



**THE DATASHEET OF  
B340BQ-13-F**



## Product Summary (@+25°C)

### B340BQ

V <sub>RRM</sub> (V)	I <sub>O</sub> (A)	V <sub>F</sub> Max (V)	I <sub>R</sub> Max (mA)
40	3.0	0.5	0.5

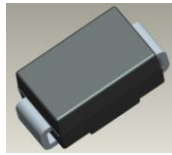
### B360BQ

V <sub>RRM</sub> (V)	I <sub>O</sub> (A)	V <sub>F</sub> Max (V)	I <sub>R</sub> Max (mA)
60	3.0	0.7	0.5

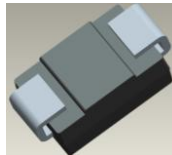
## Description and Applications

This Schottky Barrier Rectifier is designed to meet the general requirements of commercial applications. It is ideally suited for use as:

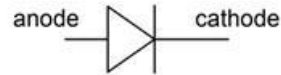
- Polarity Protection Diode
- Re-Circulating Diode
- Switching Diode



Top View



Bottom View



## 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)**
- **Qualified to AEC-Q101 Standards for High Reliability**
- **PPAP Capable (Note 4)**

## Mechanical Data

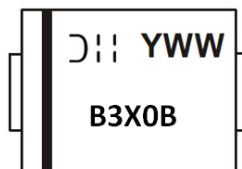
- Case: SMB
- Case Material: Molded Plastic. "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 (E3)
- Polarity: Cathode Band
- Weight: 0.093 grams (Approximate)

## Ordering Information (Note 5)

Part Number	Compliance	Case	Packaging
B340BQ-13-F	Automotive	SMB	3000/Tape & Reel
B360BQ-13-F	Automotive	SMB	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](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. Automotive products are AEC-Q101 qualified and are PPAP capable. Refer to [http://www.diodes.com/product\\_compliance\\_definitions.html](http://www.diodes.com/product_compliance_definitions.html).
  5. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

## Marking Information



B3X0B = Product Type Marking Code, ex: B340B  
 3|| = Manufacturers' Code Marking  
 YWW = Date Code Marking  
 Y = Last Digit of Year (ex: 5 for 2015)  
 WW = Week Code (01 to 53)

**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	B340BQ	B360BQ	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	40	60	V
Working Peak Reverse Voltage	$V_{RWM}$			
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 (Note 6)	$R_{\theta JT}$	25	$^\circ\text{C/W}$
Typical Thermal Resistance, Junction to Ambient (Note 6)	$R_{\theta JA}$	95	$^\circ\text{C/W}$
Operating Temperature Range	$T_J$	-55 to +150	$^\circ\text{C}$
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	$V_F$	—	—	0.50 0.70	V	$I_F = 3.0\text{A}$ , $T_A = +25^\circ\text{C}$
Leakage Current (Note 7)	$I_R$	—	—	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: 6. Thermal Resistance: Junction to terminal, unit mounted on glass epoxy substrate with 2x3mm copper pad.  
7. Short duration pulse test used to minimize self-heating effect.

