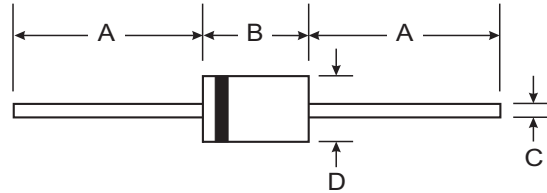


### Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability
- Surge Overload Rating to 150A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- **Lead Free Finish, RoHS Compliant (Note 2)**



### 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 - Bright Tin. Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Ordering Information: See Last Page
- Marking: Type Number
- Weight: 1.1 grams (approximate)

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		

### 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	SB570	SB580	SB590	SB5100	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	70	80	90	100	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	49	56	63	70	V
Average Rectified Output Current @ T <sub>L</sub> = 80°C	I <sub>O</sub>	5.0				A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	150				A
Forward Voltage @ I <sub>F</sub> = 5.0A	V <sub>FM</sub>	0.80				V
Peak Reverse Current @ T <sub>A</sub> = 25°C at Rated DC Blocking Voltage @ T <sub>A</sub> = 100°C	I <sub>RM</sub>	0.5 50				mA
Typical Junction Capacitance (Note 1)	C <sub>j</sub>	400				pF
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	10				K/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-65 to +150				°C

- Notes: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.  
2. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

