

Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 80A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **IEC 61000-4-2 (ESD - 150pF/330Ω) Contact - ±15kV**

Mechanical Data

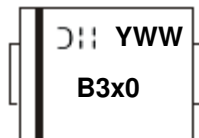
- Case: DO-201AD
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Tin. Solderable per MIL-STD-202, Method 208③
- Polarity: Cathode Band
- Marking: Type Number
- Weight: 1.1 grams (Approximate)

Ordering Information (Note 3)

Device	Packaging	Shipping
SB320-B	DO-201AD	500/Bulk
SB320-T	DO-201AD	1200/13" Tape & Reel
SB330-B	DO-201AD	500/Bulk
SB330-T	DO-201AD	1200/13" Tape & Reel
SB340-B	DO-201AD	500/Bulk
SB340-T	DO-201AD	1200/13" Tape & Reel
SB350-B	DO-201AD	500/Bulk
SB350-T	DO-201AD	1200/13" Tape & Reel
SB360-B	DO-201AD	500/Bulk
SB360-T	DO-201AD	1200/13" 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. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>

Marking Information



B3x0 = Product Type Marking Code, ex: B320
 }|| = Manufacturers' Code Marking
 YWW = Date Code Marking
 Y = Last Digit of Year (ex: 6 for 2016)
 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	SB320	SB330	SB340	SB350	SB360	Unit
Peak Repetitive Reverse Voltage	V_{RRM}						
Working Peak Reverse Voltage	V_{RWM}	20	30	40	50	60	V
DC Blocking Voltage (Note 5)	V_R						
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	35	42	V
Average Rectified Output Current (Note 4) (See Figure 1)	I_O	3.0					A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	80					A

Thermal Characteristics

Characteristic	Symbol	SB320	SB330	SB340	SB350	SB360	Unit
Typical Thermal Resistance (Note 6)	$R_{\theta JA}$	30					$^\circ\text{C/W}$
	$R_{\theta JL}$	10					$^\circ\text{C/W}$
Operating Temperature Range	T_J	-65 to +125			-65 to +150		$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +150					$^\circ\text{C}$

Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Characteristic	Symbol	SB320	SB330	SB340	SB350	SB360	Unit
Forward Voltage @ $I_F = 3.0\text{A}$	V_{FM}	0.50		0.74			V
Peak Reverse Current @ $T_A = +25^\circ\text{C}$ at Rated DC Blocking Voltage (Note 5)	I_{RM}	20			10		mA

- Notes: 4. Measured at ambient temperature at a distance of 9.5mm from the case.
5. Short duration pulse test used to minimize self-heating effect.
6. Thermal resistance from junction to lead vertical P.C.B. mounted, 0.500" (12.7mm) lead length with 2.5" x 2.5" (63.5 x 63.5mm) copper pad.