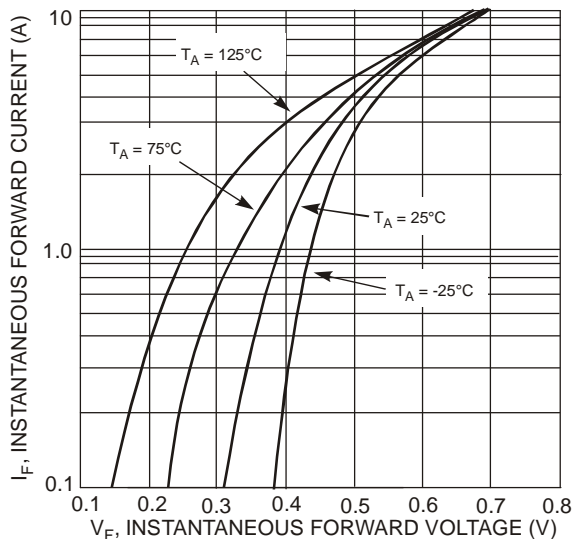


Figure 1 Typical Forward Characteristics – B340BQ

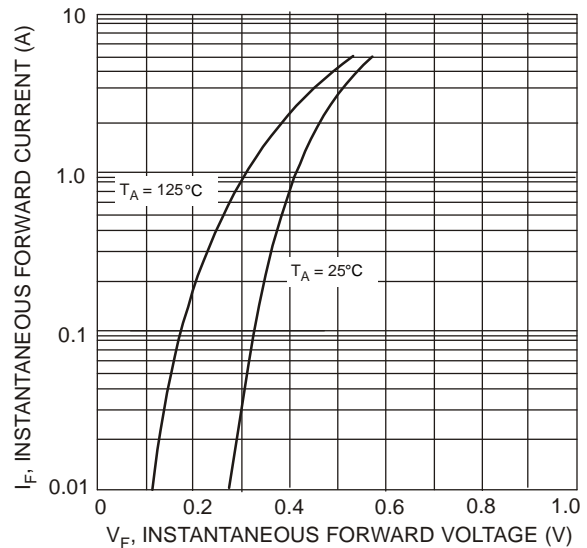


Figure 2 Typical Forward Characteristics – B360BQ

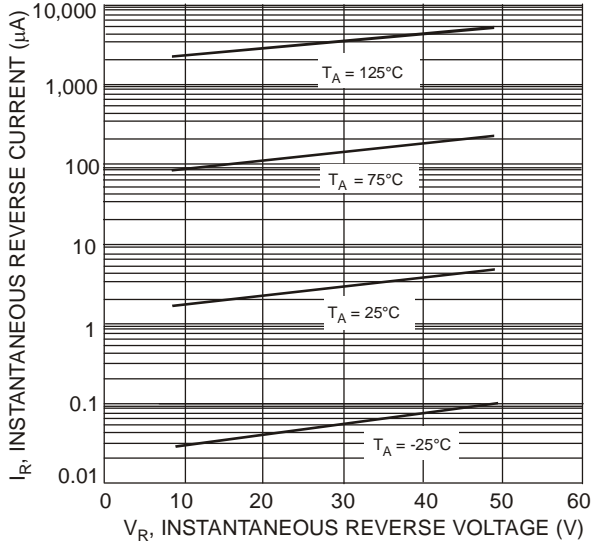


Figure 3 Typical Reverse Characteristics – B340BQ

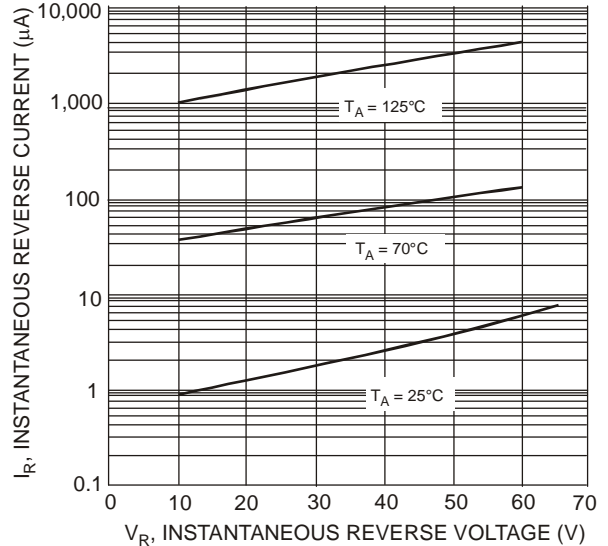


Figure 4 Typical Reverse Characteristics – B360BQ

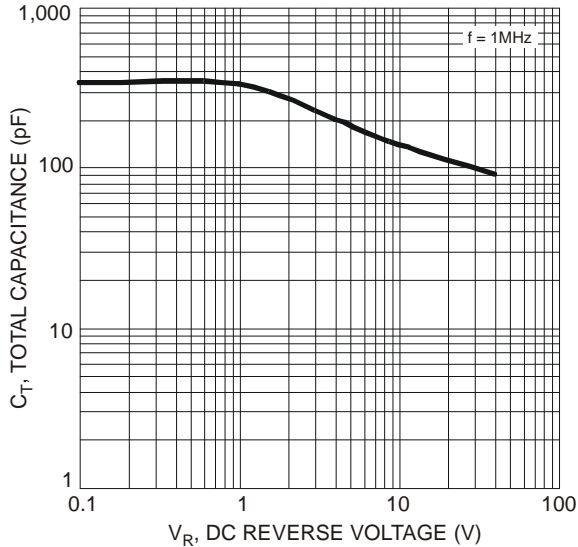


Figure 5 Total Capacitance vs. Reverse Voltage

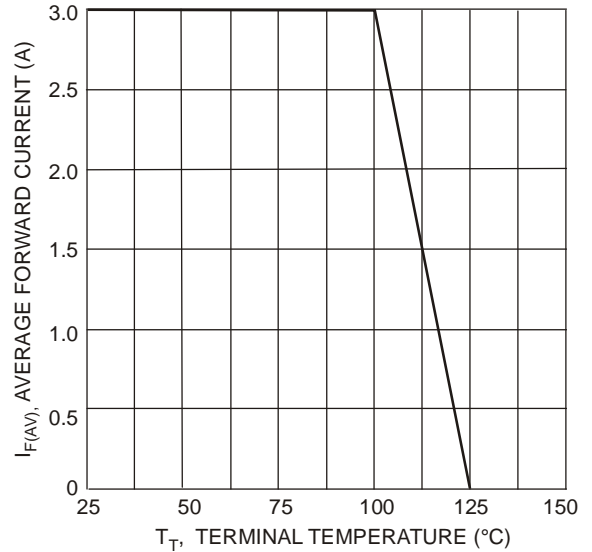


Figure 6 Forward Current Derating Curve

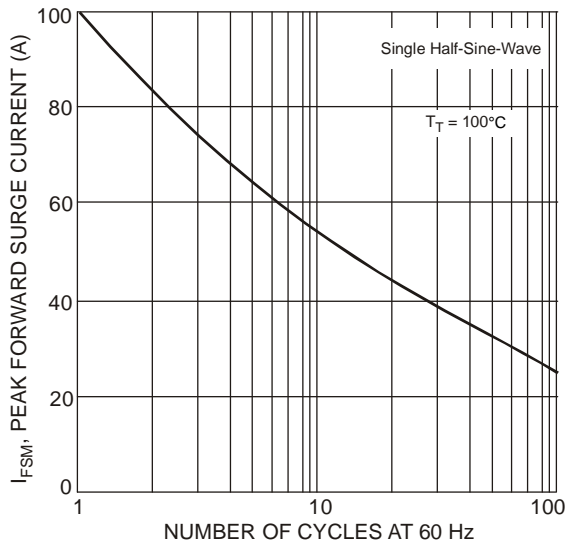
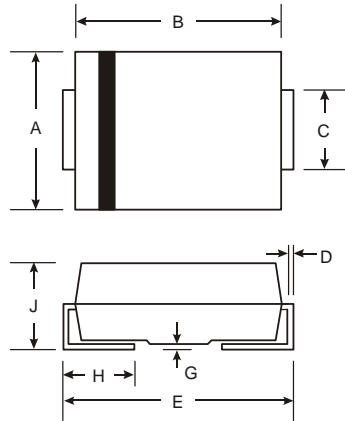


Figure 7 Max Non-Repetitive Peak Forward Surge Current

**Package Outline Dimensions**

Please see AP02001 at [http://www.diodes.com/\\_files/datasheets/ap02001.pdf](http://www.diodes.com/_files/datasheets/ap02001.pdf) for the latest version.

**SMB**

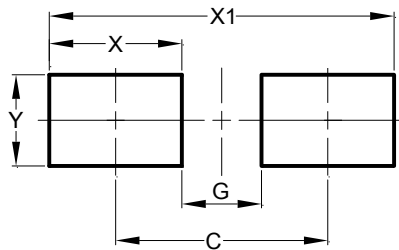


SMB		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.57
C	1.96	2.21
D	0.15	0.31
E	5.00	5.59
G	0.05	0.20
H	0.76	1.52
J	2.00	2.50
All Dimensions in mm		

**Suggested Pad Layout**

Please see AP02001 at [http://www.diodes.com/\\_files/datasheets/ap02001.pdf](http://www.diodes.com/_files/datasheets/ap02001.pdf) for the latest version.

**SMB**



Dimensions	Value (in mm)
C	4.30
G	1.80
X	2.50
X1	6.80
Y	2.30

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