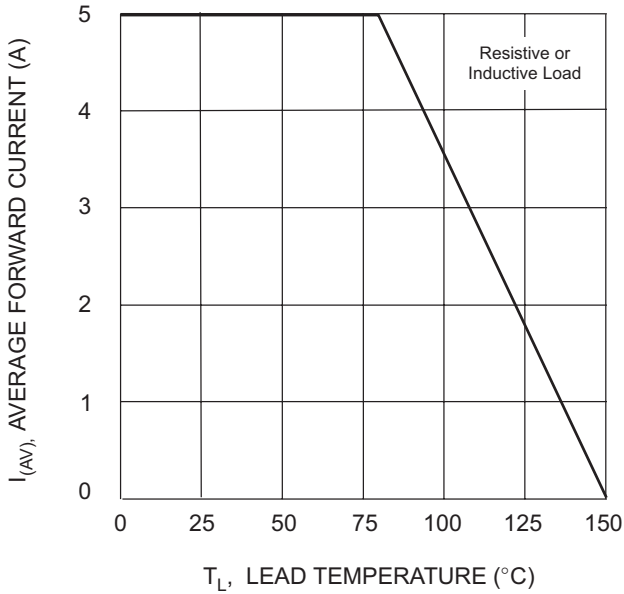


Fig. 1 Forward Current Derating Curve

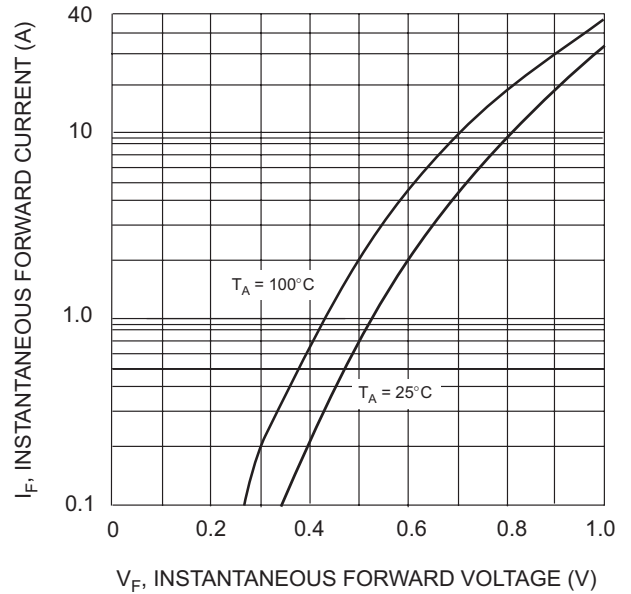


Fig. 2 Typical Forward Characteristics

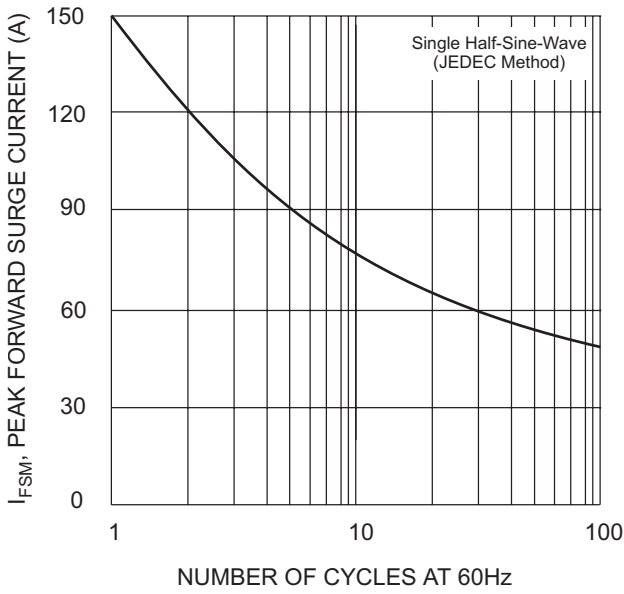


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

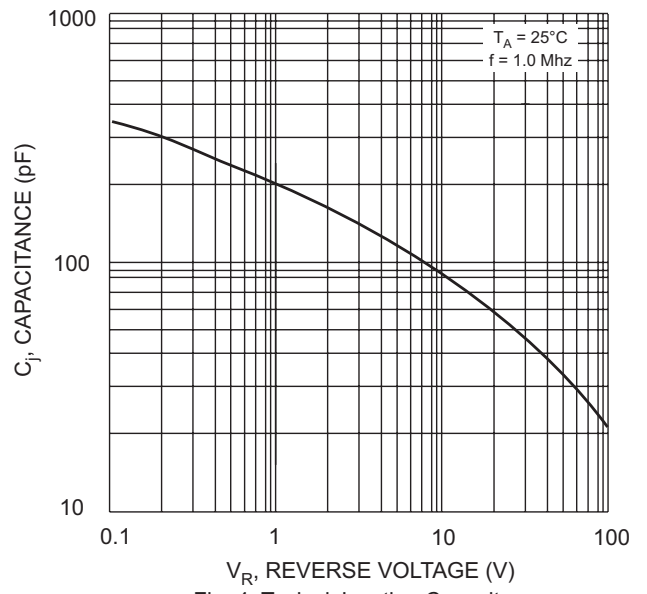


Fig. 4 Typical Junction Capacitance

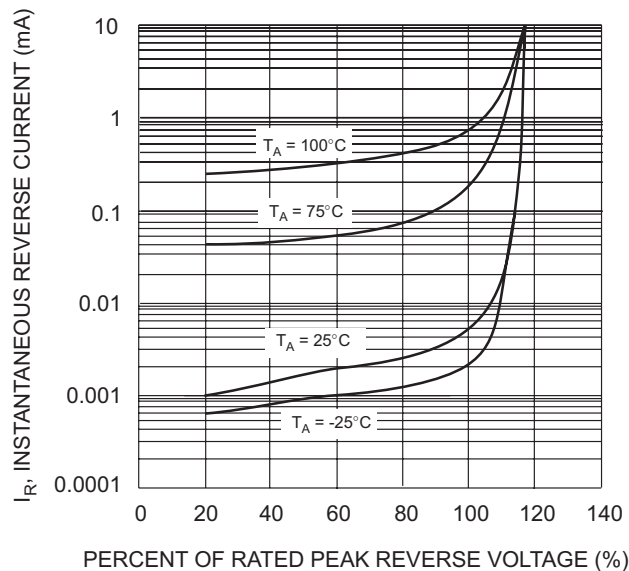


Fig. 5 Typical Reverse Characteristics

**Ordering Information** (Note 3)

<b>Device</b>	<b>Packaging</b>	<b>Shipping</b>
SB570-B	DO-201AD	500/Bulk
SB570-T	DO-201AD	1.2K/Tape & Reel, 13-inch
SB580-B	DO-201AD	500/Bulk
SB580-T	DO-201AD	1.2K/Tape & Reel, 13-inch
SB590-B	DO-201AD	500/Bulk
SB590-T	DO-201AD	1.2K/Tape & Reel, 13-inch
SB5100-B	DO-201AD	500/Bulk
SB5100-T	DO-201AD	1.2K/Tape & Reel, 13-inch

Notes: 3. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>.