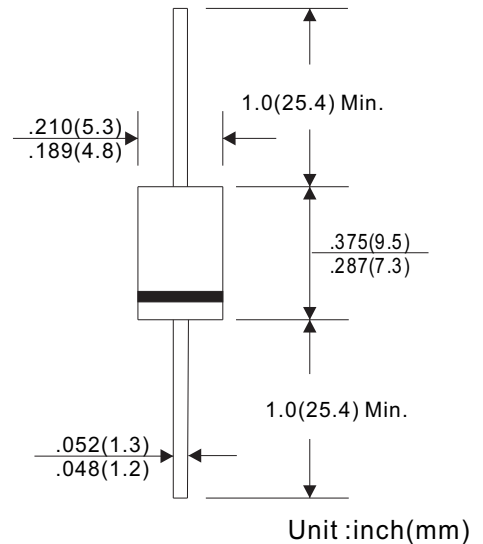


**SB320E-G thru SB3100E-G      "-G" : RoHS Device****Voltage Range: 20 to 100 V****Current: 3.0 A****FEATURES**

- Low drop down voltage
- 3.0A operation at TA=75° C with no thermal runaway
- For use in low voltage, high frequency invertors free wheeling and polarity protection
- Silicon epitaxial planar chips
- Electrostatic discharge (ESD) test under IEC61000 -4-2: standard: >15KV (air) & 8KV (contact)
- Lead -free part, meet RoHS requirements

**MECHANICAL DATA**

- Case: Molded plastic body DO-201AD
- Epoxy: UL94-V0 rated flame retardant
- Terminals: Solderable per MIL-STD-750 Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.04 ounces, 1.12 grams

**DO-201AD****MAXIMUM RATING AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified

|                                                                                                                 | Symbols      | <i>SB</i><br>320E | <i>SB</i><br>340E | <i>SB</i><br>345E | <i>SB</i><br>350E | <i>SB</i><br>360E | <i>SB</i><br>380E | <i>SB</i><br>3100E | Units |
|-----------------------------------------------------------------------------------------------------------------|--------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                                          | VRRM         | 20                | 40                | 45                | 50                | 60                | 80                | 100                | Volts |
| Maximum RMS Voltage                                                                                             | VRMS         | 14                | 28                | 30                | 35                | 42                | 56                | 70                 | Volts |
| Maximum DC Blocking Voltage                                                                                     | VDC          | 20                | 40                | 45                | 50                | 60                | 80                | 100                | Volts |
| Maximum Average Forward Rectified Current<br>0.5" (12.7mm) lead length at TA=75°C, See Figure 1                 | IAV          | 3.0               |                   |                   |                   |                   |                   |                    | Amps  |
| Peak Forward Surge Current<br>8.3mS single half sine-wave superimposed on<br>rated load (JEDEC Method) TL=110°C | IFSM         | 80                |                   |                   |                   |                   |                   |                    | Amps  |
| Maximum Forward Voltage at 3.0A (Note 1)                                                                        | VF           | 0.50              |                   |                   | 0.70              |                   | 0.85              |                    | Volts |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage<br>TA= 25°C<br>TA=100°C                              | IR           | 0.5               |                   |                   |                   |                   |                   |                    | mA    |
|                                                                                                                 |              | 30                |                   |                   | 20                |                   |                   |                    |       |
| Typical Junction Capacitance (Note 2)                                                                           | CJ           | 250               |                   |                   |                   |                   |                   |                    | pF    |
| Typical Thermal Resistance (Note 3)                                                                             | RθJA<br>RθJL | 40.0<br>20.0      |                   |                   |                   |                   |                   |                    | °C/W  |
| Operating Junction Temperature Range                                                                            | TJ           | -65 ~ +125        |                   |                   | -65 ~ +150        |                   |                   |                    | °C    |
| Storage Temperature Range                                                                                       | TSTG         | -65 ~ +150        |                   |                   |                   |                   |                   |                    | °C    |

Note 1. Pulse test: 300μS pulse width, 1% duty cycle

2. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts

3. Thermal resistance from junction to ambient and from junction to lead P.C.B. mounted 0.500" (12.7mm) lead length with 2.5x2.5" (63.5x63.5mm) copper pad.

