

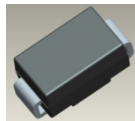
3.0A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Features and Benefits

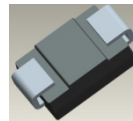
- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automated Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 125A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **B340Q-13-F Qualified to AEC-Q101 standards for High Reliability**

Mechanical Data

- Case: SMC
- Case Material: Molded Plastic, "Green" Molding compound. 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 (E3)
- Polarity: Cathode Band
- Weight: 0.21 grams (approximate)



Top View



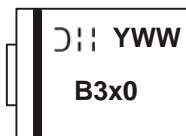
Bottom View

Ordering Information (Notes 4 & 5)

Part Number	Compliance	Case	Packaging
B3x0-13-F	Commercial	SMC	3000/Tape & Reel
B340Q-13-F (Note 5)	Automotive	SMC	3000/Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>
 5. Other automotive grade 'Q' parts evaluated upon request.

Marking Information (Note 6)



- B3x0 = Product type marking code, ex: B320
- ⌋|| = Manufacturers' code marking
- YWW = Date code marking
- Y = Last digit of year (ex: 13 for 2013)
- WW = Week code (01 to 53)

Note: 6. Device has a cathode band (as shown above) and may also have a cathode notch.

Maximum Ratings (@T_A = +25°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 Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	20	30	40	50	60	V
Average Rectified Output Current	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 _{θJT}	20	°C/W
Typical Thermal Resistance, Junction to Ambient (Note 7)	R _{θJA}	90	°C/W
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°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 = 3.0A, T _A = +25°C
Leakage Current (Note 8)	I _R	-	-	0.5 20	mA	@ Rated V _R , T _A = +25°C @ Rated V _R , T _A = +100°C
Total Capacitance	C _T	-	-	200	pF	V _R = 4V, f = 1MHz

Notes: 7. Thermal Resistance: Junction to terminal, unit mounted on glass epoxy substrate with 2x3mm copper pad
8. Short duration pulse test used to minimize self-heating effect.

