

**VOLTAGE RANGE: 90 - 100V**

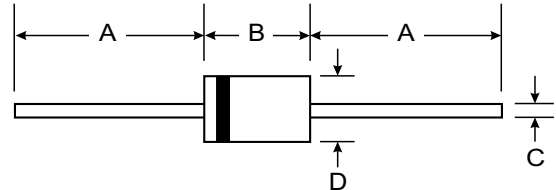
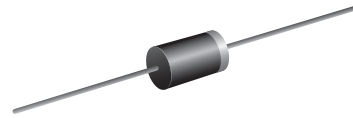
**CURRENT: 5.0 A**

### Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- High Current Capability
- Low Power Loss, High Efficiency
- High Surge Current Capability
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications

### Mechanical Data

- Case: DO-201AD, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 1.2 grams (approx.)
- Mounting Position: Any
- Marking: Type Number



| DO-201AD             |       |      |
|----------------------|-------|------|
| Dim                  | Min   | Max  |
| A                    | 25.40 | —    |
| B                    | 7.20  | 9.50 |
| C                    | 1.20  | 1.30 |
| D                    | 4.80  | 5.30 |
| All Dimensions in mm |       |      |

### Maximum Ratings and Electrical Characteristics T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Parameter                                                                                         | Symbol                               | SB5H90      | SB5H100 | Unit |
|---------------------------------------------------------------------------------------------------|--------------------------------------|-------------|---------|------|
| Maximum repetitive peak reverse voltage                                                           | V <sub>RRM</sub>                     | 90          | 100     | V    |
| Working peak reverse voltage                                                                      | V <sub>RWM</sub>                     | 90          | 100     | V    |
| Maximum DC blocking voltage                                                                       | V <sub>DC</sub>                      | 90          | 100     | V    |
| Maximum average forward rectified current at T <sub>C</sub> = 80°C                                | I <sub>F(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>                     | 200         |         | A    |
| Peak repetitive reverse surge current at t <sub>p</sub> = 2.0μs, 1KHz                             | I <sub>RRM</sub>                     | 1.0         |         | A    |
| Maximum thermal resistance <sup>(2)</sup>                                                         | R <sub>θJA</sub><br>R <sub>θJL</sub> | 25<br>8     |         | °C/W |
| Storage temperature range                                                                         | T <sub>STG</sub>                     | -55 to +175 |         | °C   |
| Maximum operating junction temperature                                                            | T <sub>J</sub>                       | 175         |         | °C   |

### Electrical Characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

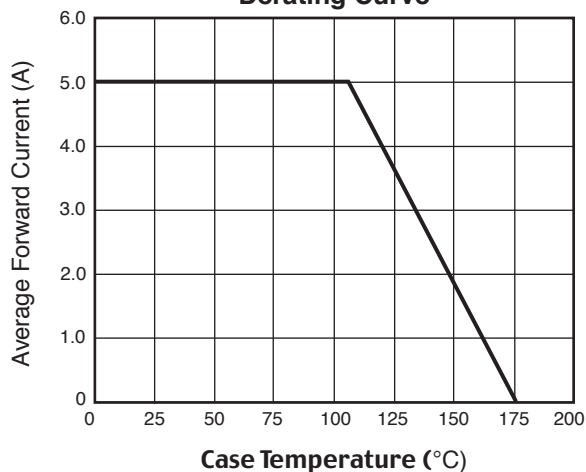
|                                                                        |                                                                                               |                |              |          |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|----------------|--------------|----------|
| Maximum instantaneous forward voltage at: <sup>(1)</sup>               | I <sub>F</sub> = 5.0A, T <sub>A</sub> = 25°C<br>I <sub>F</sub> = 5.0A, T <sub>A</sub> = 125°C | V <sub>F</sub> | 0.80<br>0.70 | V        |
| Maximum DC reverse current at rated DC blocking voltage <sup>(1)</sup> | T <sub>A</sub> = 25°C<br>T <sub>A</sub> = 125°C                                               | I <sub>R</sub> | 200<br>10    | μA<br>mA |

