THE DATASHEET OF

SB390-T

3.0A SCHOTTKY BARRIER RECTIFIER

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 (Note 3)**

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 e3
- Polarity: Cathode Band
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 1.1 grams (approximate)

Maximum Ratings and Electrical Characteristics @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	SB370	SB380	SB390	SB3100	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	70	80	90	100	V
RMS Reverse Voltage	$V_{R(RMS)}$	49	56	63	70	V
Average Rectified Output Current (Note 1) @ T_L = 80°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
Forward Voltage @ I_F = 3.0A	V_{FM}	0.79				V
Peak Reverse Current @ T_A = 25°C at Rated DC Blocking Voltage @ T_A = 100°C	I_{RM}	0.5 20				mA
Typical Junction Capacitance (Note 2)	C_j	250				pF

Thermal Characteristics

Characteristic	Symbol	SB370	SB380	SB390	SB3100	Unit
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	20				K/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150				°C

Notes:
1. Measured at ambient temperature at a distance of 9.5mm from the case.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
3. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, See *EU Directive Annex Notes 5 and 7*.

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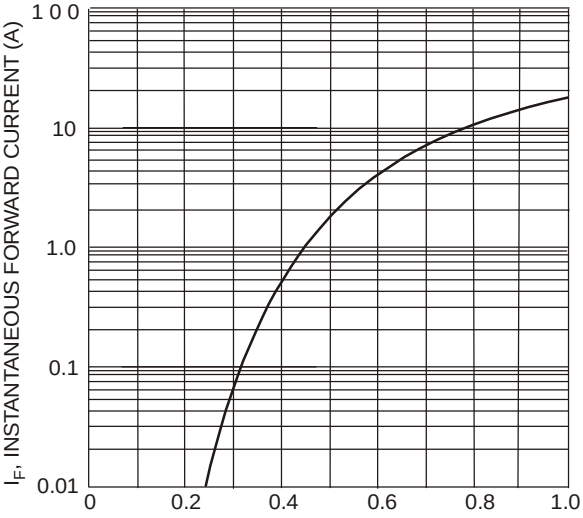

Fig. 1 Typical Forward Characteristics

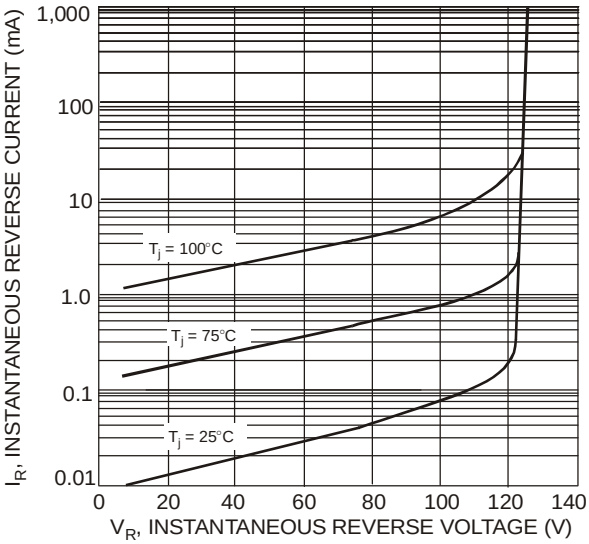

Fig. 2 Typical Reverse Characteristics

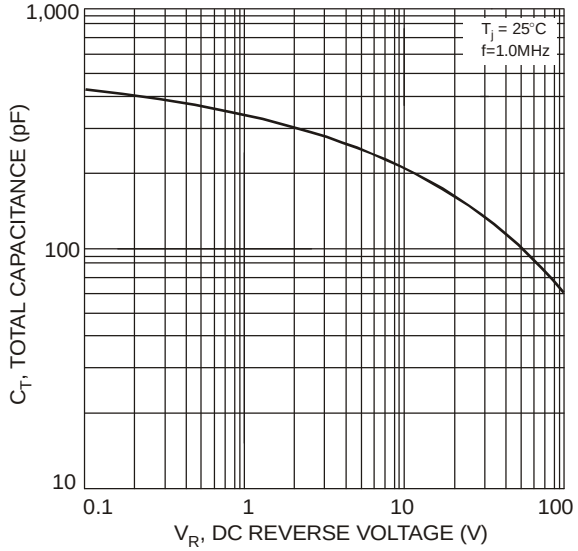

Fig. 3 Total Capacitance vs. Reverse Voltage

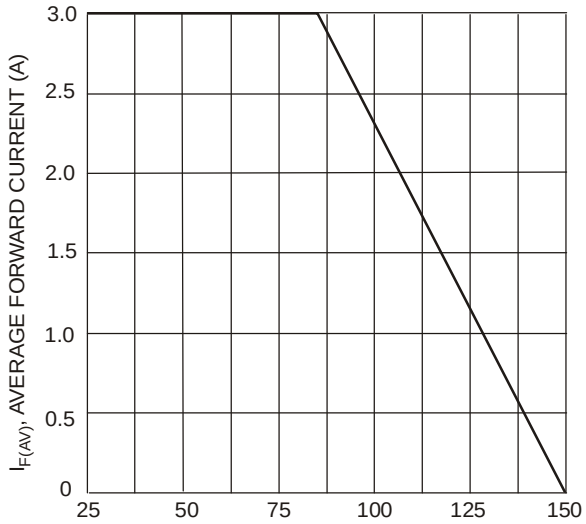

Fig. 4 Forward Current Derating Curve

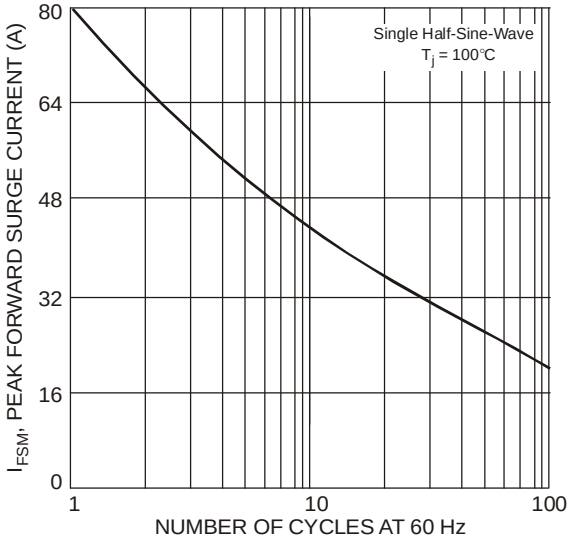

Fig. 5 Max Non-Repetitive Peak Forward Surge Current

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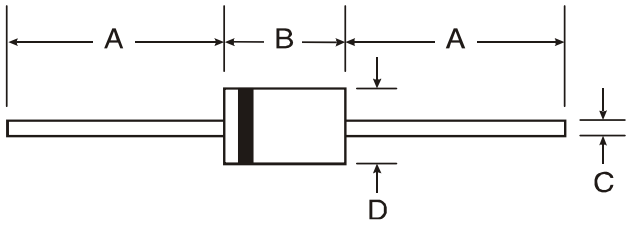
Ordering Information (Note 4)

Part Number	Case	Packaging
SB370-B	DO-201AD	500/Bulk
SB370-T	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	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: 4. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Package Outline Dimensions



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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