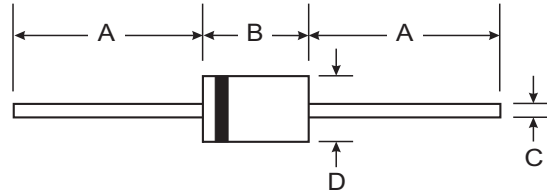


### Features

- Epitaxial Construction
- 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 150A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- **Lead Free Finish, RoHS Compliant (Note 4)**



### 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
- Mounting Position: Any
- 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	SB520	SB530	SB540	SB550	SB560	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	20	30	40	50	60	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	14	21	28	35	42	V
Average Rectified Output Current (See Figure 1) (Note 1)	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 (Note 2) @ I <sub>F</sub> = 5.0A	V <sub>FM</sub>	0.55			0.67		V
Peak Reverse Current (Note 2) @ T <sub>A</sub> = 25°C at Rated DC Blocking Voltage (Note 2) @ T <sub>A</sub> = 100°C	I <sub>RM</sub>	0.5			25		mA
Typical Thermal Resistance Junction to Ambient (Note 1) (Note 3)	R <sub>θJA</sub>	25					°C/W
	R <sub>θJL</sub>	8					
Operating Temperature Range	T <sub>J</sub>	-65 to +125			-65 to +150		°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +150					

- Notes:
1. Measured at ambient temperature at a distance of 9.5mm from case.
  2. Short duration test pulse used to minimize self-heating effect.
  3. Thermal resistance junction to lead vertical P.C.B. mounted, 0.375" (9.5mm) lead length.
  4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 5 and 7.

