



# SB820 THRU SB8100

## SCHOTTKY BARRIER RECTIFIER

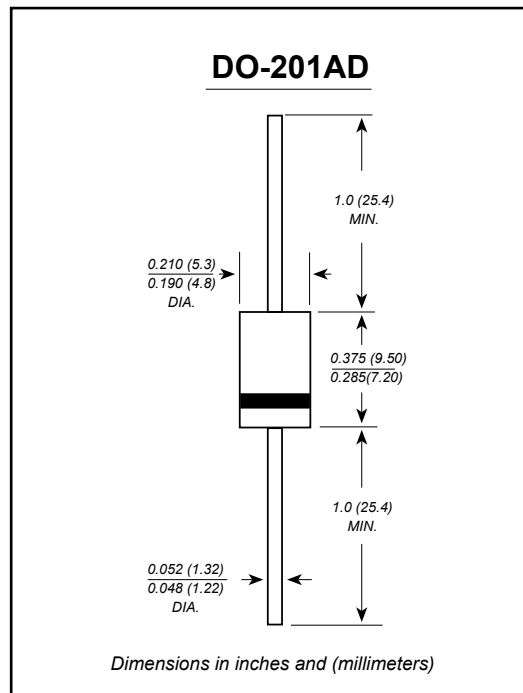
Reverse Voltage - 20 to 100 Volts    Forward Current - 8.0 Ampere

### 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  | Symbol                            | SB 820      | SB 830 | SB 840 | SB 845 | SB 850      | SB 860 | SB 880 | SB 8100 | Unit |    |
|---|-----------------------------------|-------------|--------|--------|--------|-------------|--------|--------|---------|------|----|
| Peak Repetitive Reverse Voltage   | V <sub>RRM</sub>                  |             |        |        |        |             |        |        |         | V    |    |
| Working Peak Reverse Voltage  | V <sub>RWM</sub>                  | 20          | 30     | 40     | 45     | 50          | 60     | 80     | 100     |      |    |
| DC Blocking Voltage   | V <sub>R</sub>                    |             |        |        |        |             |        |        |         |      |    |
| RMS Reverse Voltage   | V <sub>R(RMS)</sub>               | 14          | 21     | 28     | 32     | 35          | 42     | 56     | 70      | V    |    |
| Average Rectified Output Current @T <sub>C</sub> = 95°C   | I <sub>O</sub>                    | 8.0         |        |        |        |             |        |        |         | A    |    |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave superimposed<br>on rated load (JEDEC Method) | I <sub>FSM</sub>                  | 150         |        |        |        |             |        |        |         | A    |    |
| Forward Voltage @I <sub>F</sub> = 8.0A  | V <sub>FM</sub>                   | 0.55        |        |        | 0.70   |             | 0.85   |        |         | V    |    |
| Peak Reverse Current @T <sub>A</sub> = 25°C<br>At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C                   | I <sub>RM</sub>                   | 0.5         |        |        |        |             | 20     |        |         |      | mA |
| Typical Junction Capacitance (Note 1)   | C <sub>j</sub>                    | 400         |        |        |        |             |        |        |         | pF   |    |
| Typical Thermal Resistance (Note 2)   | R <sub>θJA</sub>                  | 40          |        |        |        |             |        |        |         | °C/W |    |
| Operating and Storage Temperature Range   | T <sub>j</sub> , T <sub>STG</sub> | -65 to +125 |        |        |        | -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- MAXIMUM FORWARD CURRENT DERATING CURVE

