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# SB120 - SB1100

## Features

- 1.0 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-41**  
COLOR BAND DENOTES CATHODE

## Schottky Rectifiers

### Absolute Maximum Ratings\*

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

| Symbol      | Parameter                                                                          | Value       |     |     |     |     |     |      | Units            |
|-------------|------------------------------------------------------------------------------------|-------------|-----|-----|-----|-----|-----|------|------------------|
|             |                                                                                    | 120         | 130 | 140 | 150 | 160 | 180 | 1100 |                  |
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage                                                 | 20          | 30  | 40  | 50  | 60  | 80  | 100  | V                |
| $I_{F(AV)}$ | Average Rectified Forward Current<br>.375 " lead length @ $T_A = 75^\circ\text{C}$ | 1.0         |     |     |     |     |     |      | A                |
| $I_{FSM}$   | Non-repetitive Peak Forward Surge Current<br>8.3 ms Single Half-Sine-Wave          | 30          |     |     |     |     |     |      | 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                       | 1.25  | W                  |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 80    | $^\circ\text{C/W}$ |

## Electrical Characteristics

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

| Symbol          | Parameter                                                                                 | Device    |     |     |     |     |     |      | Units    |
|-----------------|-------------------------------------------------------------------------------------------|-----------|-----|-----|-----|-----|-----|------|----------|
|                 |                                                                                           | 120       | 130 | 140 | 150 | 160 | 180 | 1100 |          |
| V <sub>F</sub>  | Forward Voltage @ 1.0 A                                                                   | 500       |     |     | 700 |     | 850 |      | mV       |
| I <sub>R</sub>  | Reverse Current @ rated V <sub>R</sub><br>T <sub>A</sub> = 25°C<br>T <sub>A</sub> = 100°C | 0.5<br>10 |     |     |     |     |     |      | mA<br>mA |
| I <sub>rr</sub> | Maximum Full Load Reverse Current, Full Cycle<br>T <sub>A</sub> = 75°C                    | 30        |     |     |     |     |     |      | mA       |
| C <sub>T</sub>  | Total Capacitance<br>V <sub>R</sub> = 4.0 V, f = 1.0 MHz                                  | 110       |     |     |     |     |     |      | pF       |

Typical Characteristics

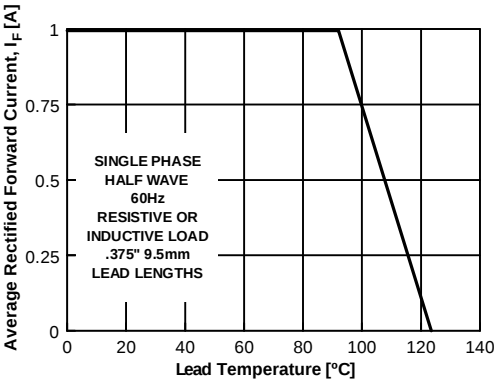


Figure 1. Forward Current Derating Curve

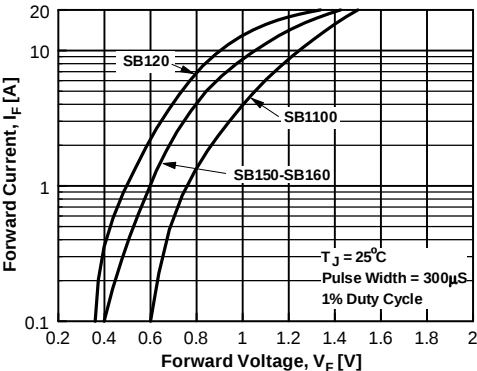


Figure 2. Forward Voltage Characteristics

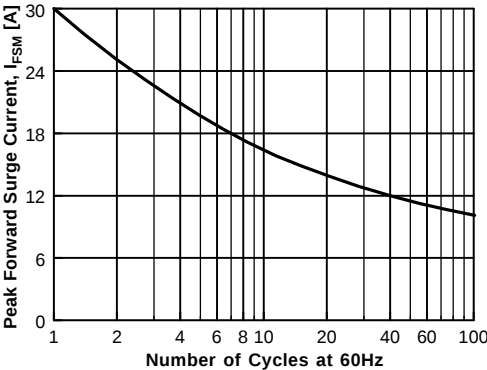


Figure 3. Non-Repetitive Surge Current

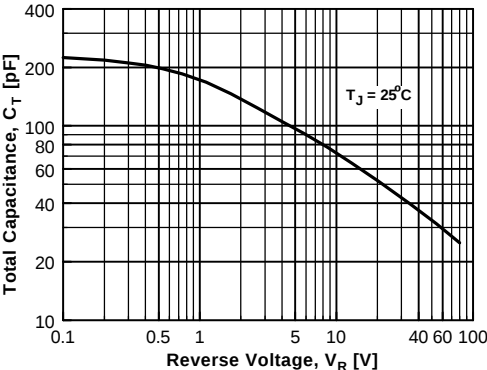


Figure 4. Total Capacitance

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| DenseTrench™         | GTO™                | Power247™           | SuperSOT™-6     |      |
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