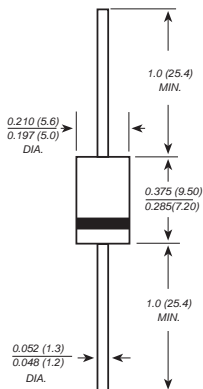


# SB520 THRU SB5200

## SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 200 Volts Forward Current - 5.0 Amperes

### DO-201AD



Dimensions in inches and (millimeters)

### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:  
260°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** JEDEC DO-201AD molded plastic body

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

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.04 ounce, 1.10 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

	SYMBOLS	SB 520	SB 530	SB 540	SB 550	SB 560	SB 570	SB 580	SB 590	SB 5100	SB 5150	SB 5200	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	70	80	90	100	150	200	V
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	49	56	63	70	105	140	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	70	80	90	100	150	200	V
Maximum average forward rectified current 0.375" (9.5mm) lead length (see fig. 1)	$I_{(AV)}$	5.0											A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	150.0											A
Maximum instantaneous forward voltage at 5.0A	$V_F$	0.55		0.70		0.85			0.95			V	
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	$I_R$	0.5					10.0			2.0		mA	
Typical junction capacitance (NOTE 1)	$C_J$	500			400						pF		
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	25.0											$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-55 to +125					-55 to +150						$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150											$^\circ\text{C}$

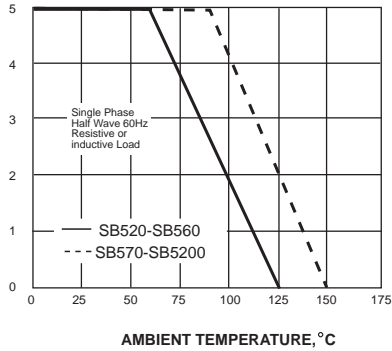
**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

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

# RATINGS AND CHARACTERISTIC CURVES SB520 THRU SB5200

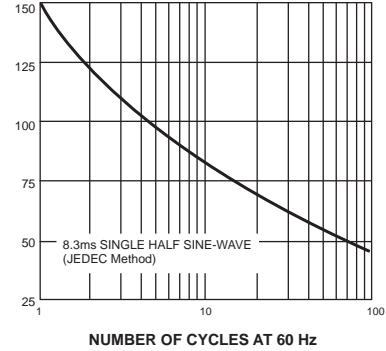
AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



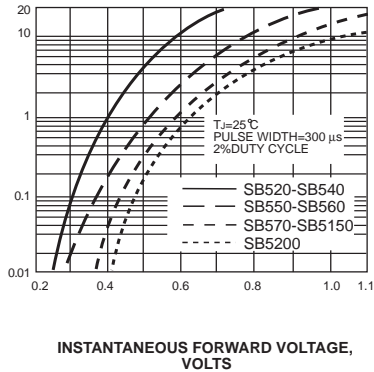
PEAK FORWARD SURGE CURRENT,  
AMPERES

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



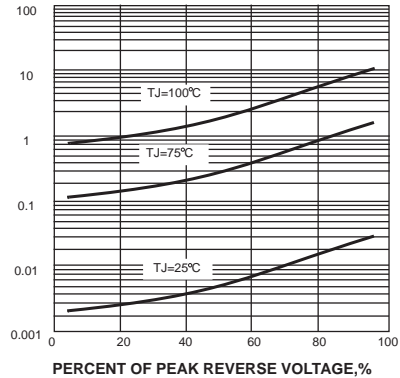
INSTANTANEOUS FORWARD  
CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



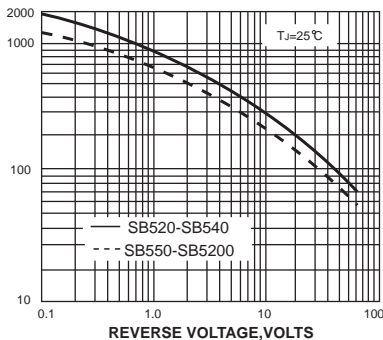
INSTANTANEOUS REVERSE CURRENT,  
MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

