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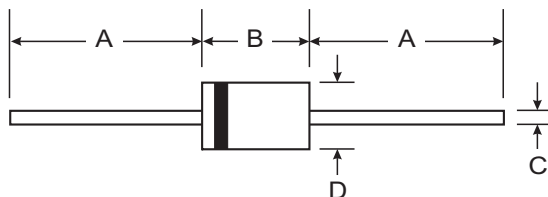
SB170 - SB1100

1.0A HIGH VOLTAGE SCHOTTKY BARRIER RECTIFIER

NEW PRODUCT

Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Ideally Suited for Automatic Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 25A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Application
- High Temperature Soldering: 260°C/10 Second at Terminal
- **Lead Free Finish, RoHS Compliant (Note 3)**



Mechanical Data

- Case: DO-41
- 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: 0.3 grams (approximate)

| DO-41 | | |
|----------------------|------|------|
| Dim | Min | Max |
| A | 25.4 | — |
| B | 4.1 | 5.2 |
| C | 0.71 | 0.86 |
| D | 2.0 | 2.7 |
| 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 | SB170 | SB180 | SB190 | SB1100 | Unit |
|---|-----------------------------------|-------------|-------|-------|--------|------|
| Peak Repetitive Reverse Voltage | V _{RRM} | 70 | 80 | 90 | 100 | V |
| Working Peak Reverse Voltage | V _{RWM} | | | | | |
| DC Blocking Voltage | V _R | | | | | |
| RMS Reverse Voltage | V _{R(RMS)} | 49 | 56 | 63 | 70 | V |
| Average Rectified Output Current @ T _T = 85°C | I _O | 1.0 | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I _{FSM} | 25 | | | | A |
| Forward Voltage @ I _F = 1.0A @ T _A = 25°C | V _{FM} | 0.80 | | | | V |
| Peak Reverse Current at Rated DC Blocking Voltage @ T _A = 25°C @ T _A = 100°C | I _{RM} | 0.5 10 | | | | mA |
| Typical Junction Capacitance (Note 2) | C _j | 80 | | | | pF |
| Typical Thermal Resistance Junction to Lead | R _{θJL} | 15 | | | | K/W |
| Typical Thermal Resistance Junction to Ambient (Note 1) | R _{θJA} | 50 | | | | K/W |
| Operating and Storage Temperature Range | T _j , T _{STG} | -65 to +125 | | | | °C |

- Notes: 1. Valid provided that leads are kept at ambient temperature at a distance of 9.5mm from the case.
 2. Measured at 1.0MHz 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.