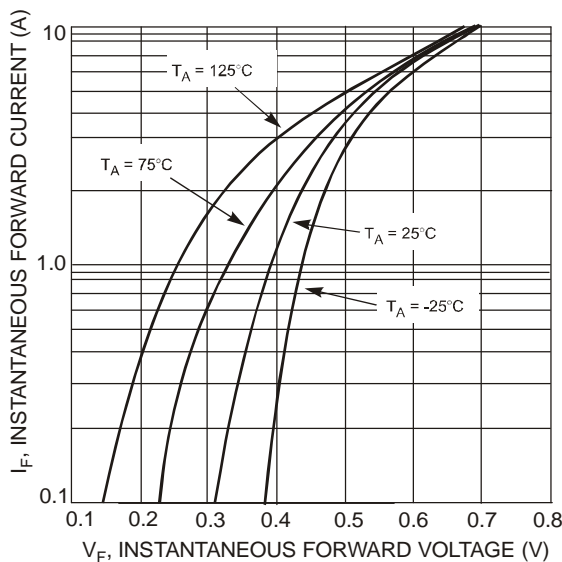


Fig. 1 Typical Forward Characteristics - B320B thru B340B

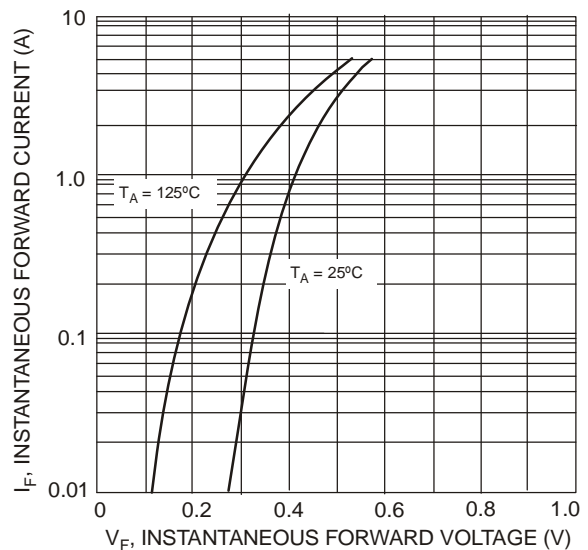


Fig. 2 Typical Forward Characteristics - B350B thru B360B

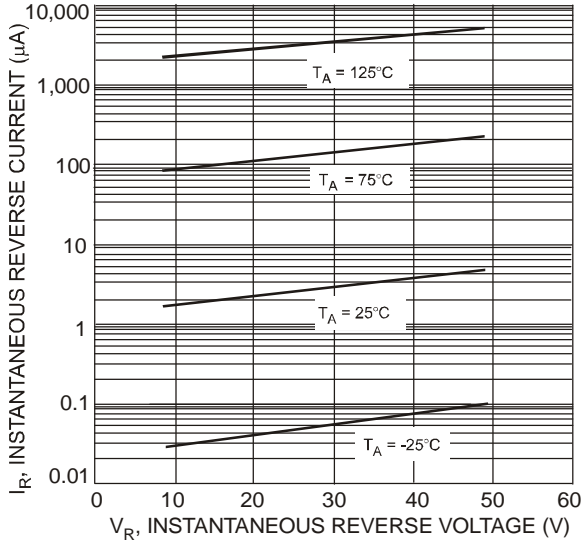


Fig. 3 Typical Reverse Characteristics, B320B thru B340B

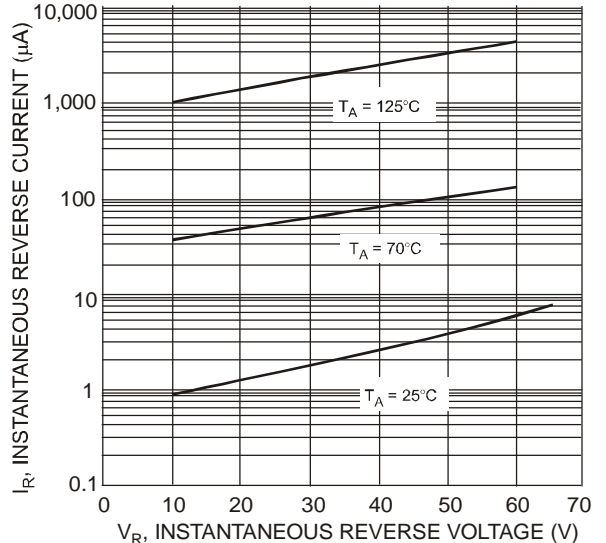


Fig. 4 Typical Reverse Characteristics, B350B thru B360B

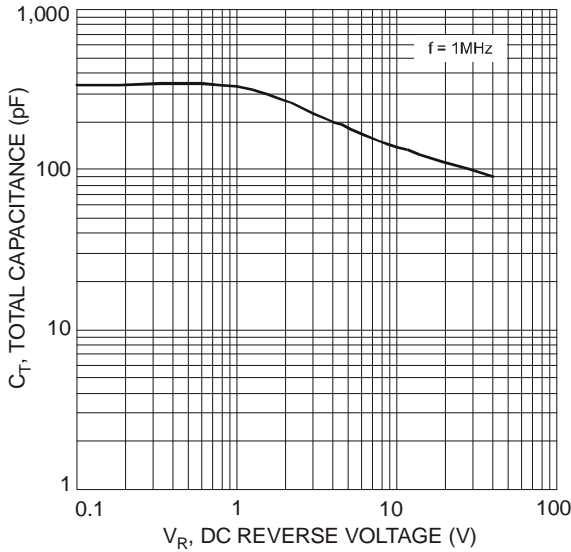


