FAIRCHILD SEMICONDUCTOR™

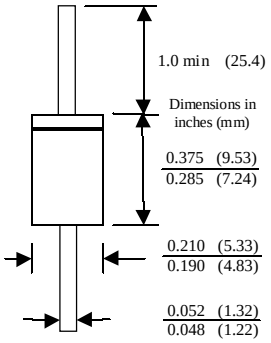
Discrete POWER & Signal Technologies

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



3.0 Ampere Schottky Barrier Rectifiers

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
I_O	Average Rectified Current .375 " lead length @ T_A = 75°C	3.0	A
$i_{f(surge)}$	Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	80	A
P_D	Total Device Dissipation Derate above 25°C	3.6 36	W mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	40	°C/W
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.

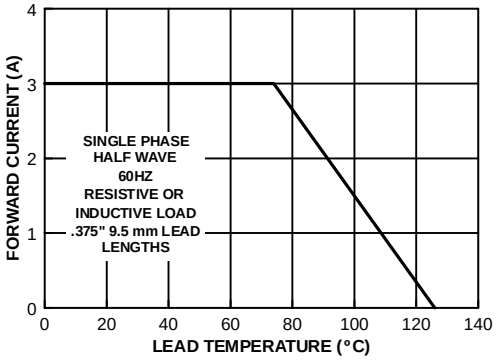
Electrical Characteristics

T_A = 25°C unless otherwise noted

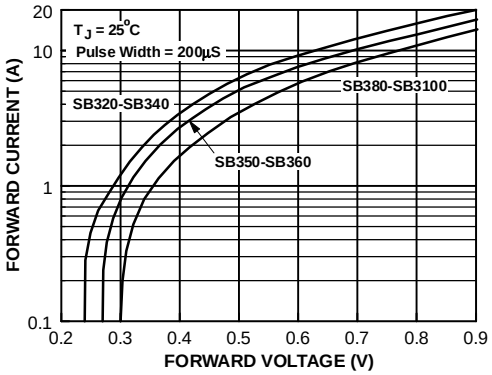
Parameter	Device							Units
	320	330	340	350	360	380	3100	
Peak Repetitive Reverse Voltage	20	30	40	50	60	80	100	V
Maximum RMS Voltage	14	21	28	35	42	56	80	V
DC Reverse Voltage (Rated V_R)	20	30	40	50	60	80	80	V
Maximum Reverse Current T_A = 25°C	0.5							mA
@ rated V_R T_A = 100°C	20			10		10		mA
Maximum Forward Voltage @ 3.0 A	500			740		850		mV
Maximum Full Load Reverse Current, Full Cycle T_A = 100°C	30							mA
Typical Junction Capacitance V_R = 4.0 V, f = 1.0 MHz	180							pF

Typical Characteristics

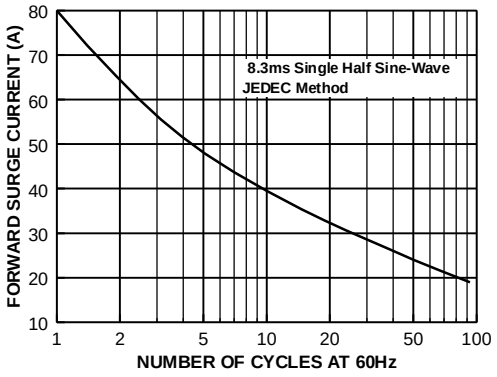
Forward Current Derating Curve



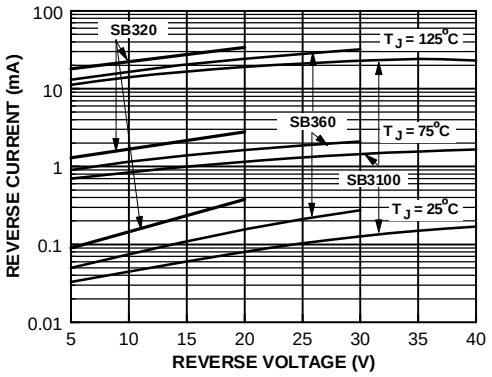
Forward Characteristics



Non-Repetitive Surge Current



Reverse Characteristics



Junction Capacitance