



## SB320 - SB3100

SB320-SB3100

### Features

- 3.0 ampere operation at  $T_A = 75^\circ\text{C}$  with no thermal runaway.
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications.



**DO-201AD**

COLOR BAND DENOTES CATHODE

## Schottky Rectifiers

### Absolute Maximum Ratings\*

$T_A = 25^\circ\text{C}$  unless otherwise noted

| Symbol      | Parameter                                                                          | Value       |     |     |     |     |     |      | Units            |
|-------------|------------------------------------------------------------------------------------|-------------|-----|-----|-----|-----|-----|------|------------------|
|             |                                                                                    | 320         | 330 | 340 | 350 | 360 | 380 | 3100 |                  |
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage                                                 | 20          | 30  | 40  | 50  | 60  | 80  | 100  | V                |
| $I_{F(AV)}$ | Average Rectified Forward Current<br>.375 " lead length @ $T_A = 75^\circ\text{C}$ | 3.0         |     |     |     |     |     |      | A                |
| $I_{FSM}$   | Non-repetitive Peak Forward Surge Current<br>8.3 ms Single Half-Sine-Wave          | 80          |     |     |     |     |     |      | A                |
| $T_{stg}$   | Storage Temperature Range                                                          | -65 to +125 |     |     |     |     |     |      | $^\circ\text{C}$ |
| $T_J$       | Operating Junction Temperature                                                     | -65 to +125 |     |     |     |     |     |      | $^\circ\text{C}$ |

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Thermal Characteristics

| Symbol          | Parameter                               | Value | Units              |
|-----------------|-----------------------------------------|-------|--------------------|
| $P_D$           | Power Dissipation                       | 3.6   | W                  |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 40    | $^\circ\text{C/W}$ |

### Electrical Characteristics

$T_A = 25^\circ\text{C}$  unless otherwise noted

| Symbol          | Parameter                                                               | Device |     |     |     |     |     |      | Units |
|-----------------|-------------------------------------------------------------------------|--------|-----|-----|-----|-----|-----|------|-------|
|                 |                                                                         | 320    | 330 | 340 | 350 | 360 | 380 | 3100 |       |
| V <sub>F</sub>  | Forward Voltage @ 3.0 A                                                 | 500    |     |     | 740 |     | 850 |      | mV    |
| I <sub>R</sub>  | Reverse Current @ rated V <sub>R</sub> T <sub>A</sub> = 25°C            | 0.5    |     |     |     |     |     |      | mA    |
|                 | T <sub>A</sub> = 100°C                                                  | 20     |     |     | 10  |     | 10  |      | mA    |
| I <sub>rr</sub> | Maximum Full Load Reverse Current,<br>Full Cycle T <sub>A</sub> = 100°C | 30     |     |     |     |     |     |      | mA    |
| C <sub>T</sub>  | Total Capacitance<br>V <sub>R</sub> = 4.0 V, f = 1.0 MHz                | 180    |     |     |     |     |     |      | pF    |

Typical Characteristics

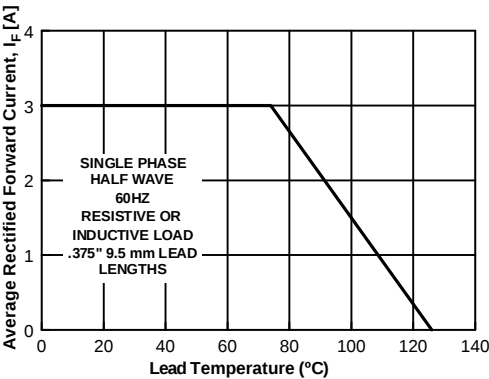


Figure 1. Forward Current Derating Curve

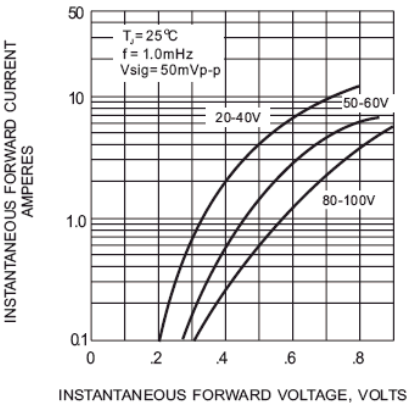


Figure 2. Forward Voltage Characteristics

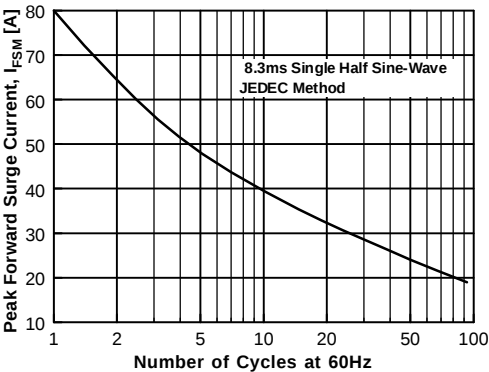


Figure 3. Non-Repetitive Surge Current

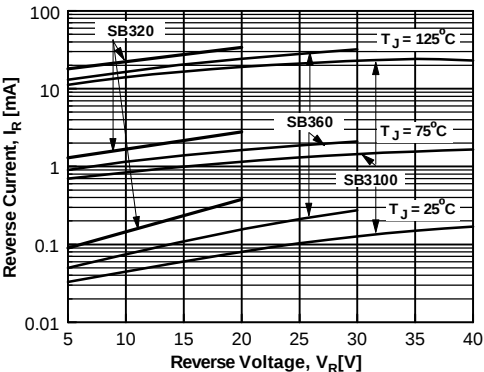


Figure 4. Reverse Current vs Reverse Voltage

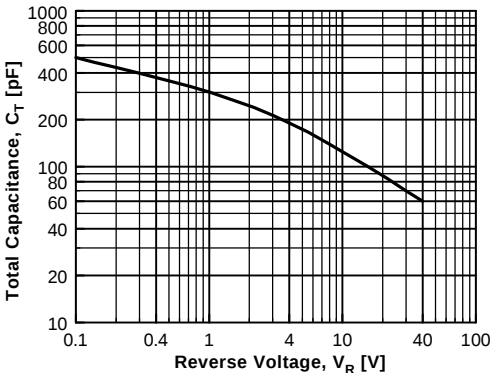


Figure 5. Total Capacitance