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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.



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 .375 " lead length @ $T_A = 75^\circ\text{C}$ | | | | | | | 3.0 | A |
| I_{FSM} | Non-repetitive Peak Forward Surge Current 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_{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_F | Forward Voltage @ 3.0 A | 500 | | 740 | | 850 | | | mV |
| I_R | Reverse Current @ rated V_R $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$ | | | 0.5 | | | | | mA |
| | | 20 | | 10 | | 10 | | | mA |
| I_{rr} | Maximum Full Load Reverse Current, Full Cycle $T_A = 100^\circ\text{C}$ | | | 30 | | | | | mA |
| C_T | Total Capacitance $V_R = 4.0 \text{ V}, f = 1.0 \text{ MHz}$ | | | 180 | | | | | pF |

Typical Characteristics

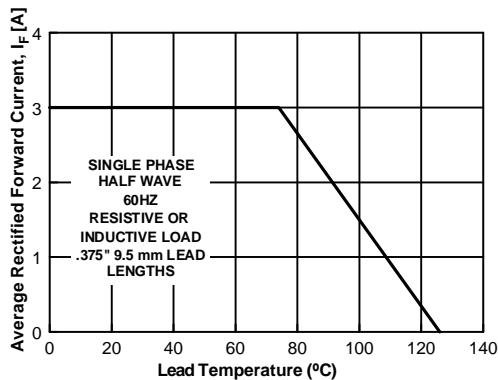


Figure 1. Forward Current Derating Curve

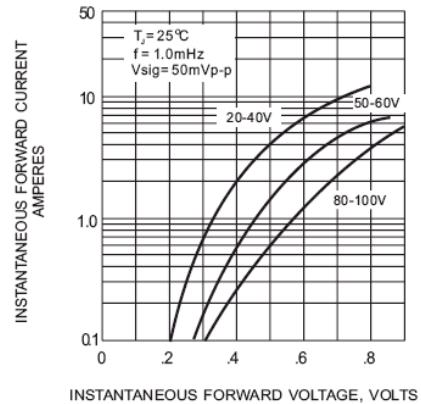


Figure 2. Forward Voltage Characteristics

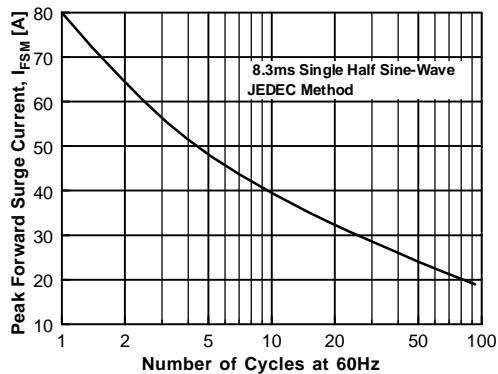


Figure 3. Non-Repetitive Surge Current

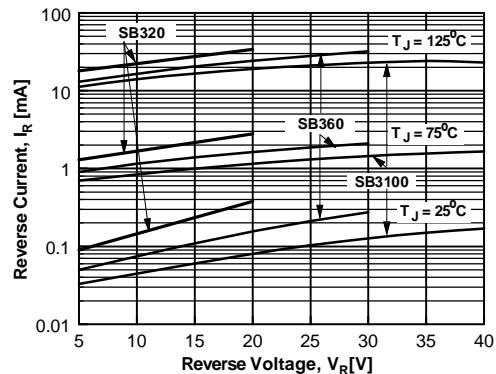


Figure 4. Reverse Current vs Reverse Voltage

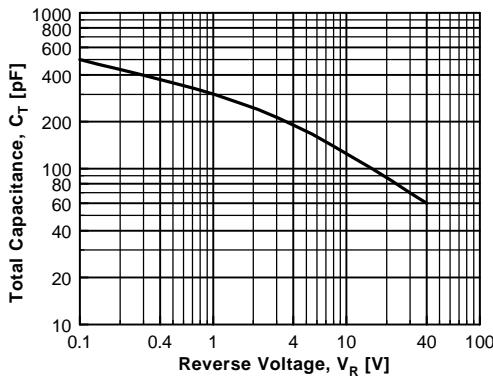


Figure 5. Total Capacitance

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