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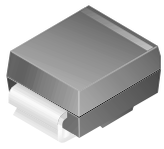
FAIRCHILD SEMICONDUCTOR®

January 2012

S320
3A, 200V, Surface Mount Package Schottky Rectifier

Features

- Low Profile, Mini Surface Mount Package: SMB / DO-214AA
- High Reverse Voltage: V_{RRM} = 200V
- Low Power Loss, High Efficiency
- High Surge Current: I_{FSM} = 80A
- RoHS 2002/95/EC Compliant



SMB / DO-214AA
Color Band Denotes Cathode
Mark: S320

Absolute Maximum Ratings* T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{RRM}	Maximum Repetitive Peak Reverse Voltage	200	V
V_{RMS}	Maximum RMS Voltage	140	V
V_{DC}	Maximum DC Blocking Voltage	200	V
$I_{F(AV)}$	Maximum Average Forward Current	3.0	A
I_{FSM}	Non-repetitive Peak Forward Surge Current : 8.3ms Single Half-Sine-Wave superimposed on rated load (JECEC method)	80	A
T_{STG}, T_J	Operating Junction and Storage Temperature Range	-65 to +150	°C

* These ratings are limiting values above which the serviceability of any semiconductor device may by impaired.

Thermal Characteristics*

Symbol	Parameter	Typ.	Units
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	160	°C/W
Ψ_{JL}	Junction to Lead Thermal Characteristics	20	°C/W

* Test condition - Test environment & PCB type: JESD51-2,3, Board size: 76.2x114.3mm,
Pad size: 2.5x2.2mm, Trace width: 30mils

Electrical Characteristics T_A = 25°C unless otherwise noted

Symbol	Parameter	Test Condition	Typ.	Max.	Units
V_F	Forward Voltage*	@ 3.0A		0.9	V
I_R	DC Reverse Current	@ Rated V_{DC} T_A = 25°C T_A = 100°C		7 120	μA μA
trr	Reverse recovery time**	I_F=0.5A, I_R=1A, I_{RR}=0.25A	14		ns
trr	Reverse recovery time	I_F=1A, V_R=-30V, I_{RR}=10% I_{RM}, di/dt=50A/μs	30		ns

* Pulse Test with PW = 250μsec, 2% Duty Cycle.

** I_R < 1A due to fast reverse recovery

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Typical Performance Characteristics

Figure 1. DC Forward Current Derating Curve

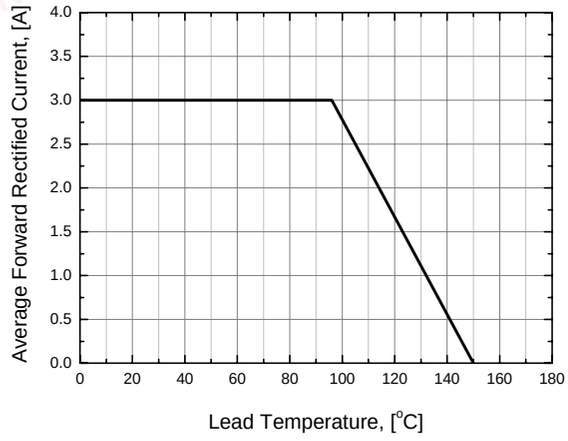


Figure 2. Forward Current Characteristics

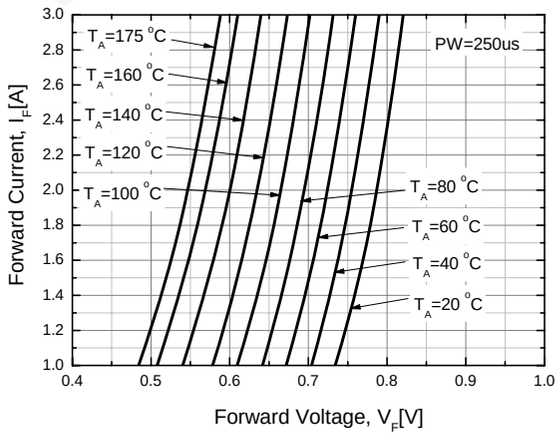


Figure 3. Typical Reverse Characteristics

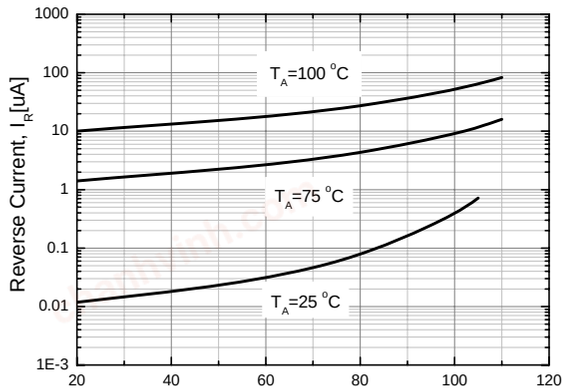
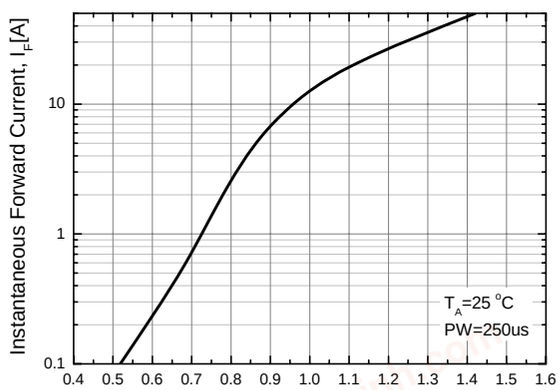


Figure 4. Typical Instantaneous Forward Characteristic



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No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
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