**Notes:** (1) Pulse test: 300μs pulse width, 1% duty cycle

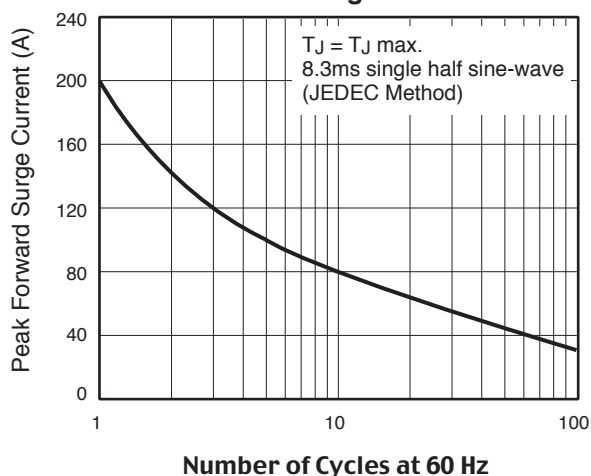
(2) P.C.B. mounted with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas

## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

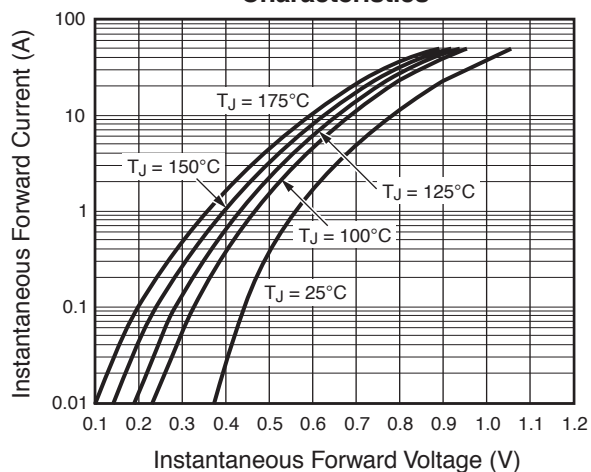
**Fig. 1 – Forward Current Derating Curve**



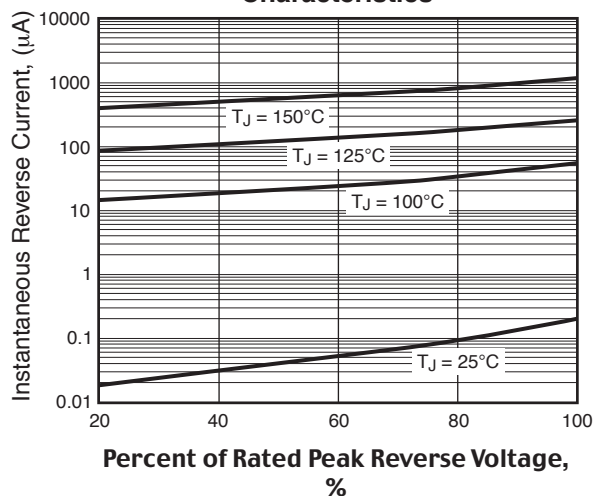
**Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current**



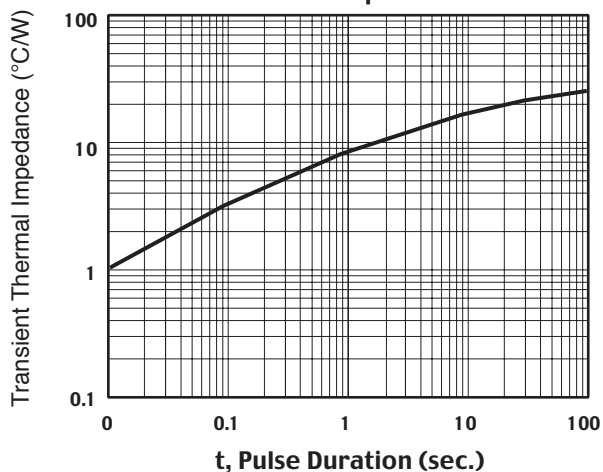
**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Characteristics**



**Fig. 5 - Typical Transient Thermal Impedance**



**Fig. 6 – Typical Junction Capacitance**

