

## Features

- Schottky Barrier Chip
- 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)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](https://www.diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

## Mechanical Data

- Case: DO-201AD
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Tin. Solderable per MIL-STD-202, Method 208 (Ⓜ3)
- Polarity: Cathode Band
- Weight: 1.1 grams (Approximate)

## Ordering Information (Note 3)

Part Number	Case	Packaging
SB370-B	DO-201AD	500/Bulk
SB370-T (Note 4)	DO-201AD	1.2K/Tape & Reel, 13-inch
SB380-B	DO-201AD	500/Bulk
SB380-T	DO-201AD	1.2K/Tape & Reel, 13-inch
SB390-B	DO-201AD	500/Bulk
SB390-T (Note 4)	DO-201AD	1.2K/Tape & Reel, 13-inch
SB3100-B	DO-201AD	500/Bulk
SB3100-T	DO-201AD	1.2K/Tape & Reel, 13-inch

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. For packaging details, visit our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.
  4. Not recommended for new design.

## Maximum Ratings and Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

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

Characteristic	Symbol	SB370	SB380	SB390	SB3100	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>					
Working Peak Reverse Voltage	V <sub>RWM</sub>	70	80	90	100	V
DC Blocking Voltage	V <sub>R</sub>					
RMS Reverse Voltage	V <sub>R(RMS)</sub>	49	56	63	70	V
Average Rectified Output Current (Note 5)	I <sub>O</sub>	3.0				A
@ T <sub>L</sub> = +80°C						
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>		100			A
Forward Voltage	V <sub>FM</sub>	0.79				V
@ I <sub>F</sub> = 3.0A						
Peak Reverse Current	I <sub>RM</sub>		0.5			mA
@ T <sub>A</sub> = +25°C						
at Rated DC Blocking Voltage			20			
@ T <sub>A</sub> = +100°C						
Typical Junction Capacitance (Note 6)	C <sub>j</sub>		250			pF

- Notes:
5. Measured at ambient temperature at a distance of 9.5mm from the case.
  6. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.

## Thermal Characteristics

Characteristic	Symbol	SB370	SB380	SB390	SB3100	Unit
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	20				K/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-65 to +150				°C

