

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)**

Mechanical Data

- Case: SMB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 **Ⓔ3**
- Polarity: Cathode Band
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.093 grams (approximate)



Top View



Bottom View

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	B320B	B330B	B340B	B350B	B360B	Unit	
Peak Repetitive Reverse Voltage	V_{RRM}							
Working Peak Reverse Voltage	V_{RWM}	20	30	40	50	60	V	
DC Blocking Voltage	V_R							
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	35	42	V	
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	$R_{\theta JT}$	25	$^\circ\text{C/W}$
Typical Thermal Resistance, Junction to Ambient (Note 2)	$R_{\theta JA}$	95	$^\circ\text{C/W}$
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 B320B, B330B, B340B B350B, B360B	V_F	-	-	0.50 0.70	V	$I_F = 3.0\text{A}, T_A = 25^\circ\text{C}$
Leakage Current (Note 3)	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:
1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see *EU Directive 2002/95/EC Annex Notes*.
 2. Thermal Resistance: Junction to terminal, unit mounted on glass epoxy substrate with 2x3mm copper pad
 3. Short duration pulse test used to minimize self-heating effect.

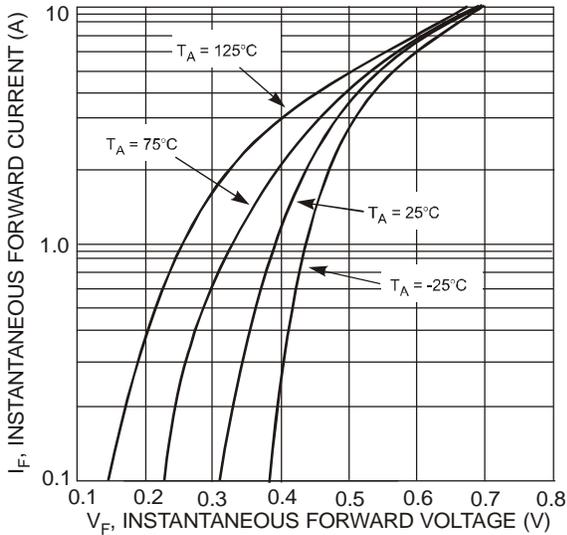


Fig. 1 Typical Forward Characteristics - B320B thru B340B