## RATINGS AND CHARACTERISTIC CURVES SB320E-G thru SB3100E-G

Fig. 1 - Forward Current Derating Curve

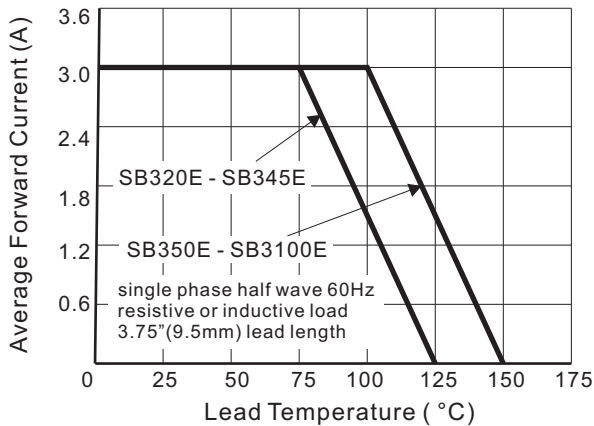


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

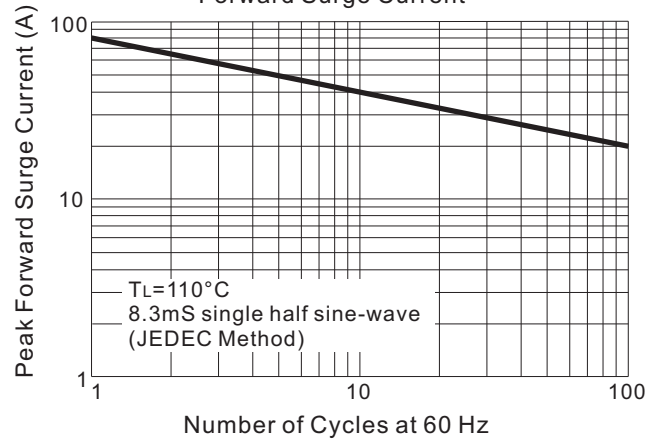


Fig. 3 - Typical Instantaneous Forward Characteristics

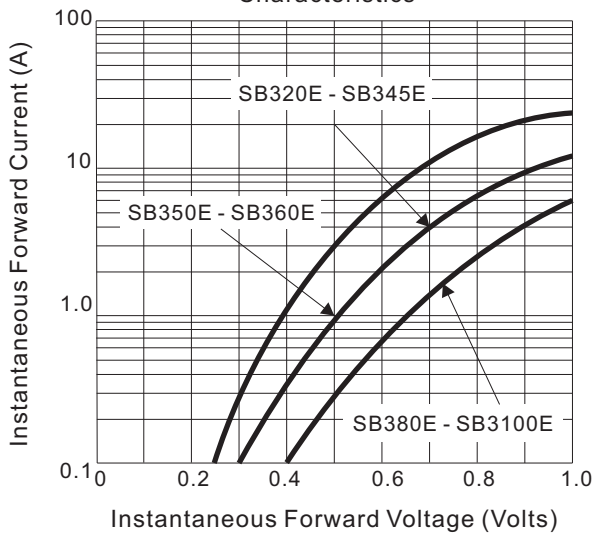


Fig. 4A - Typical Reverse Characteristics

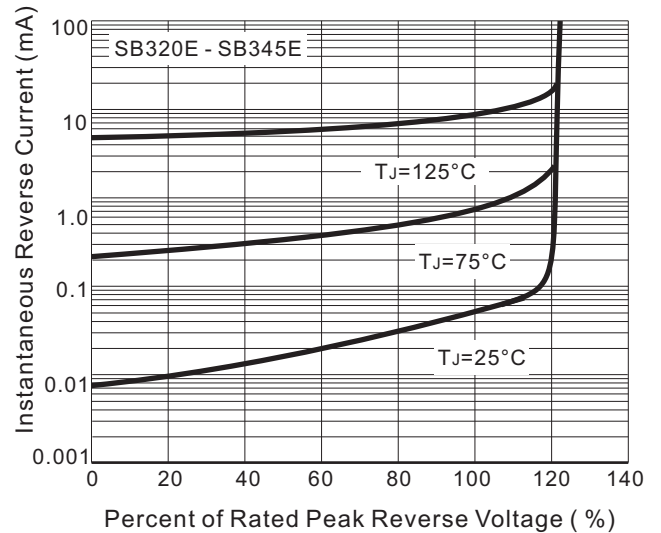


Fig. 5 - Typical Junction Capacitance

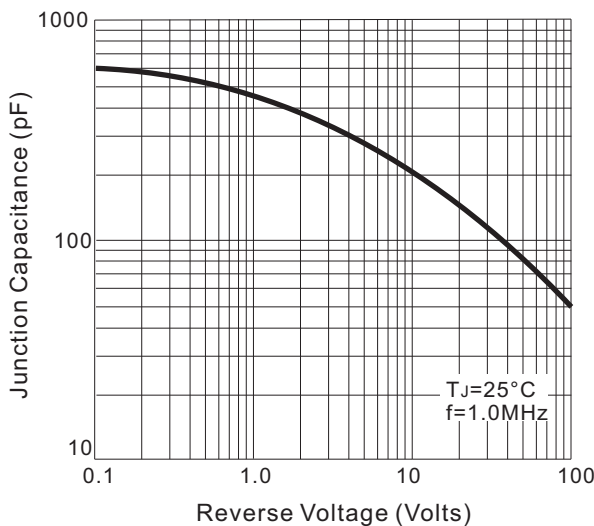


Fig. 4B - Typical Reverse Characteristic

