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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

FAIRCHILD

SEMICONDUCTOR®

SB320 - SB3100

Features

- 3.0 ampere operation at T_A = 75°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°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°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							°C
T_J	Operating Junction Temperature	-65 to +125							°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	°C/W

Electrical Characteristics T_A = 25°C unless otherwise noted

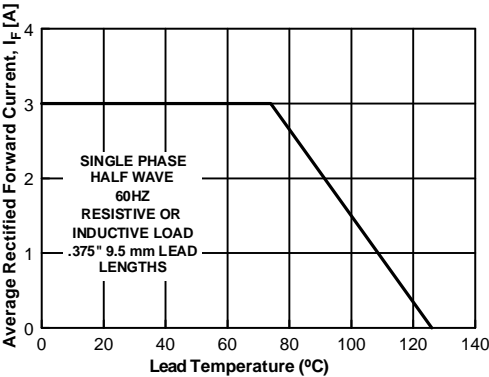| Symbol	Parameter	Device							Units
		320	330	340	350	360	380	3100	
V_F	Forward Voltage @ 3.0 A	500			740		850		mV
I_R	Reverse Current @ rated V_R T_A = 25°C	0.5							mA
	T_A = 100°C	20			10		10		mA
I_{rr}	Maximum Full Load Reverse Current, Full Cycle T_A = 100°C	30							mA
C_T	Total Capacitance V_R = 4.0 V, f = 1.0 MHz	180							pF

Typical Characteristics

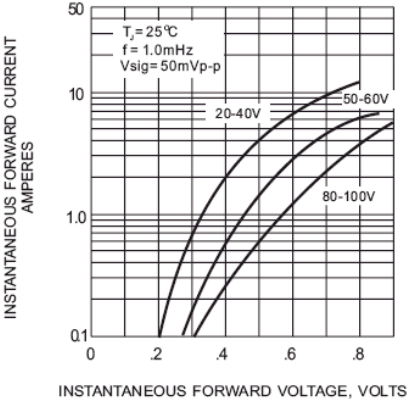**Figure 1. Forward Current Derating Curve**

Figure 2. Forward Voltage Characteristics
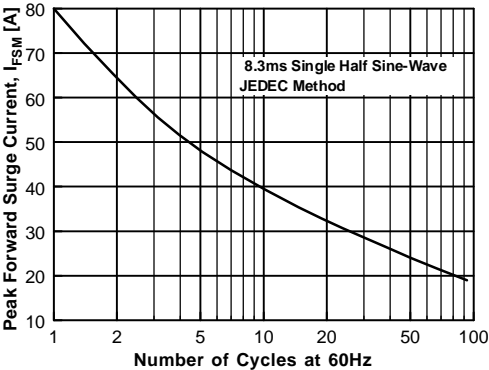

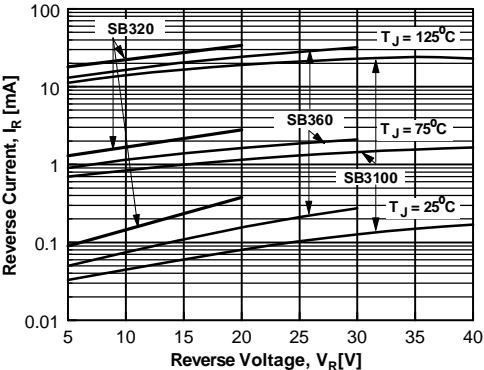**Figure 3. Non-Repetitive Surge Current**

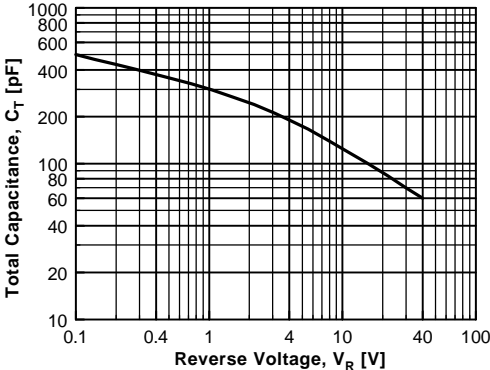

Figure 4. Reverse Current vs Reverse Voltage

Figure 5. Total Capacitance

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Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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