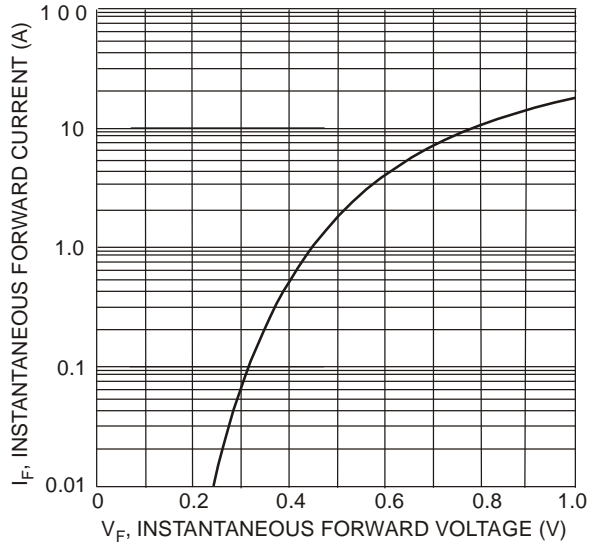


Fig. 1 Typical Forward Characteristics

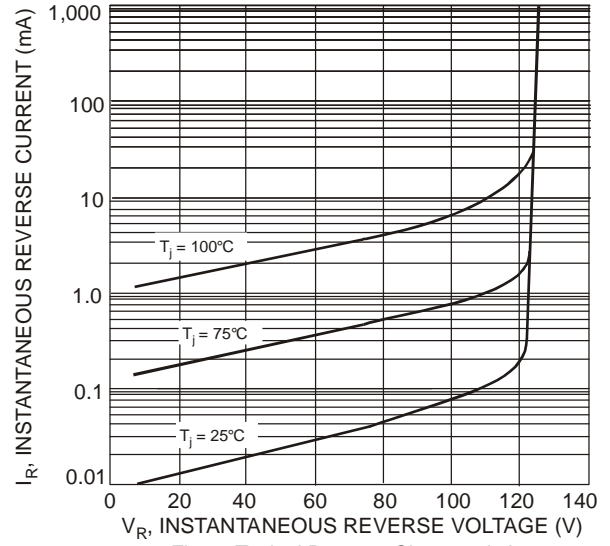


Fig. 2 Typical Reverse Characteristics

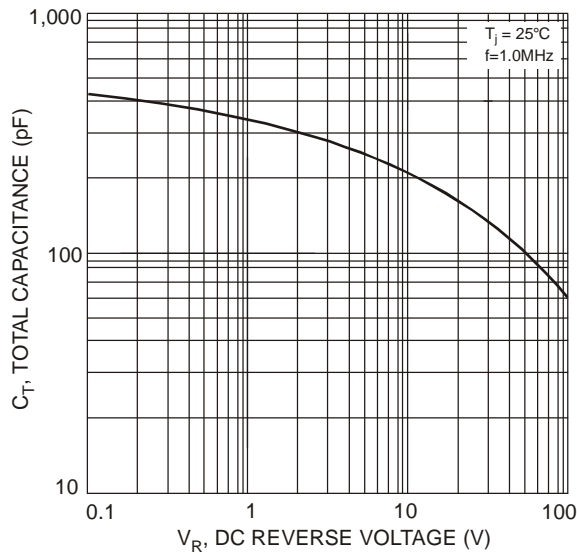


Fig. 3 Total Capacitance vs. Reverse Voltage

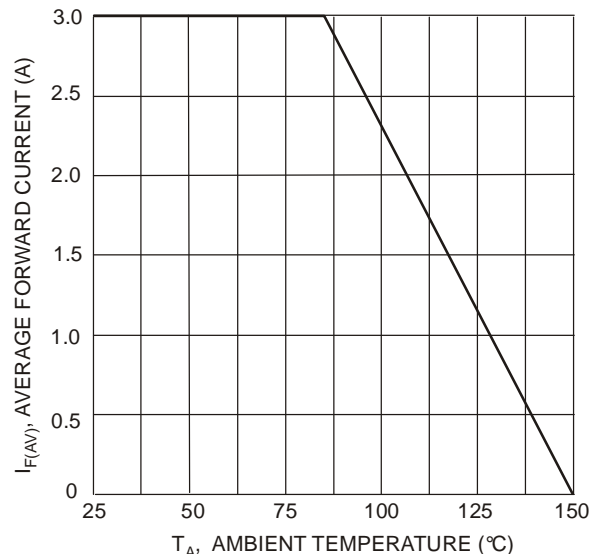


Fig. 4 Forward Current Derating Curve

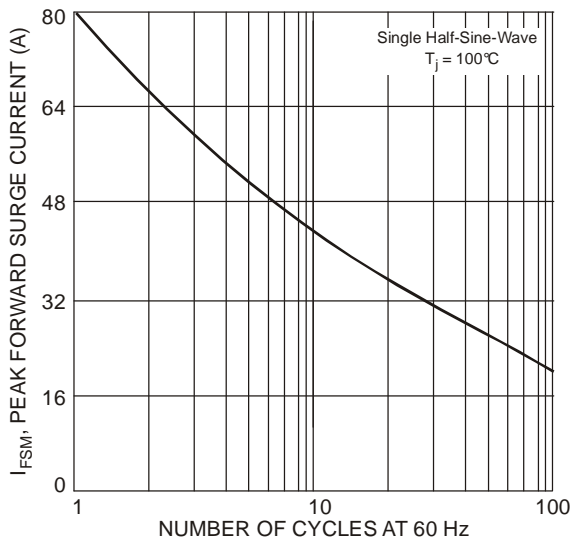
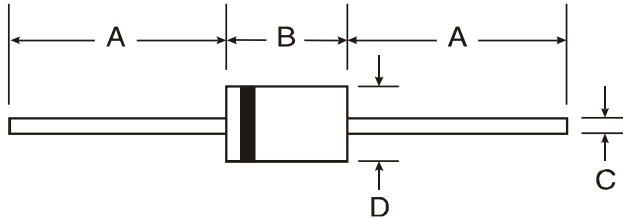


Fig. 5 Max Non-Repetitive Peak Forward Surge Current

## Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> 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		

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