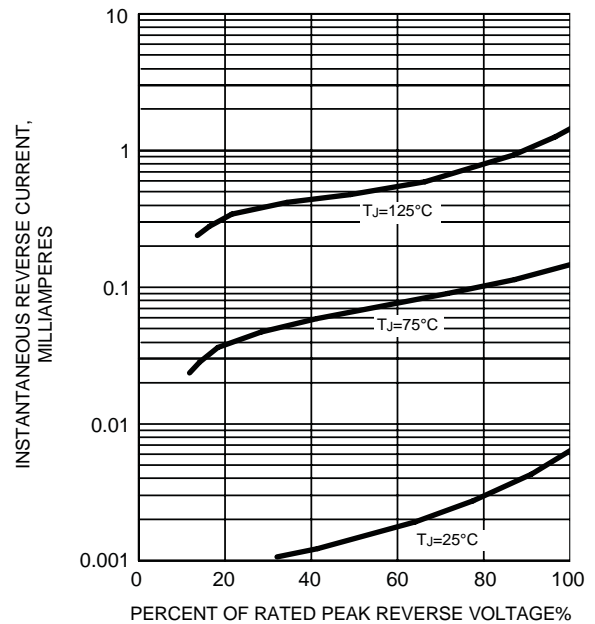


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

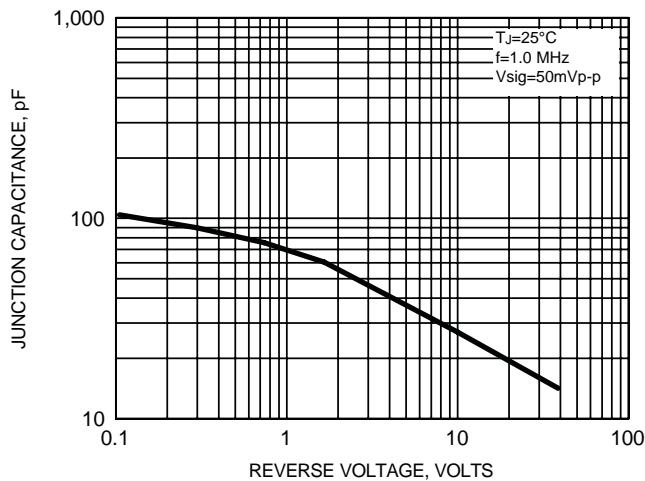


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