Fig. 5 Total Capacitance vs. Reverse Voltage

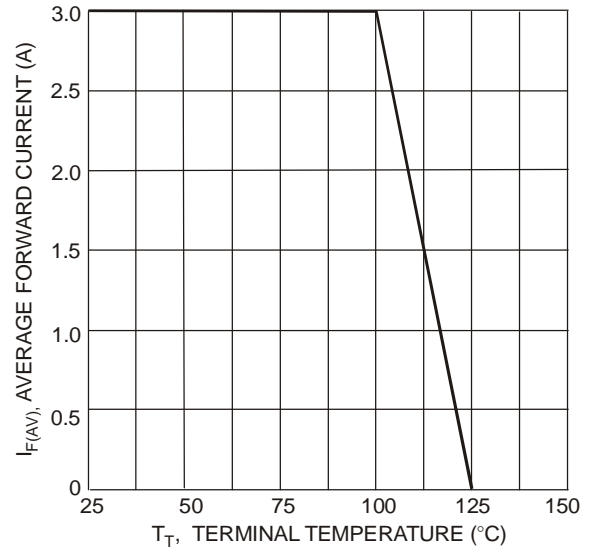


Fig. 6 Forward Current Derating Curve

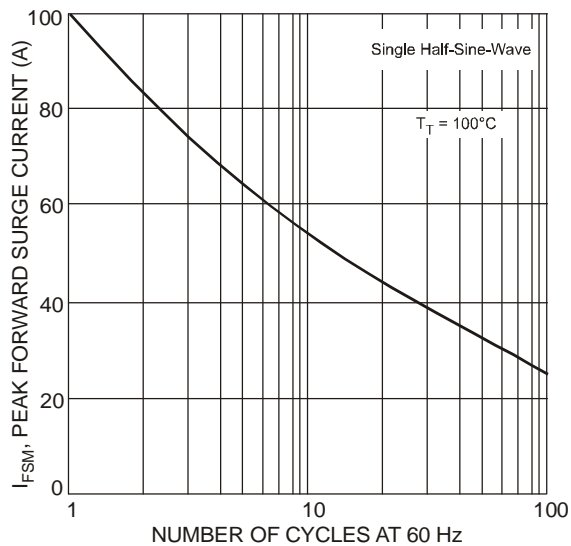
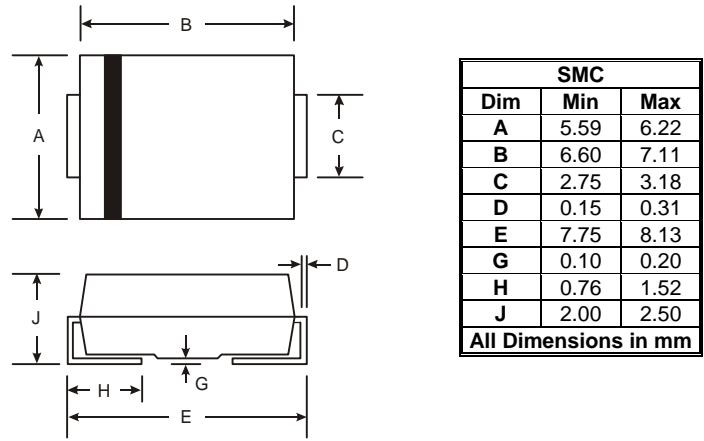


Fig. 7 Max Non-Repetitive Peak Forward Surge Current

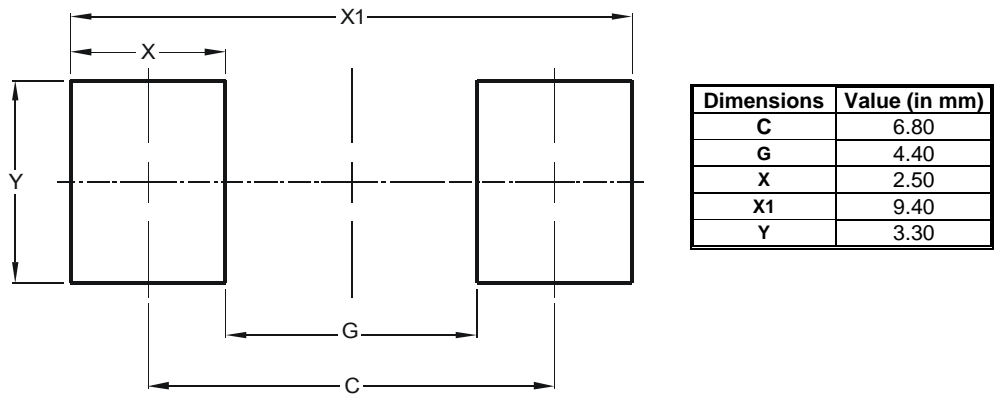
Package Outline Dimensions

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



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