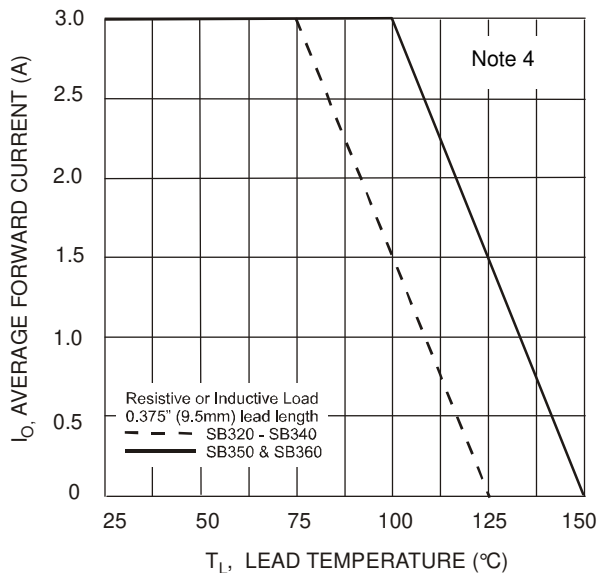


Fig. 1 Forward Current Derating Curve

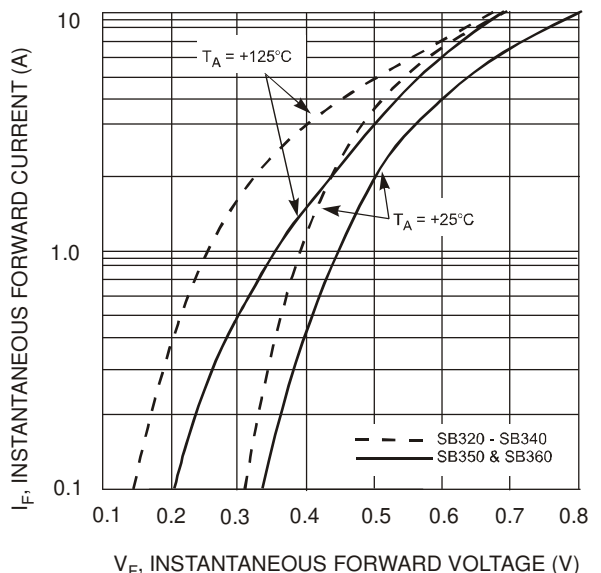


Fig. 2 Typical Forward Characteristics

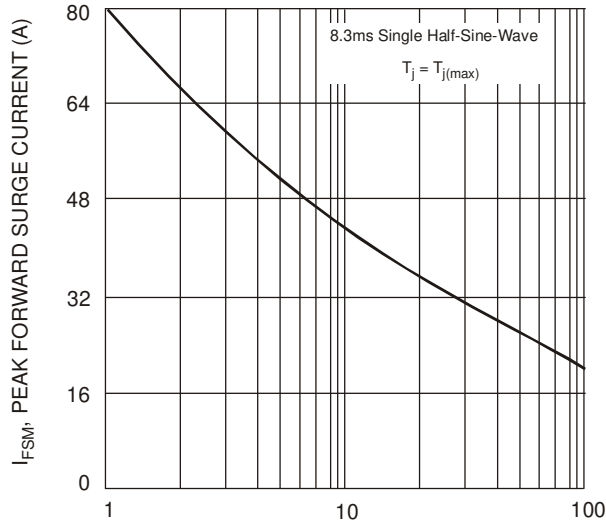


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

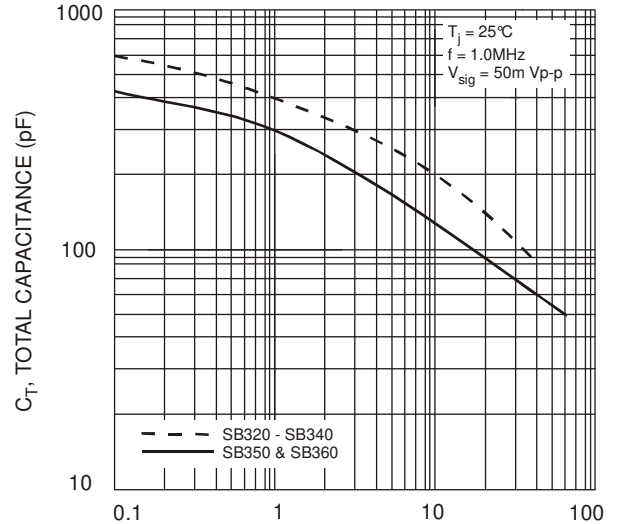


Fig. 4 Typical Total Capacitance

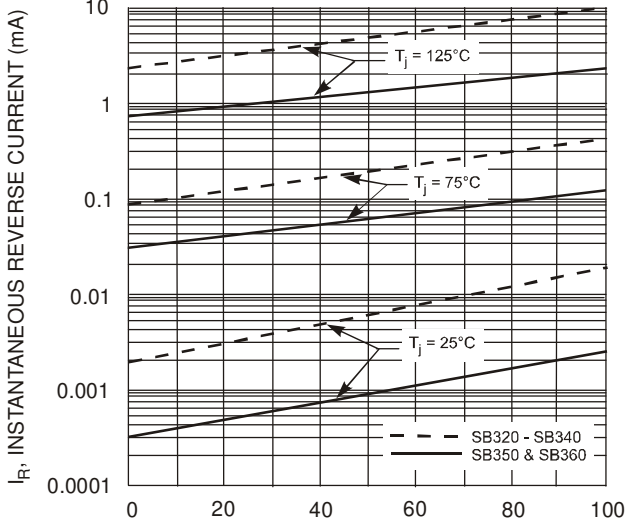
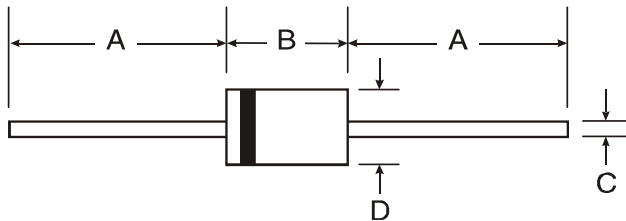


Fig. 5 Typical Reverse Characteristics

Package Outline Dimensions

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

DO-201AD



DO-201AD		
Dim	Min	Max
A	25.40	—
B	7.20	9.50
C	1.20	1.30
D	4.80	5.30
All Dimensions in mm		

IMPORTANT NOTICE

DIODES INCORPORATED MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. Diodes Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does Diodes Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on Diodes Incorporated website, harmless against all damages.

Diodes Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel. Should Customers purchase or use Diodes Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold Diodes Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

Products described herein may be covered by one or more United States, international or foreign patents pending. Product names and markings noted herein may also be covered by one or more United States, international or foreign trademarks.

This document is written in English but may be translated into multiple languages for reference. Only the English version of this document is the final and determinative format released by Diodes Incorporated.

LIFE SUPPORT

Diodes Incorporated products are specifically not authorized for use as critical components in life support devices or systems without the express written approval of the Chief Executive Officer of Diodes Incorporated. As used herein:

A. Life support devices or systems are devices or systems which:

1. are intended to implant into the body, or
2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

Customers represent that they have all necessary expertise in the safety and regulatory ramifications of their life support devices or systems, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of Diodes Incorporated products in such safety-critical, life support devices or systems, notwithstanding any devices- or systems-related information or support that may be provided by Diodes Incorporated. Further, Customers must fully indemnify Diodes Incorporated and its representatives against any damages arising out of the use of Diodes Incorporated products in such safety-critical, life support devices or systems.

Copyright © 2016, Diodes Incorporated

www.diodes.com