

SB520 - SB560

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_A = 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 _{RRM} V _{RWM} V _R | 20 | 30 | 40 | 50 | 60 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 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) | | 150 | | | | А | |
| Forward Voltage (Note 2) $@$ I _F = 5.0A | VFM | | 0.55 | | 0. | 67 | V |
| Peak Reverse Current @ $T_A = 25^{\circ}C$ | le | 0.5 | | | | mA | |
| at Rated DC Blocking Voltage (Note 2) @ $T_A = 100^{\circ}C$ | I _{RM} | | 50 | | 2 | | |
| Typical Thermal Resistance Junction to Ambient (Note 1) | R _{0JA} | 25 | | | | °C/W | |
| (Note 3) | R _{0JL} | 8 | | | | | |
| Operating Temperature Range | | -65 to +125 -65 to +150 | | +150 | - °C | | |
| Storage Temperature Range | | -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.







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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