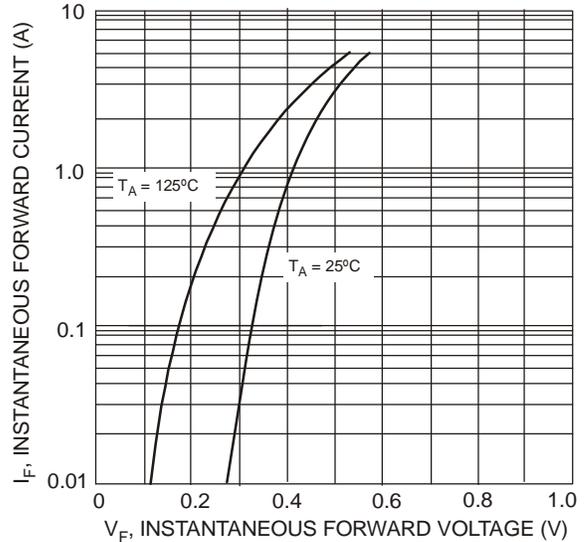


Fig. 2 Typical Forward Characteristics - B350B thru B360B

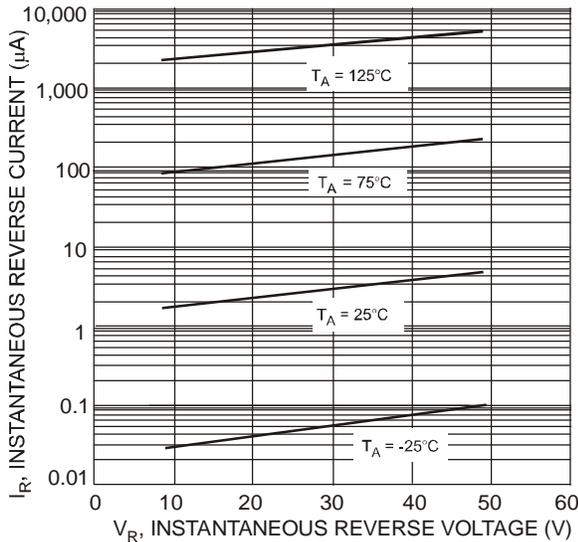


Fig. 3 Typical Reverse Characteristics, B320B thru B340B

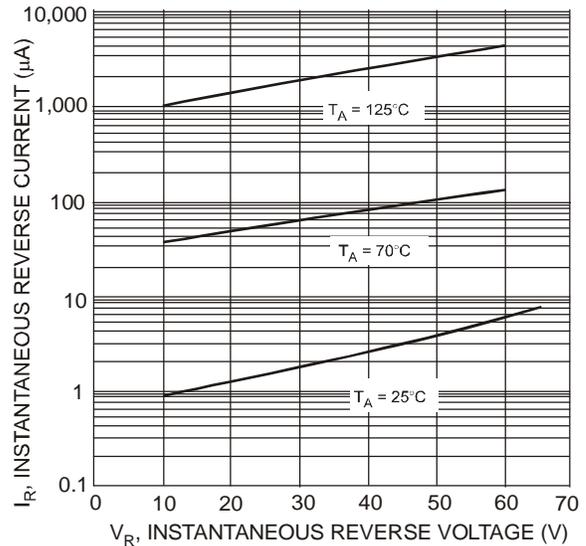


Fig. 4 Typical Reverse Characteristics, B350B thru B360B

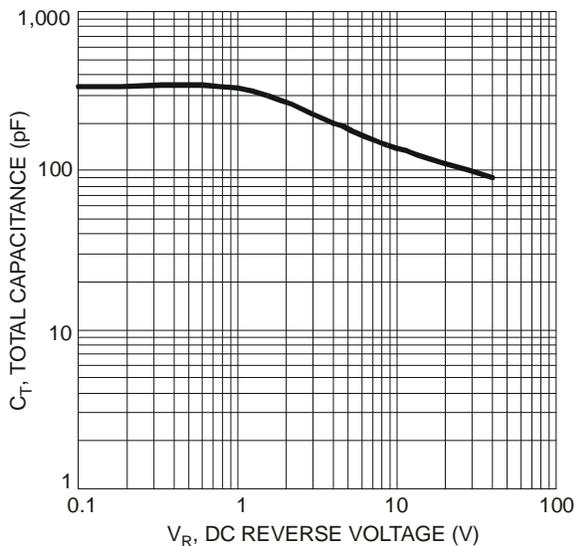


Fig. 5 Total Capacitance vs. Reverse Voltage

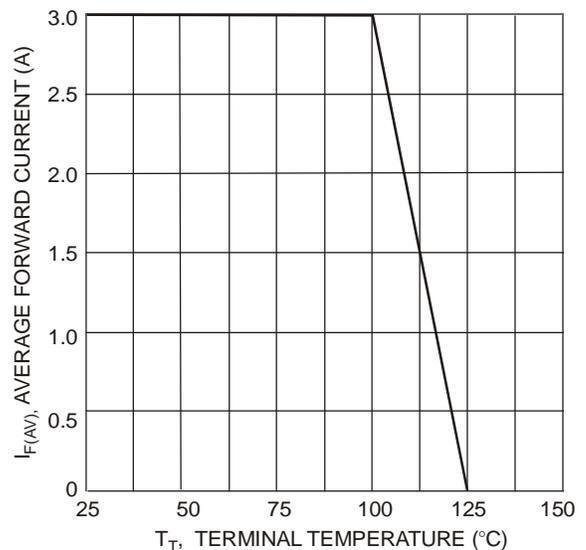


Fig. 6 Forward Current Derating Curve

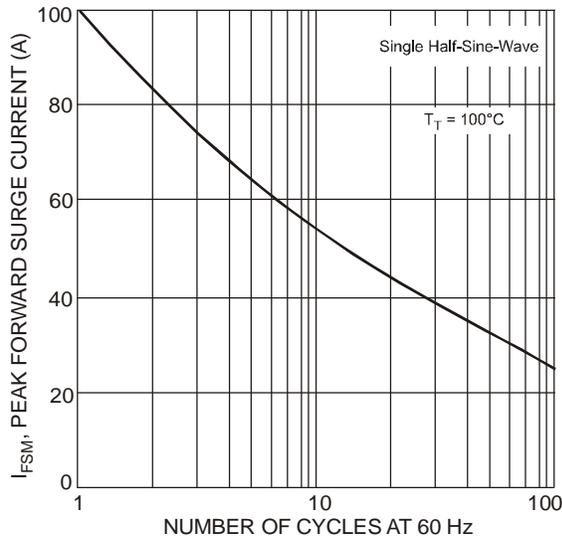


Fig. 7 Max Non-Repetitive Peak Forward Surge Current

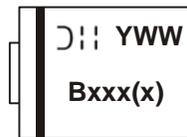
Ordering Information (Note 4)

Part Number*	Case	Packaging
B3xxB-13-F	SMB	3000/Tape & Reel

* xx = Device type, e.g. B320B-13-F (SMB package).

Notes: 4. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information (Note 5)



Bxxx(x) = Product type marking code, ex: B320B

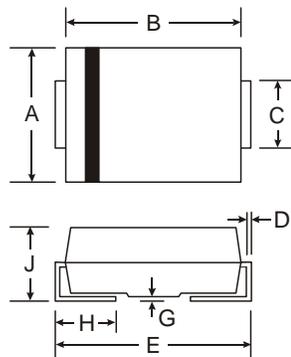
= Manufacturers' code marking

YWW = Date code marking

Y = Last digit of year ex: 2 for 2002

WW = Week code 01 to 52

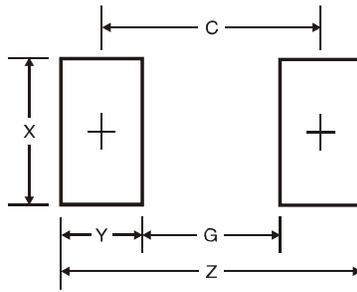
Package Outline Dimensions



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	2.62

All Dimensions in mm

Suggested Pad Layout



Dimensions	Value (in mm)
Z	6.8
G	1.8
X	2.3
Y	2.5
C	4.3

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