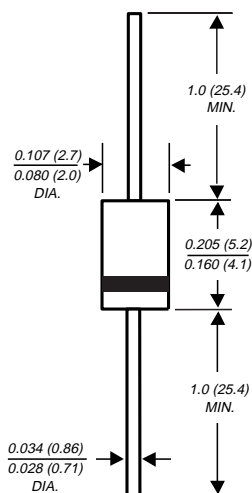


# SB120 THRU SB160

## 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	$V_{RRM}$	20	30	40	50	60	Volts
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	Volts
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	Volts
Maximum average forward rectified current 0.375" (9.5mm) lead length (SEE FIG.1)	$I_{(AV)}$	1.0					Amp
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	40.0					Amps
Maximum instantaneous forward voltage at 1.0A (NOTE 1)	$V_F$	0.50			0.70		Volts
Maximum instantaneous reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ (NOTE 1) $T_A=100^\circ\text{C}$	$I_R$	0.5					mA
		10.0			5.0		
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$ $R_{\theta JL}$	50.0 15.0					$^\circ\text{C/W}$
Operating junction temperature range	$T_J$	-65 to +125			-65 to +150		$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-65 to +150					$^\circ\text{C}$

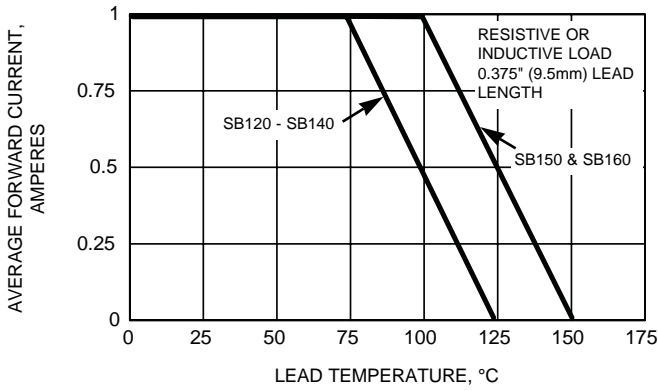
**NOTES:**

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

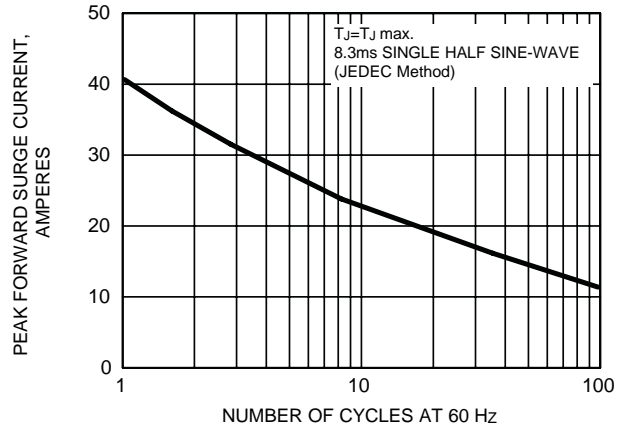
(2) Thermal resistance junction to lead P.C.B. mounted 0.375" (9.5mm) lead length

# RATINGS AND CHARACTERISTIC CURVES SB120 THRU SB160

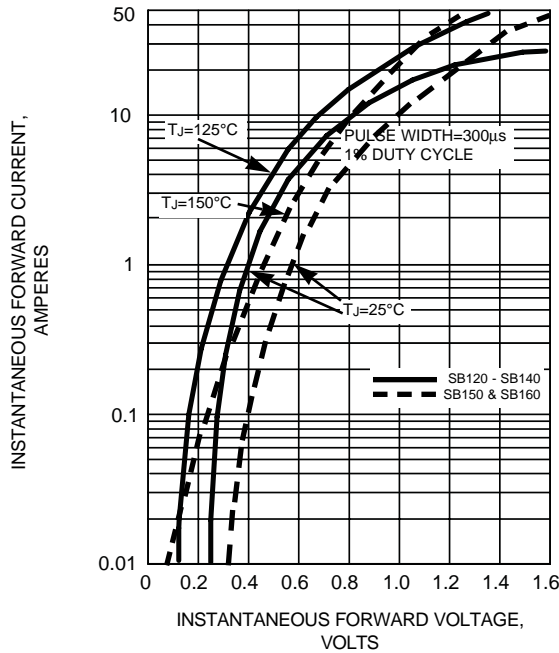
**FIG. 1 - FORWARD CURRENT DERATING CURVE**



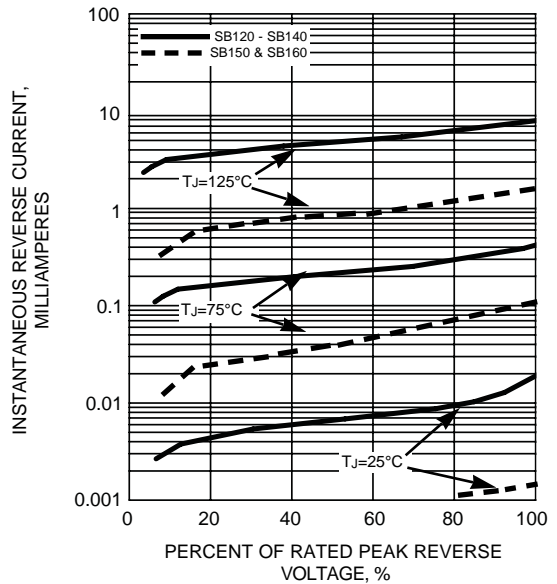
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



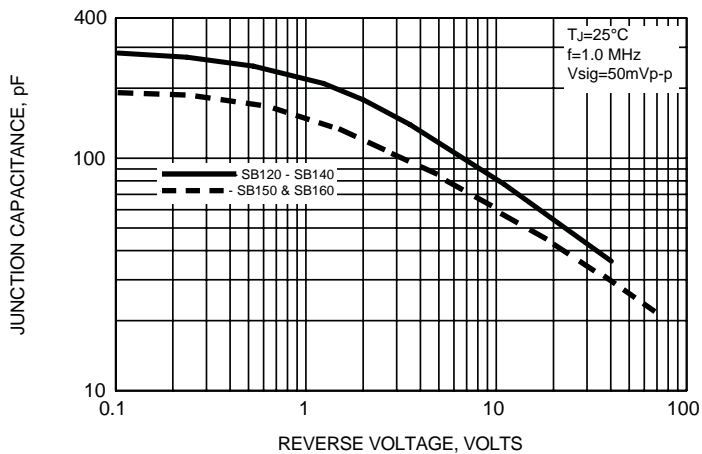
**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**



**FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE**

