



# SB520 THRU SB5100

## SCHOTTKY BARRIER RECTIFIER

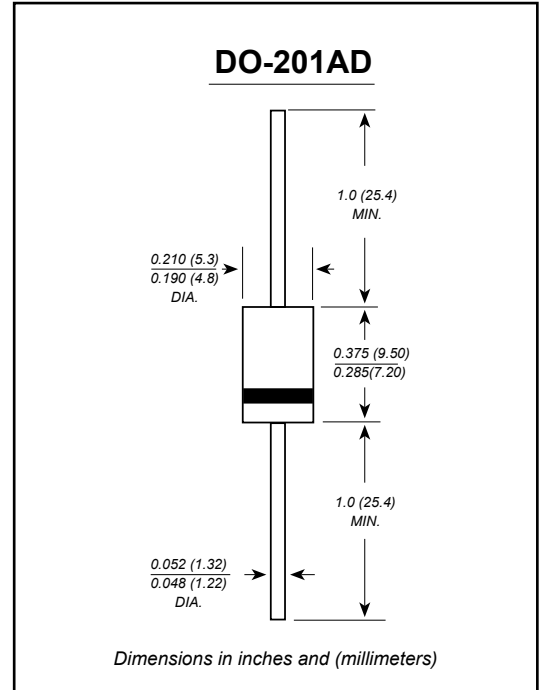
Reverse Voltage - 20 to 100 Volts    Forward Current - 5.0 Ampere

### FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Construction utilizes void-free molded plastic technique
- Low reverse leakage
- 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%.

Characteristic	SYMBOLS	SB520	SB540	SB560	SB580	SB5100	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	40	60	80	100	V
Maximum RMS voltage	$V_{RMS}$	14	28	42	56	70	V
Maximum DC blocking voltage	$V_{DC}$	20	40	60	80	100	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	V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	0.5					mA
		50.0		25.0			
Typical junction capacitance (NOTE 1)	$C_J$	500		400			pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	25.0					°C/W
Operating junction temperature range	$T_J$	-65 to +125		-65 to +150			°C
Storage temperature range	$T_{STG}$	-65 to +150					°C

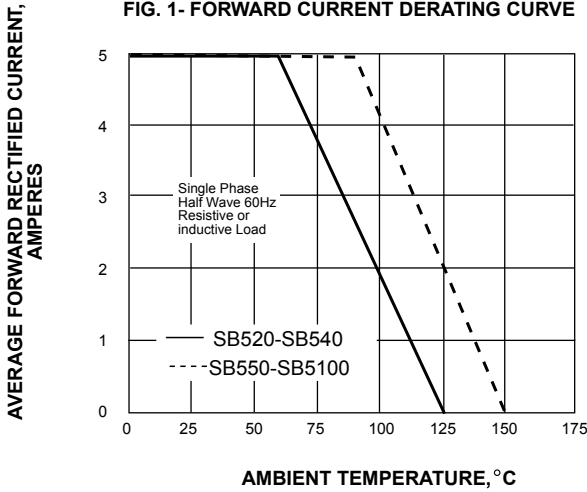
**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 2. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted



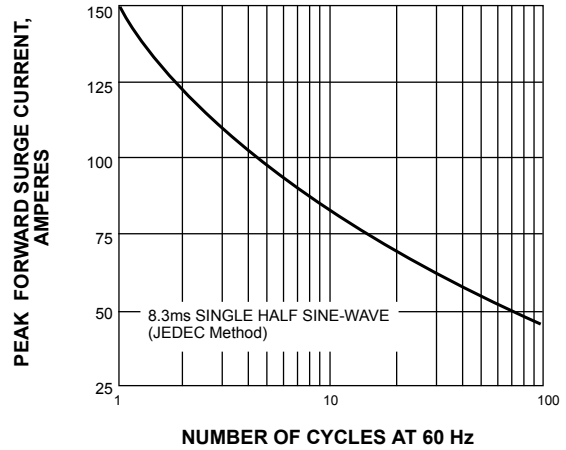
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## RATINGS AND CHARACTERISTIC CURVES

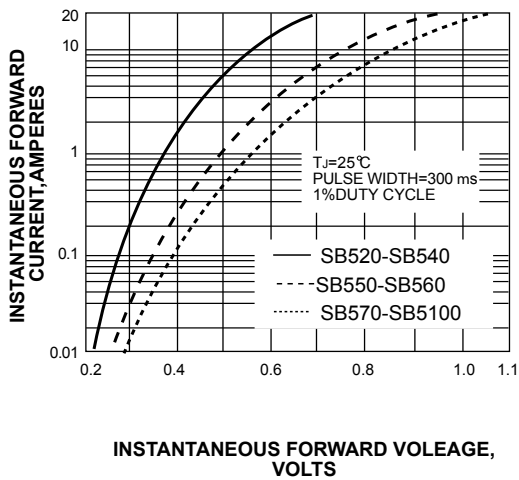
**FIG. 1- FORWARD CURRENT DERATING CURVE**



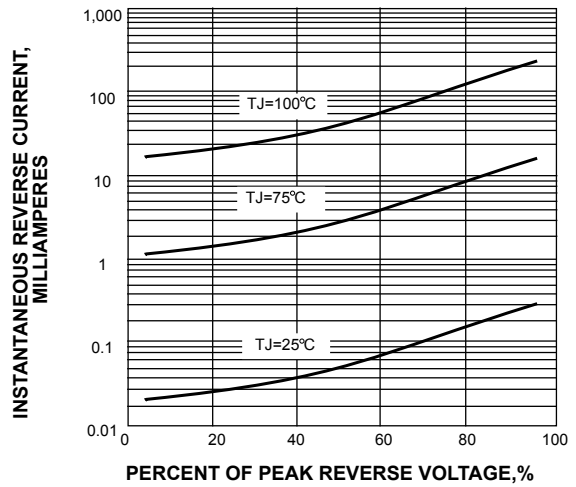
**FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



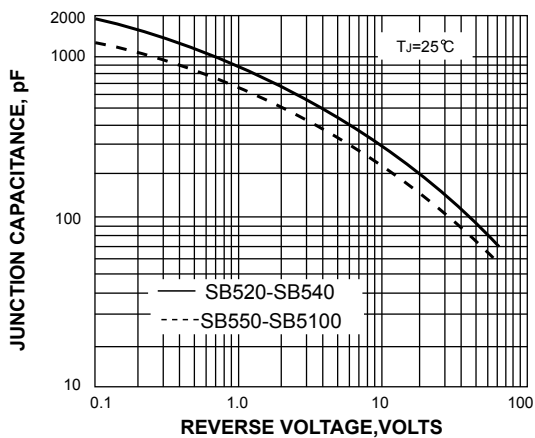
**FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4-TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5-TYPICAL JUNCTION CAPACITANCE**



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

