

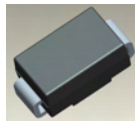
### 3.0A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

#### Features

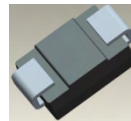
- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automated Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 125A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- **Lead Free Finish, RoHS Compliant (Note 1)**
- **Green Molding Compound (No Halogen and Antimony) (Note 2)**

#### Mechanical Data

- Case: SMC
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.21 grams (approximate)



Top View



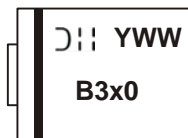
Bottom View

#### Ordering Information (Note 3)

Part Number	Case	Packaging
B3x0-13-F	SMC	3000/Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.
  2. Product manufactured with Data Code 0924 (week 24, 2009) and newer are built with Green Molding Compound.
  3. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

#### Marking Information (Note 4)



- B3x0 = Product type marking code, ex: B320
- = Manufacturers' code marking
- YWW = Date code marking
- Y = Last digit of year (ex: 2 for 2002)
- WW = Week code (01 to 53)

- Notes:
4. Device has a cathode band (as shown above) and may also have a cathode notch.

### Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitance load, derate current by 20%.

Characteristic	Symbol	B320	B330	B340	B350	B360	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$						
Working Peak Reverse Voltage	$V_{RWM}$	20	30	40	50	60	V
DC Blocking Voltage	$V_R$						
Average Rectified Output Current @ $T_T = 100^\circ\text{C}$	$I_O$			3.0			A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$			100			A

### Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Terminal	$R_{\theta JT}$	20	$^\circ\text{C}/\text{W}$
Typical Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	90	$^\circ\text{C}/\text{W}$
Operating Temperature Range	$T_J$	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^\circ\text{C}$

### Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop B320, B330, B340 B350, B360	$V_F$	-	-	0.50 0.70	V	$I_F = 3.0\text{A}, T_A = 25^\circ\text{C}$
Leakage Current (Note 6)	$I_R$	-	-	0.5 20	mA	@ Rated $V_R, T_A = 25^\circ\text{C}$ @ Rated $V_R, T_A = 100^\circ\text{C}$
Total Capacitance	$C_T$	-	-	200	pF	$V_R = 4\text{V}, f = 1\text{MHz}$

Notes: 5. Thermal Resistance: Junction to terminal, unit mounted on glass epoxy substrate with 2x3mm copper pad  
6. Short duration pulse test used to minimize self-heating effect.