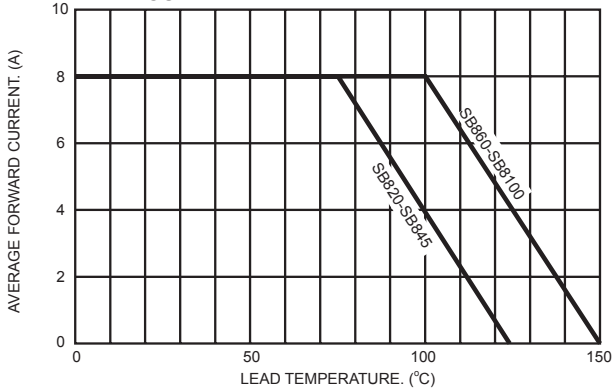


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

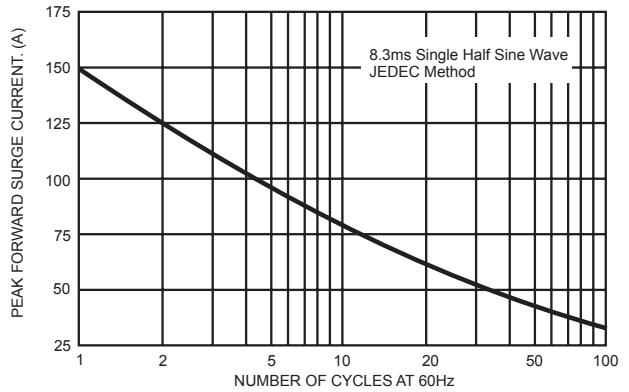


FIG.3- TYPICAL FORWARD CHARACTERISTICS

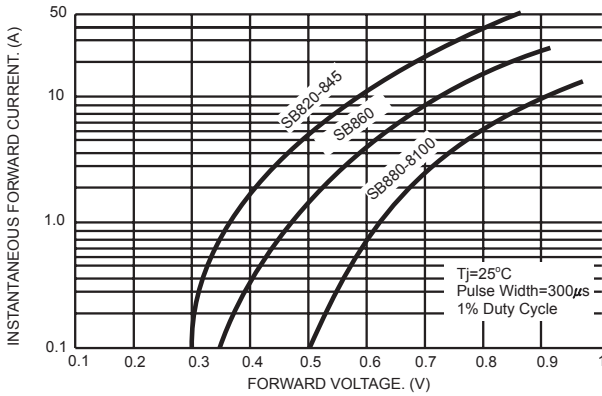


FIG.4- TYPICAL REVERSE CHARACTERISTICS

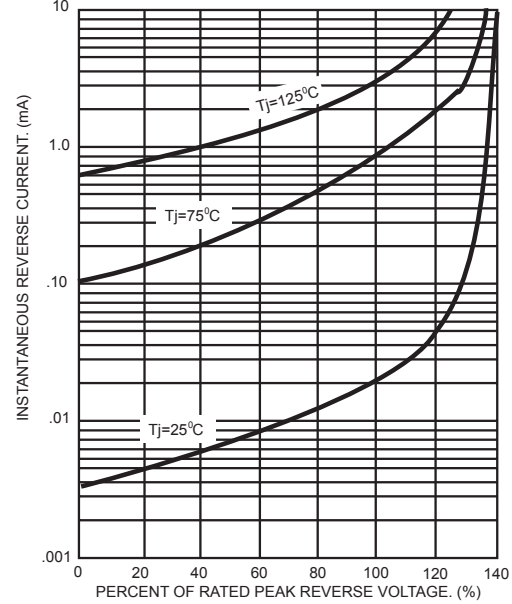


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

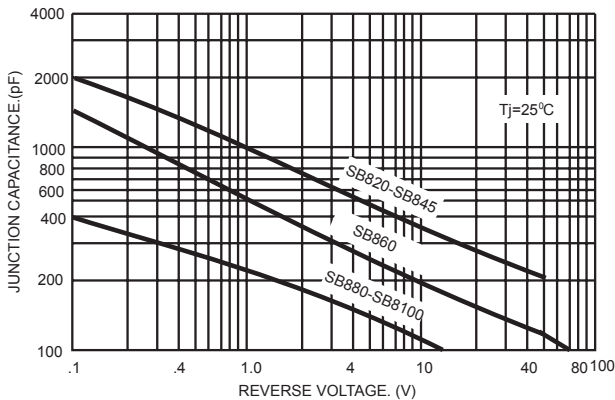


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

