



# SB520 THRU SB5200

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

## SCHOTTKY BARRIER RECTIFIER

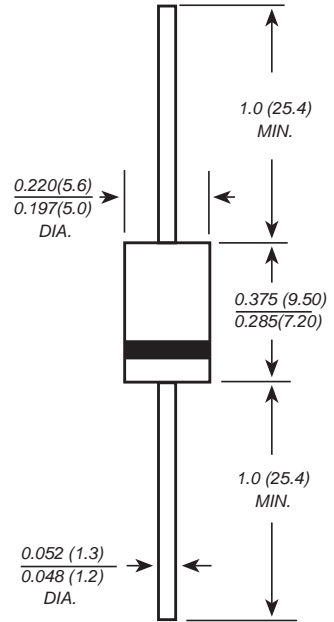
### Features

- ◆ 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** : Solder plated, solderable per MIL-STD-750, Method 2026  
**Polarity** : Color band denotes cathode end  
**Mounting Position** : Any  
**Weight** : 0.04 ounce, 1.10 grams

DO-201AD



Dimensions in inches and (millimeters)

### 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%.

Parameter	SYMBOLS	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	UNITS	
		520	530	540	550	560	570	580	590	5100	5150	5200		
Marking Code		MDD SR 520	MDD SR 530	MDD SR 540	MDD SR 550	MDD SR 560	MDD SR 570	MDD SR 580	MDD SR 590	MDD SR 5100	MDD SR 5150	MDD SR 5200		
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	50	60	70	80	90	100	150	200	V	
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	35	42	49	56	63	70	105	140	V	
Maximum DC blocking voltage	V <sub>DC</sub>	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 <sub>(AV)</sub>	5.0											A	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	150											A	
Maximum instantaneous forward voltage at 5.0A	V <sub>F</sub>	0.55		0.70			0.85			0.95			V	
Maximum DC reverse current at rated DC blocking voltage	I <sub>R</sub>	0.5											0.2	mA
		20.0					10.0				2.0			
Typical junction capacitance (NOTE 1)	C <sub>J</sub>	500			400									pF
Typical thermal resistance (NOTE 2)	R <sub>θJA</sub>	25.0											°C/W	
Operating junction and storage	T <sub>J</sub>	-65 to +125					-65 to +150							°C
Storage temperature range	T <sub>STG</sub>	-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



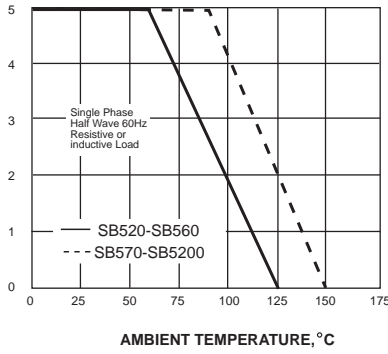
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## Ratings And Characteristic Curves

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

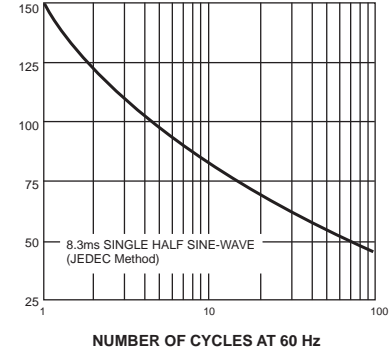
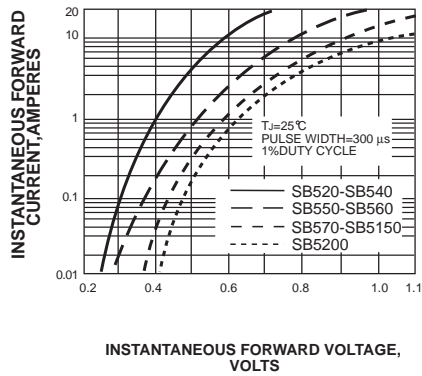


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT,  
MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

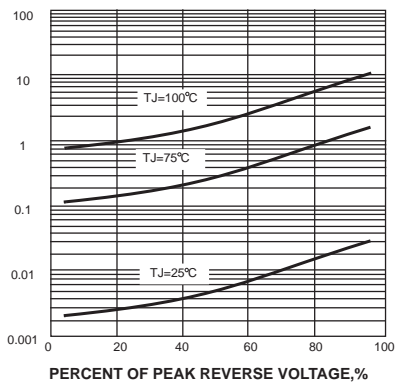
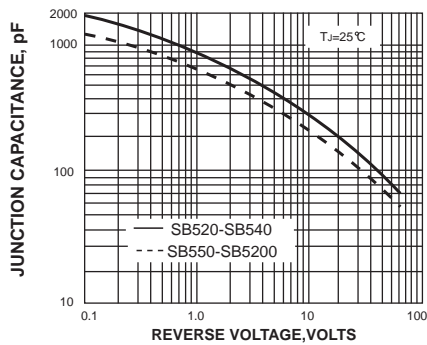
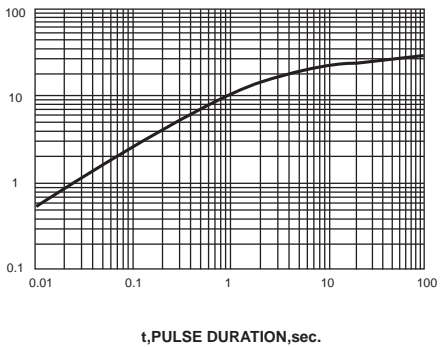


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.

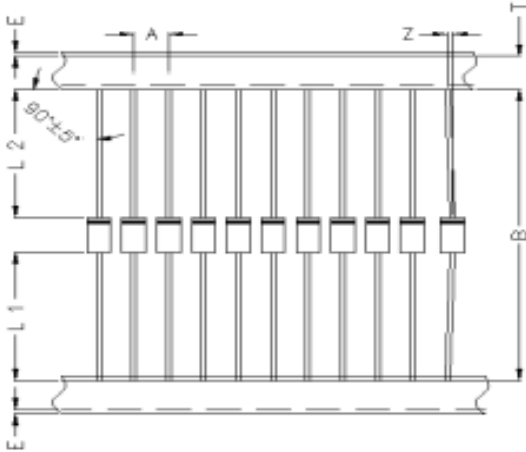


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## Package Information

### Taping Specifications



Item	Symbol	Specifications(mm)
Component Pitch	A	10.0±0.5
Inner Tape Pitch	B	52.4±1.5
Component alignment	Z	1.2 Max
Tape width	T	6.0±0.5
Exposed adhesive	E	0.8 Max
Body eccentricity	L1-L2	1.0 Max

### Ammunition Package Specifications

Package	Inner Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
DO - 201AD	255*74*145	1000	410*275*340	10000

### Bulk Package Specifications

Package	Inner Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
DO - 201AD	198*86*21	200	460*220*250	10000

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