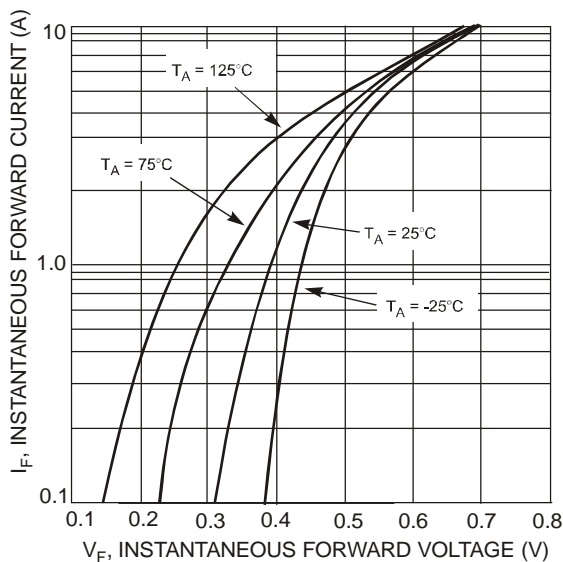


Fig. 1 Typical Forward Characteristics - B320B thru B340B

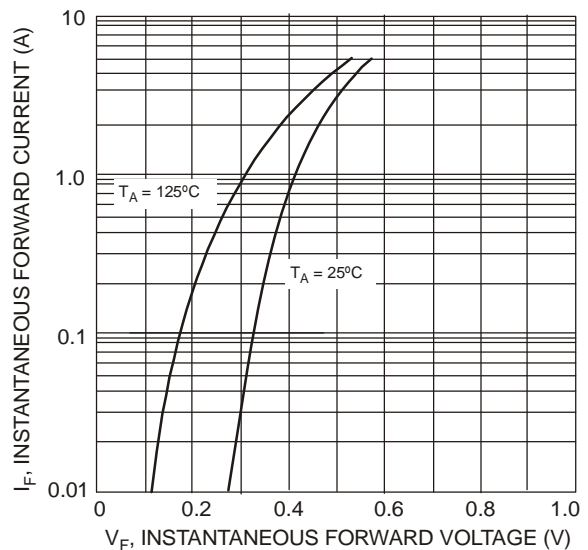


Fig. 2 Typical Forward Characteristics - B350B thru B360B

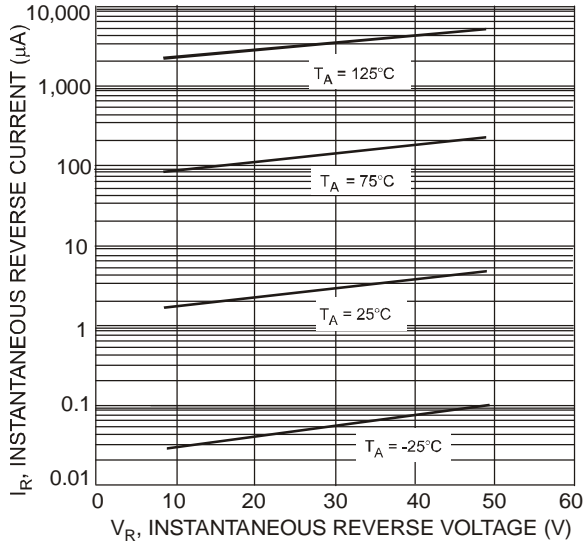


Fig. 3 Typical Reverse Characteristics, B320B thru B340B

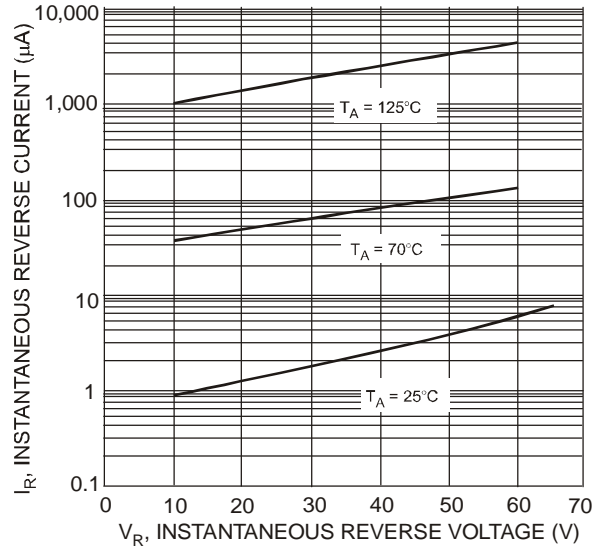


Fig. 4 Typical Reverse Characteristics, B350B thru B360B

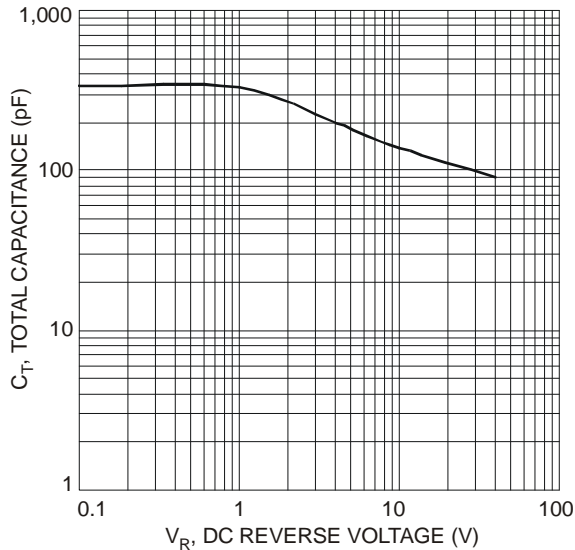


Fig. 5 Total Capacitance vs. Reverse Voltage

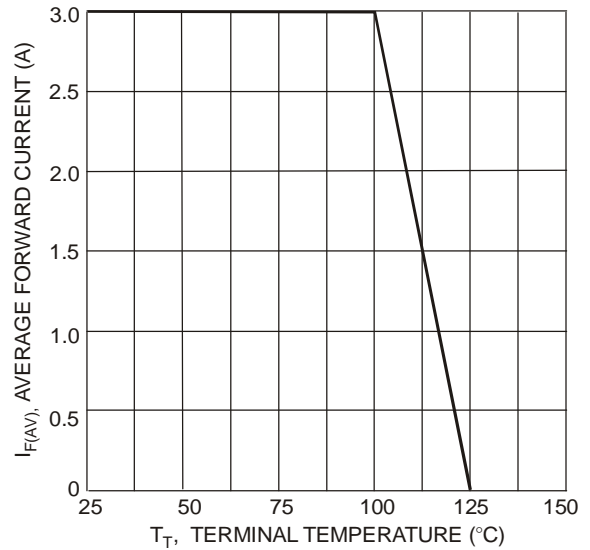


