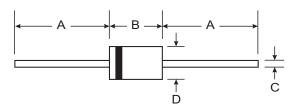




## **5.0A SCHOTTKY BARRIER RECTIFIER**

## **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			
Α	25.40	_			
В	7.20	9.50			
С	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

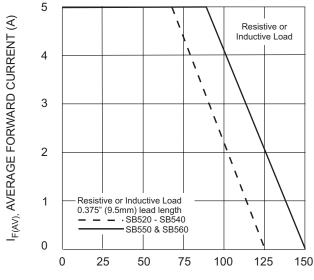
Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

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		14	21	28	35	42	V	
Average Rectified Output Current (See Figure 1) (Note 1)		5.0				Α		
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	150			А			
Forward Voltage (Note 2) @ I <sub>F</sub> = 5.0A	V <sub>FM</sub>	0.55 0.67		67	V			
Peak Reverse Current @ T <sub>A</sub> = 25°C	1	0.5					mA	
at Rated DC Blocking Voltage (Note 2) @ T <sub>A</sub> = 100°C	I <sub>RM</sub>	50 25		5	] IIIA			
Typical Thermal Resistance Junction to Ambient (Note 1)	$R_{\theta JA}$	25				°C/W		
(Note 3)	R <sub>0</sub> JL	8						
Operating Temperature Range			-65 to +125		-65 to	+150		
Storage Temperature Range		-65 to +150				°C		

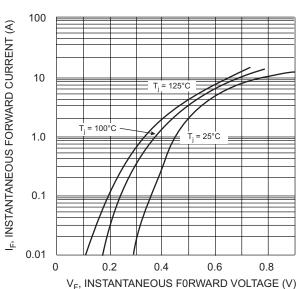
Notes:

- 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.

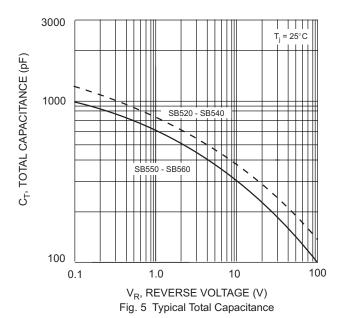




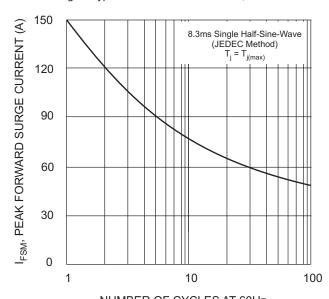
 $T_L$ , LEAD TEMPERATURE (°C) Fig. 1 Forward Current Derating Curve



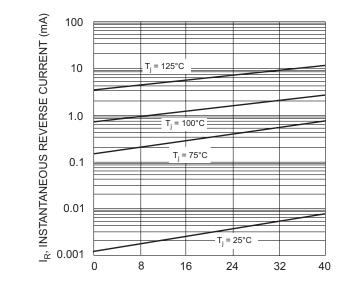
 $V_F$ , INSTANTANEOUS F0RWARD VOLTAGE (V) Fig. 3 Typical Forward Characteristics, SB550 & SB560



 $V_{\rm F}$ , INSTANTANEOUS FORWARD VOLTAGE (V) Fig. 2 Typical Forward Characteristics, SB520 - SB540

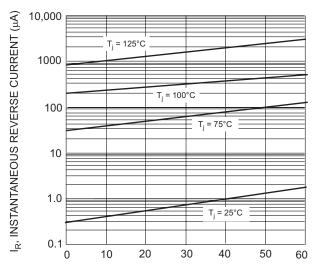


NUMBER OF CYCLES AT 60Hz Fig. 4 Max Non-Repetitive Peak Fwd Surge Current



 $\rm V_R$ , INSTANTANEOUS, REVERSE VOLTAGE (V) Fig. 6 Typical Reverse Characteristics, SB520 - SB540





 $\rm V_R$ , INSTANTANEOUS REVERSE VOLTAGE (V) 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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