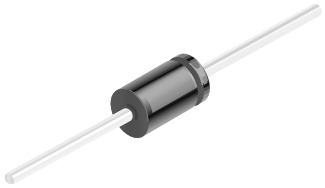
FAIRCHILD
SEMICONDUCTOR®

SB520 - SB5100

Features

- Metal to silicon rectifier, majority carrier conduction.
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications.
- Low power loss, high efficiency.
- High current capability, low V_F.
- High surge capacity.
- Glass passivated



DO-201AD
COLOR BAND DENOTES CATHODE

Schottky Rectifiers

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter	Value							Units
		520	530	540	550	560	580	5100	
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	5.0							A
I_{FSM}	Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	150							A
T_{stg}	Storage Temperature Range	-50 to +150							°C
T_J	Operating Junction Temperature	-50 to +150							°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	5.0	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	25	°C/W

Electrical Characteristics

T_A = 25°C unless otherwise noted

Symbol	Parameter		Device							Units
			520	530	540	550	560	580	5100	
V_F	Forward Voltage @ 5.0 A		0.55			0.67		0.85		V
I_R	Reverse Current @ rated V_R	T_A = 25°C	0.5							mA
		T_A = 100°C	50			25				mA
C_T	Total Capacitance V_R = 4.0 V, f = 1.0 MHz		500			380				pF

Typical Characteristics

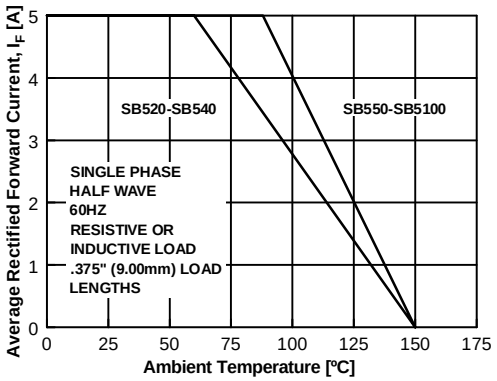


Figure 1. Forward Current Derating Curve

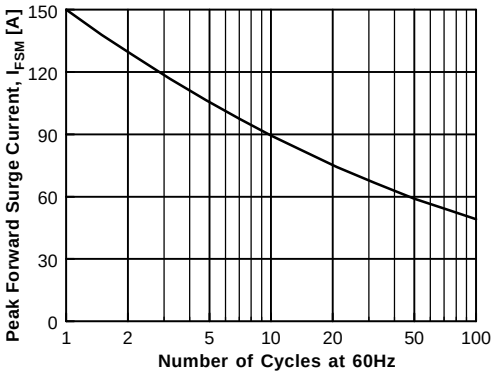


Figure 2. Non-Repetitive Surge Current

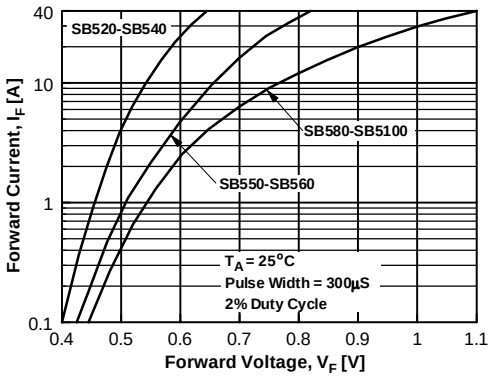


Figure 3. Forward Voltage Characteristics

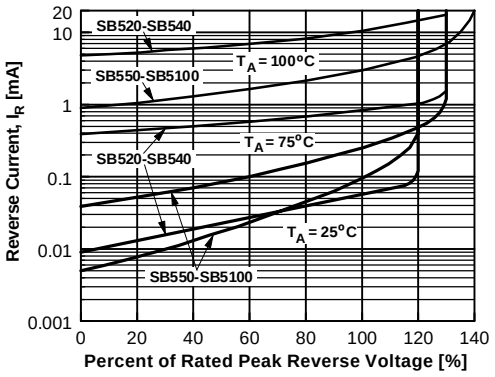


Figure 4. Reverse Current vs Reverse Voltage

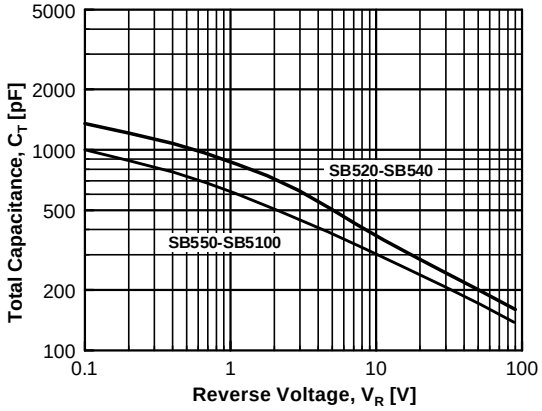


Figure 5. Total Capacitance

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Definition of Terms

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Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
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