

SB520 THRU SB5100

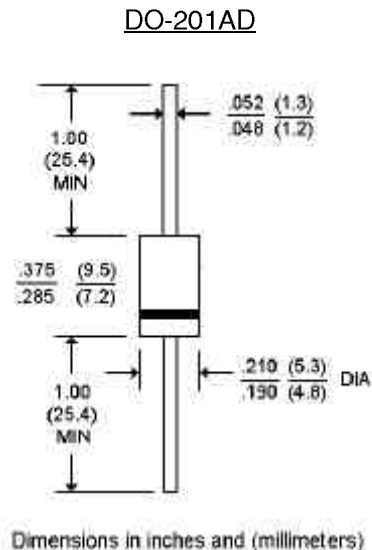
HIGH CURRENT SCHOTTKY BARRIER RECTIFIERS
VOLTAGE - 20 to 100 Volts CURRENT - 5.0 Amperes

FEATURES

- Low cost
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 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 $^{\circ}$ 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



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 $^{\circ}$ 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 $T_A=25^{\circ}$ C Reverse Voltage $T_A=100^{\circ}$ C | 0.5 50.0 | | | | | | | mA |
| Typical Thermal Resistance (Note 1) R θ JKJL | 15 | | | 10 | | | | $^{\circ}$ C/W |
| Typical Junction capacitance (Note 2) | 500 | | | 380 | | | | pF |
| Operating and Storage Temperature Range T_J, T_{STG} | -50 TO +125 | | | | | | | $^{\circ}$ 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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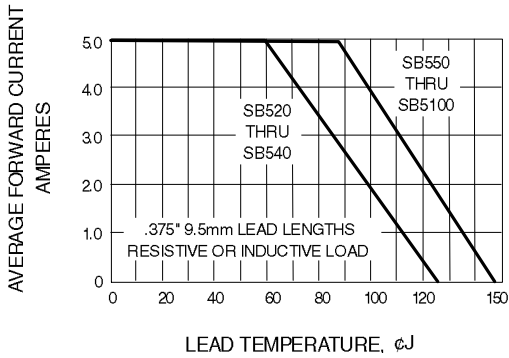


Fig. 1-FORWARD CURRENT DERATING CURVE

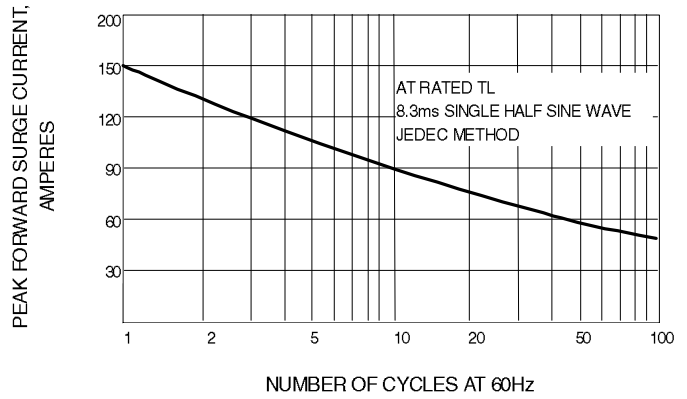


Fig. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

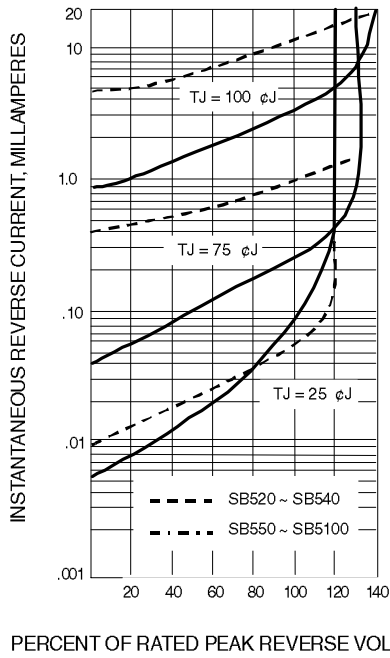


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

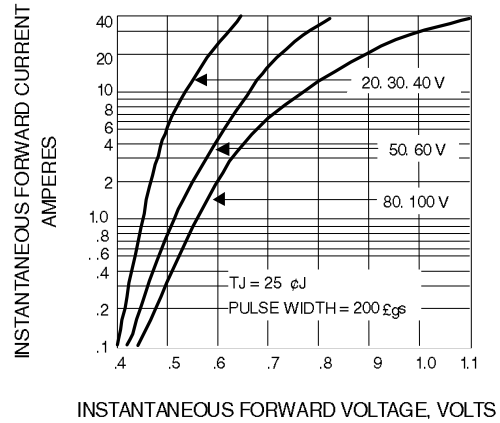


Fig. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

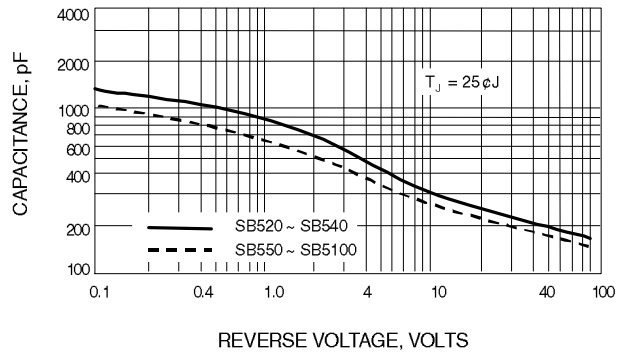


Fig. 5-TYPICAL JUNCTION CAPACITANCE