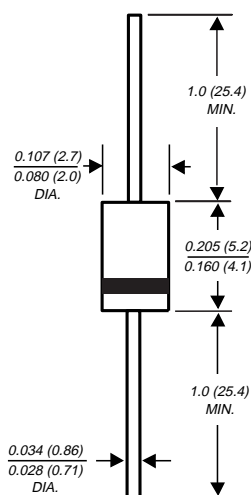


# SB120 THRU SB160

## SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 60 Volts      Forward Current - 1.0 Ampere

DO-204AL



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classifications 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, 5lbs. (2.3 kg) tension



### MECHANICAL DATA

**Case:** JEDEC DO-204AL molded plastic body  
**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Mounting Position:** Any  
**Weight:** 0.012 ounce, 0.34 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	SB120	SB130	SB140	SB150	SB160	UNITS
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	50	60	Volts
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	35	42	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	20	30	40	50	60	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length (SEE FIG.1)	I <sub>(AV)</sub>	1.0					Amp
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	40.0					Amps
Maximum instantaneous forward voltage at 1.0A (NOTE 1)	V <sub>F</sub>	0.50		0.70			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			5.0		mA
		10.0					
Typical thermal resistance (NOTE 2)	R <sub>θJA</sub> R <sub>θJL</sub>	50.0 15.0					°C/W
Operating junction temperature range	T <sub>J</sub>	-65 to +125			-65 to +150		°C
Storage temperature range	T <sub>STG</sub>	-65 to +150					°C

**NOTES:**

- (1) Pulse test: 300µs 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 SB120 THRU SB160

FIG. 1 - FORWARD CURRENT DERATING CURVE

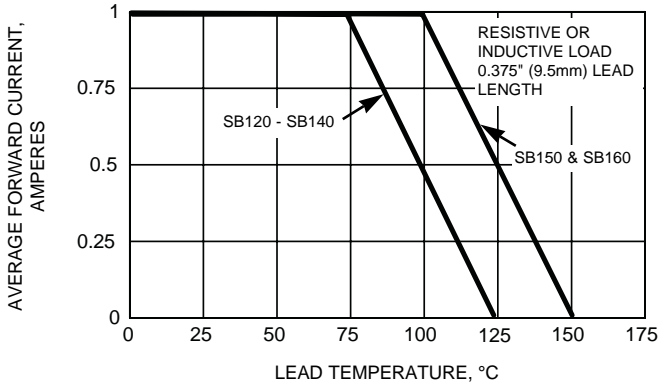


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

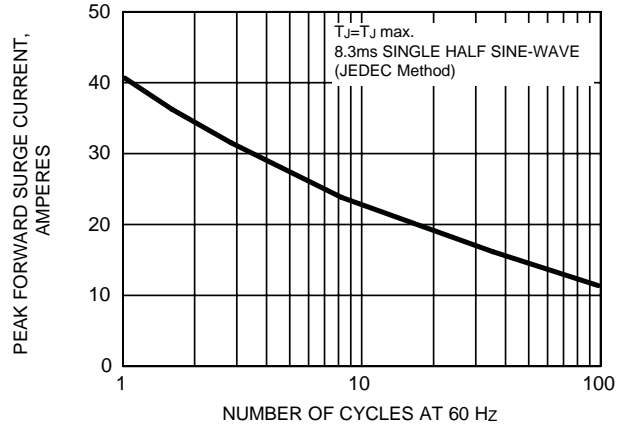


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

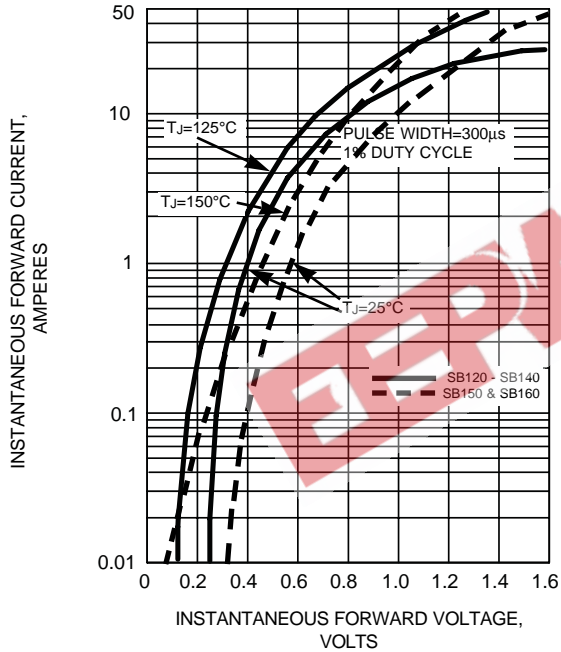


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

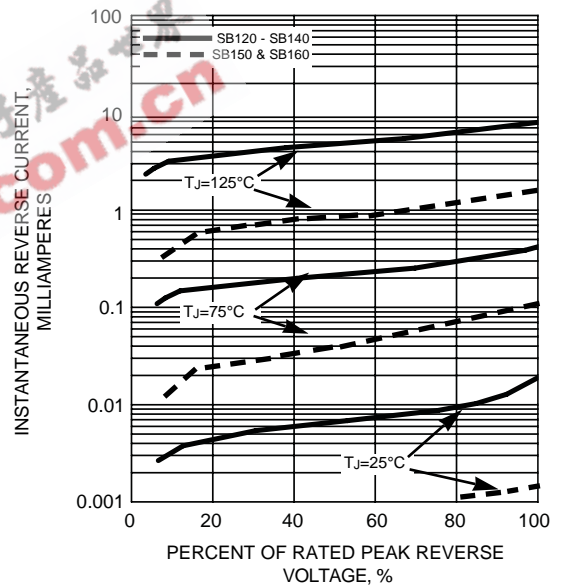


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

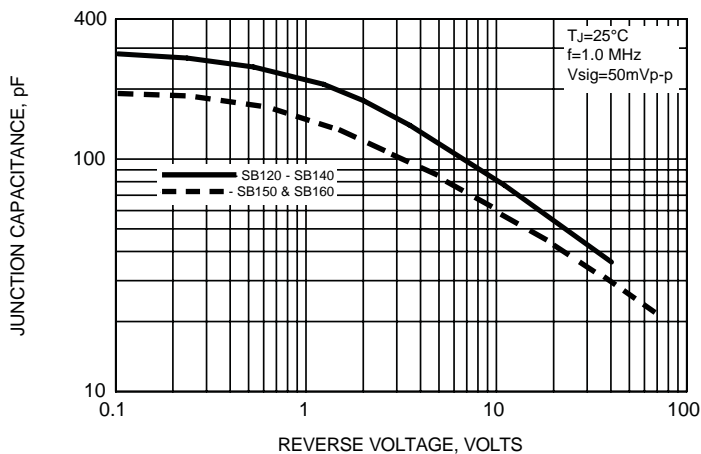


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

