

# Amber Electronic Limited

## SB320 THRU SB3200

### SCHOTTKY BARRIER RECTIFIER

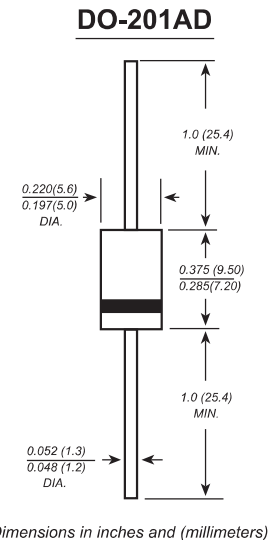
Reverse Voltage - 20 to 200 Volts Forward Current - 3.0 Amperes

#### 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:  
250°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%.

YXW Catalog Number	SYMBOLS	SB 320	SB 330	SB 340	SB 350	SB 360	SB 370	SB 380	SB 390	SB 3100	SB 3150	SB 3200	UNITS	
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	70	80	90	100	150	200	VOLTS	
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	49	56	63	70	105	140	VOLTS	
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	70	80	90	100	150	200	VOLTS	
Maximum average forward rectified current 0.375" (9.5mm) lead length (see fig. 1)	$I_{(AV)}$	3.0											Amps	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	80.0											Amps	
Maximum instantaneous forward voltage at 3.0A	$V_F$	0.55		0.70		0.85			0.95			Volts		
Maximum DC reverse current at rated DC blocking voltage	$I_R$	0.5					0.2			2.0				mA
Typical junction capacitance (NOTE 1)	$C_J$	250			160									pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	40.0											°C/W	
Operating junction temperature range	$T_J$	-65 to +125					-65 to +150							°C
Storage temperature range	$T_{STG}$	-65 to +150											°C	

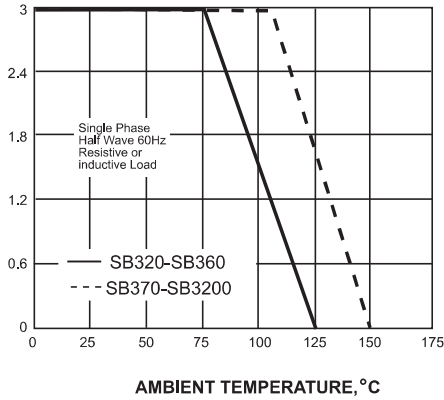
**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

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

# RATINGS AND CHARACTERISTIC CURVES SB320 THRU SB3200

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

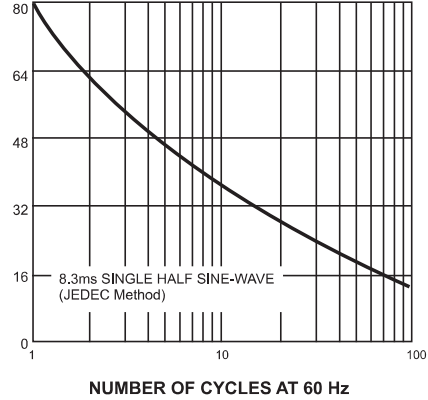
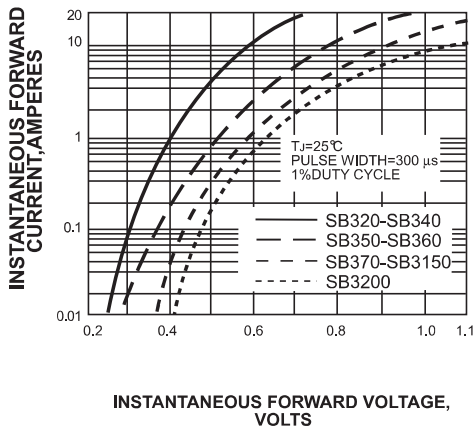


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

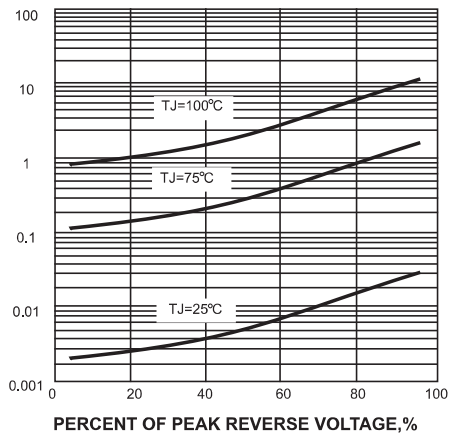
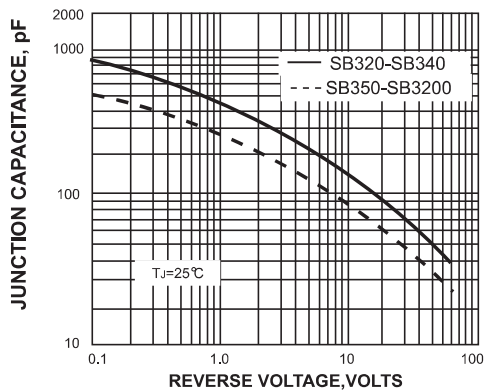


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