Fig. 6 Forward Current Derating Curve

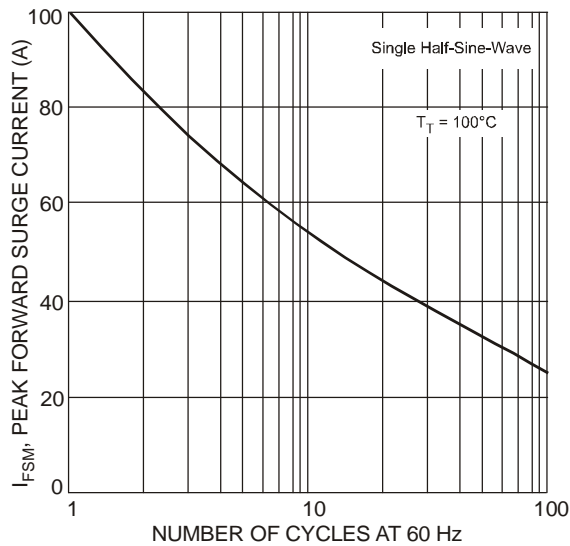
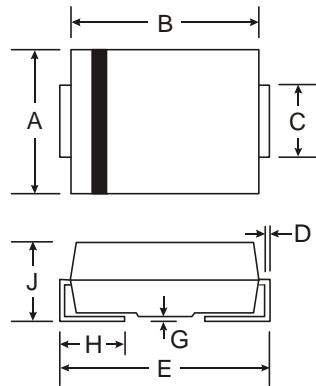


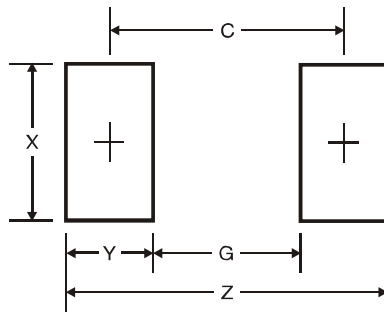
Fig. 7 Max Non-Repetitive Peak Forward Surge Current

**Package Outline Dimensions**



SMC		
Dim	Min	Max
A	5.59	6.22
B	6.60	7.11
C	2.75	3.18
D	0.15	0.31
E	7.75	8.13
G	0.10	0.20
H	0.76	1.52
J	2.00	2.50
All Dimensions in mm		

**Suggested Pad Layout**



Dimensions	Value (in mm)
Z	9.3
G	4.4
X	3.3
Y	2.5
C	6.8

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