

# SB520 THRU SB5100

## HIGH CURRENT SCHOTTKY BARRIER RECTIFIERS

### VOLTAGE - 20 to 100 Volts    CURRENT - 5.0 Amperes

#### FEATURES

- Low cost
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing
- Metal to silicon rectifier, Majority carrier conduction
- Low power loss, high efficiency
- High current capability, Low  $V_F$
- High surge capacity
- Epitaxial construction
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 250  $^{\circ}\text{C}$ /10 seconds/.375"(9.5mm) lead lengths at 5 lbs., (2.3kg) tension

#### MECHANICAL DATA

Case: Molded plastic, DO-201AD

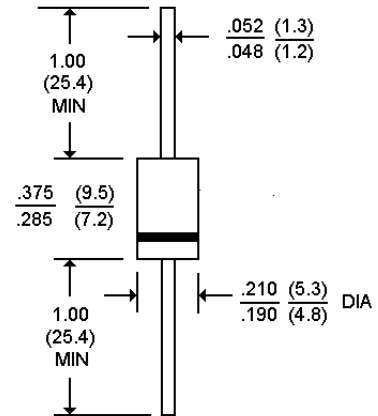
Terminals: Axial leads, solderable per MIL-STD-202, Method 208

Polarity: Color band denotes cathode

Mounting Position: Any

Weight: 0.04 ounce, 1.12 gram

#### DO-201AD



Dimensions in inches and (millimeters)

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25  $^{\circ}\text{C}$  ambient temperature unless otherwise specified.

Resistive or inductive load.

For capacitive load, derate current by 20%.

	SB520	SB530	SB540	SB550	SB560	SB580	SB5100	UNITS
Maximum Recurrent Peak Reverse Voltage	20	30	40	50	60	80	100	V
Maximum RMS Voltage	14	21	28	35	42	56	80	V
Maximum DC Blocking Voltage	20	30	40	50	60	80	100	V
Maximum Average Forward Rectified Current, .375"(9.5mm) Lead Length(Fig. 1)	5.0							A
Peak Forward Surge Current, 8.3ms single half sine wave superimposed on rated load(JEDEC method)	150							A
Maximum Instantaneous Forward Voltage at 5.0A	0.55		0.70		0.85			V
Maximum DC Reverse Current $T_A=25^{\circ}\text{C}$	0.5							mA
Reverse Voltage $T_A=100^{\circ}\text{C}$	50.0							
Typical Thermal Resistance (Note 1) R $\theta_{\text{KJL}}$	15			10				$^{\circ}\text{C}/\text{W}$
Typical Junction capacitance (Note 2)	500			380				pF
Operating and Storage Temperature Range $T_J, T_{\text{STG}}$	-50 TO +125							$^{\circ}\text{C}$

#### NOTES:

1. Thermal Resistance Junction to Lead Vertical PC Board Mounting .375(9.5mm) Lead Lengths
2. Measured at 1 MHz and applied reverse voltage of 4.0 Volts

# RATING AND CHARACTERISTIC CURVES

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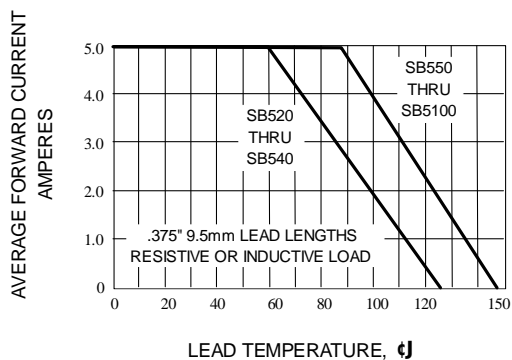


Fig. 1-FORWARD CURRENT DERATING CURVE

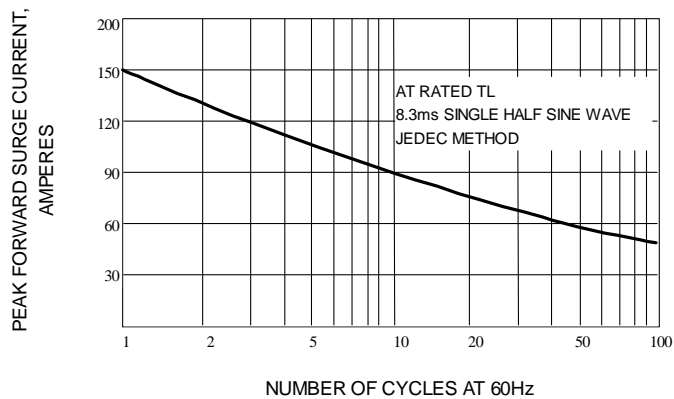


Fig. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

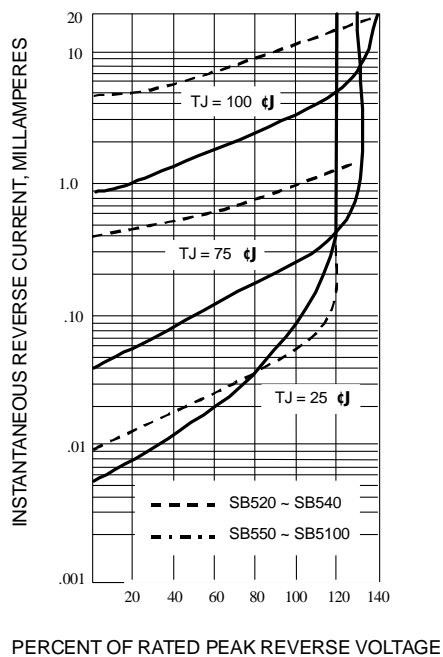


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

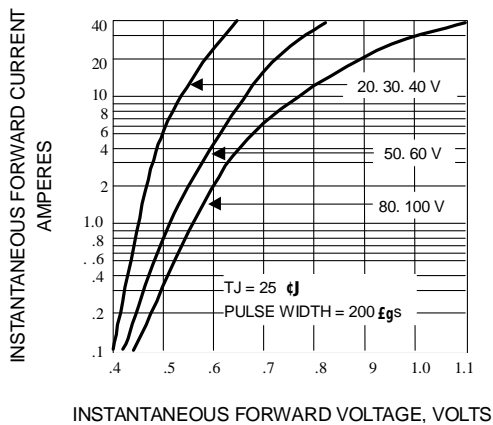


Fig. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

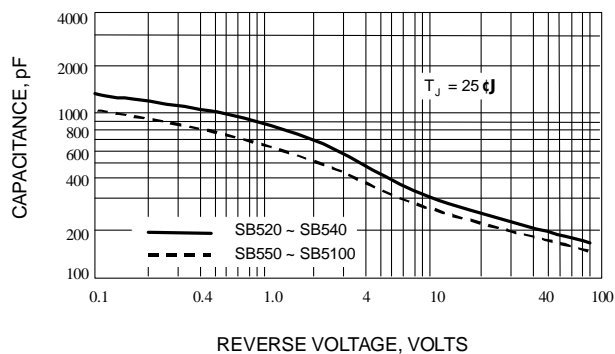


Fig. 5-TYPICAL JUNCTION CAPACITANCE