

# SB820D THRU SB8100D

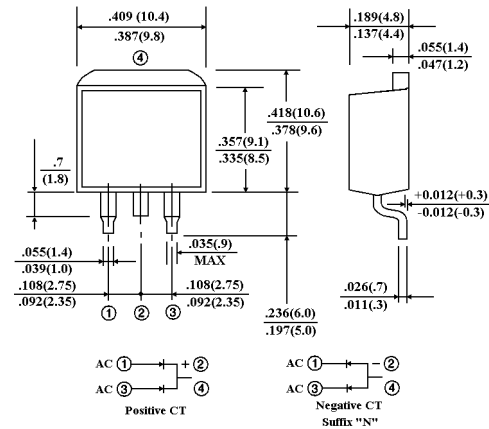
## D<sup>2</sup>PAK SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

VOLTAGE - 20 to 100 Volts CURRENT - 8.0 Amperes

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound
- Exceeds environmental standards of MIL-S-19500/228
- Low power loss, high efficiency
- Low forward voltage, high current capability
- High surge capacity
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications

### D<sup>2</sup>PAK/TO-263



Dimensions in inches and (millimeters)

### MECHANICAL DATA

Case: D<sup>2</sup>PAK/TO-263 molded plastic

Terminals: Leads, solderable per MIL-STD-202,  
Method 208

Polarity: As marked

Mounting Position: Any

Weight: 0.06 ounce, 1.7 gram

### 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, derate current by 20%.

|                                                                                                  | SB820D      | SB830D | SB840D | SB850D | SB860D | SB880D | SB8100D | UNITS |
|--------------------------------------------------------------------------------------------------|-------------|--------|--------|--------|--------|--------|---------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                           | 20          | 30     | 40     | 50     | 60     | 80     | 100     | V     |
| Maximum RMS Voltage                                                                              | 14          | 21     | 26     | 35     | 42     | 56     | 80      | V     |
| Maximum DC Blocking Voltage                                                                      | 20          | 30     | 40     | 50     | 60     | 80     | 100     | V     |
| Maximum Average Forward Rectified Current at T <sub>C</sub> =100 °J                              | 8.0         |        |        |        |        |        |         | A     |
| Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load(JEDEC method) | 150         |        |        |        |        |        |         | A     |
| Maximum Forward Voltage at 8.0A per element                                                      | 0.55        |        |        | 0.75   |        | 0.85   |         | V     |
| Maximum DC Reverse Current at T <sub>C</sub> =25 °J                                              | 0.5         |        |        |        |        |        |         | mA    |
| DC Blocking Voltage per element T <sub>C</sub> =100 °J                                           | 50          |        |        |        |        |        |         |       |
| Typical Thermal Resistance(Note) R $\theta$ KJA                                                  | 60          |        |        |        |        |        |         | °J/W  |
| Operating and Storage Temperature Range T <sub>J</sub>                                           | -50 to +150 |        |        |        |        |        |         | °J    |

### NOTES:

Thermal Resistance Junction to Ambient.

## RATING AND CHARACTERISTIC CURVES

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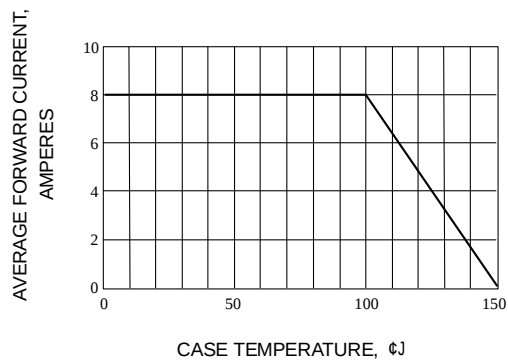


Fig. 1-FORWARD CURRENT DERATING CURVE

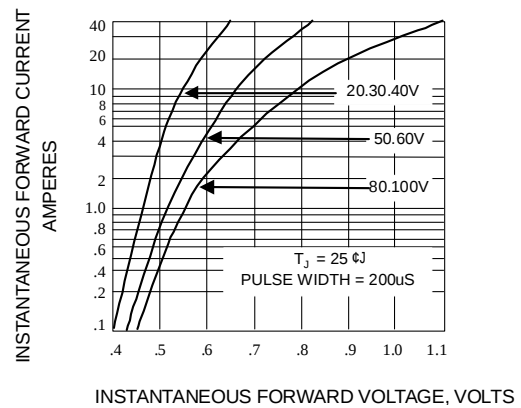


Fig. 2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

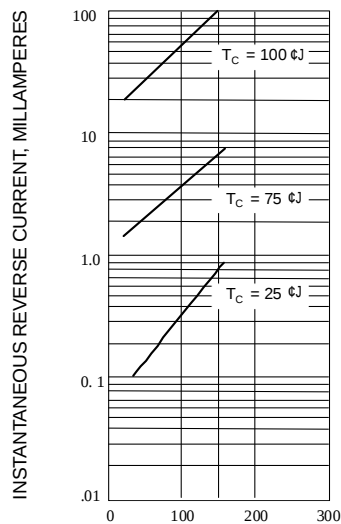


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

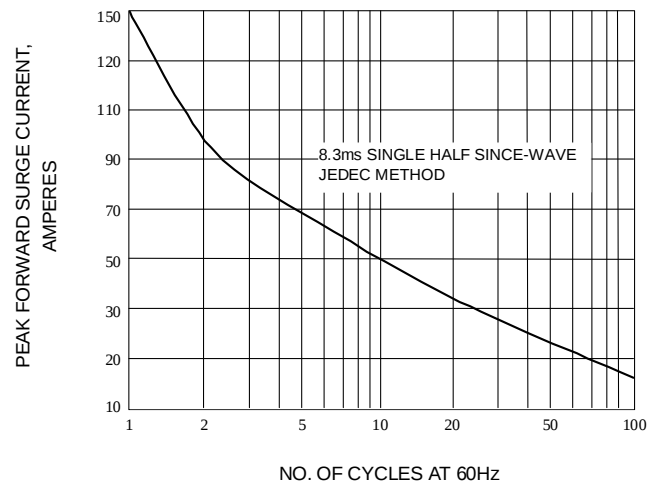


Fig. 4-MAXIMUM NON-REPETITIVE SURGE CURRENT

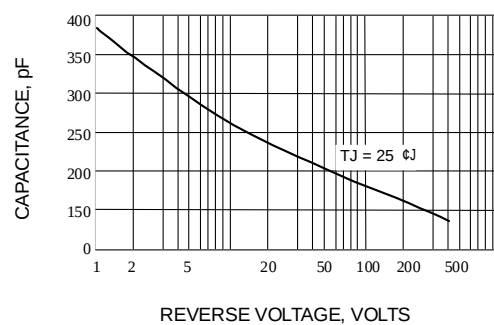


Fig. 5-TYPICAL JUNCTION CAPACITANCE