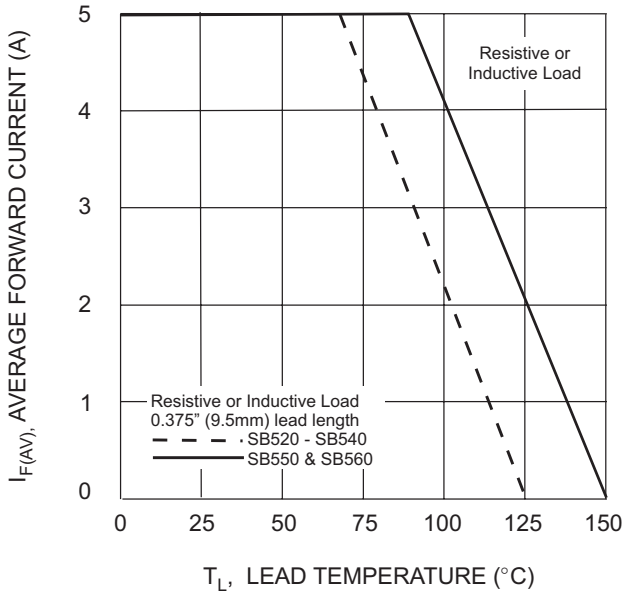


Fig. 1 Forward Current Derating Curve

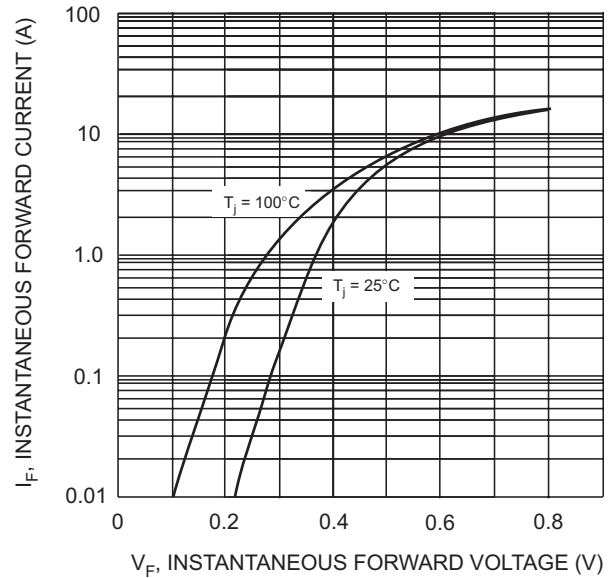


Fig. 2 Typical Forward Characteristics, SB520 - SB540

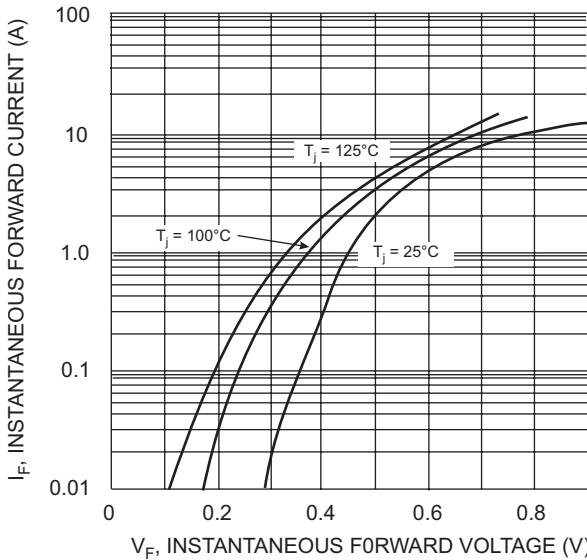


Fig. 3 Typical Forward Characteristics, SB550 & SB560

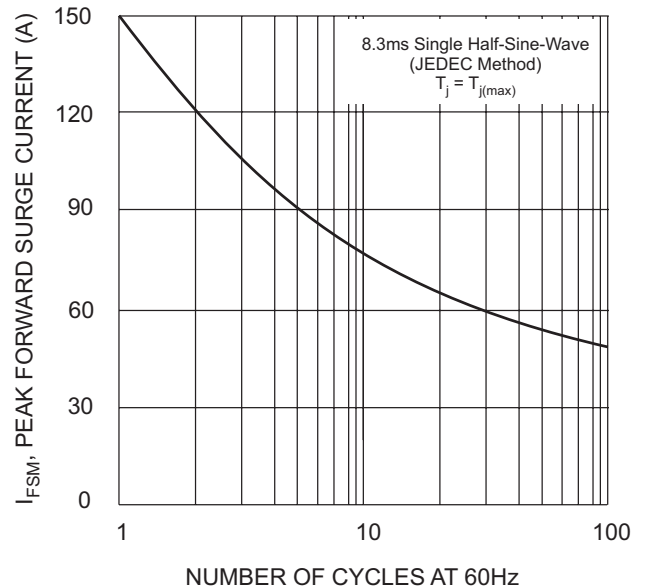


Fig. 4 Max Non-Repetitive Peak Fwd Surge Current

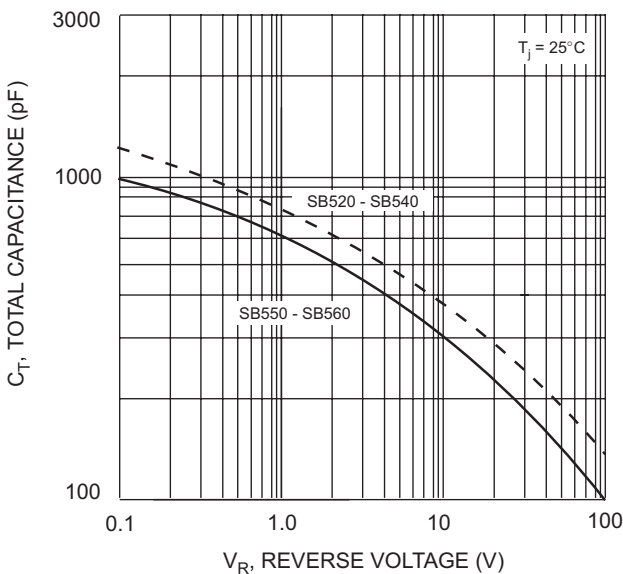


Fig. 5 Typical Total Capacitance

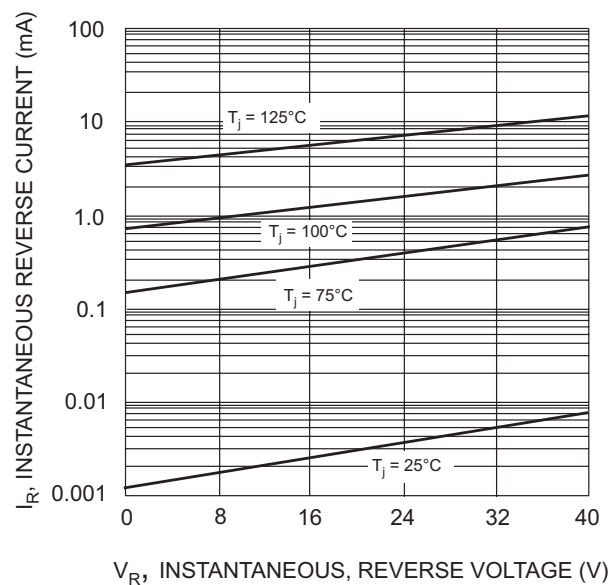


Fig. 6 Typical Reverse Characteristics, SB520 - SB540

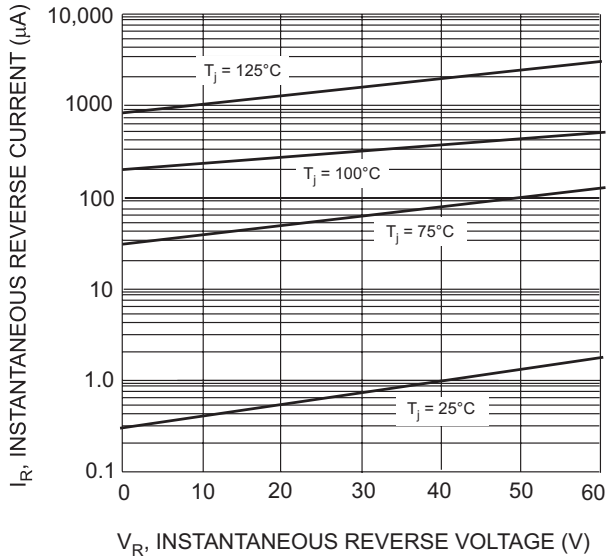


Fig. 7 Typical Reverse Characteristics, SB550 & SB560

## Ordering Information (Note 5)

Device	Packaging	Shipping
SB520-A	DO-201AD	1K/Ammo
SB520-B	DO-201AD	500/Bulk
SB520-T	DO-201AD	1.2K/Tape & Reel, 13-inch
SB530-A	DO-201AD	1K/Ammo
SB530-B	DO-201AD	500/Bulk
SB530-T	DO-201AD	1.2K/Tape & Reel, 13-inch
SB540-A	DO-201AD	1K/Ammo
SB540-B	DO-201AD	500/Bulk
SB540-T	DO-201AD	1.2K/Tape & Reel, 13-inch
SB550-A	DO-201AD	1K/Ammo
SB550-B	DO-201AD	500/Bulk
SB550-T	DO-201AD	1.2K/Tape & Reel, 13-inch
SB560-A	DO-201AD	1K/Ammo
SB560-B	DO-201AD	500/Bulk
SB560-T	DO-201AD	1.2K/Tape & Reel, 13-inch

Notes: 5. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>

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