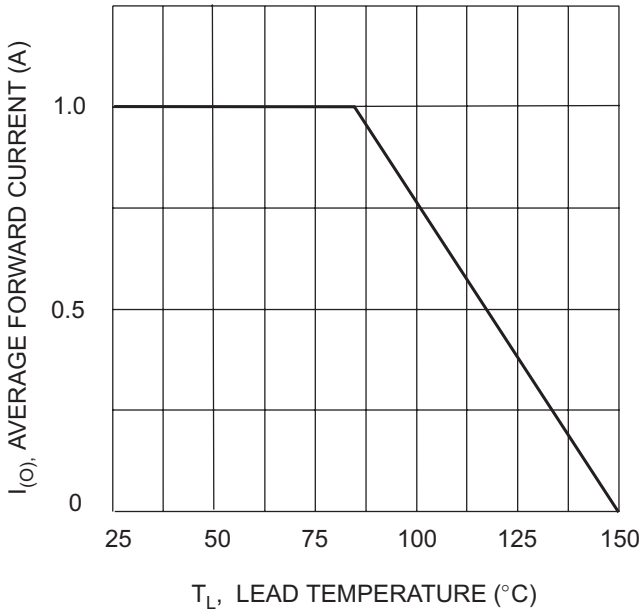


Fig. 1 Forward Current Derating Curve

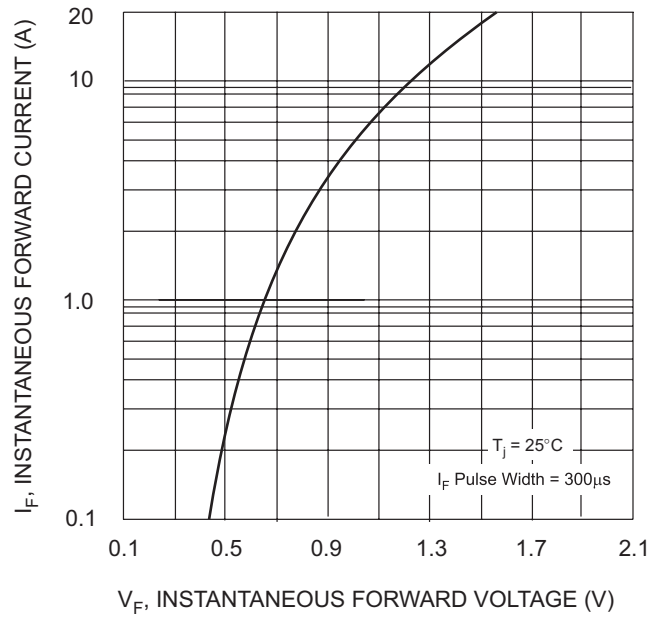


Fig. 2 Typical Forward Characteristics

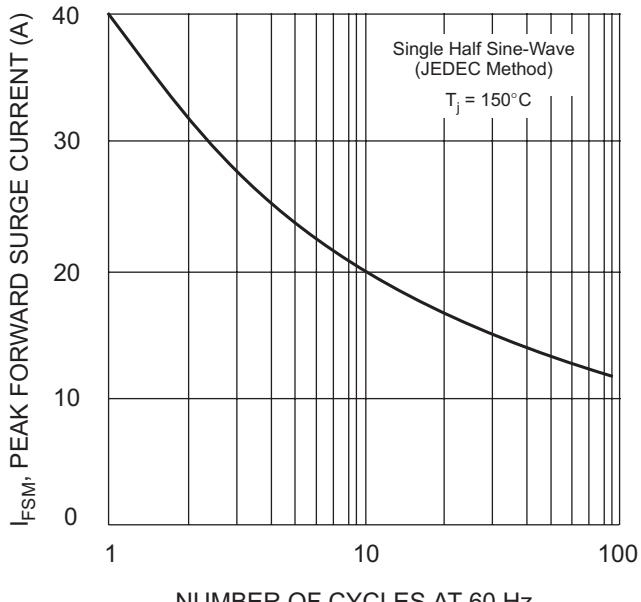


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

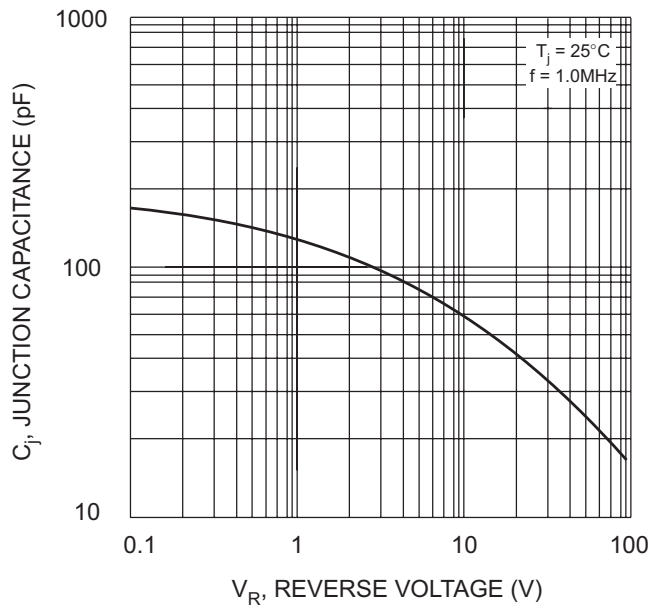


Fig. 4 Typical Junction Capacitance

Ordering Information (Note 4)

| Device | Packaging | Shipping |
|----------|-----------|-------------------------|
| SB170-A | DO-41 | 5K/Ammo Pack |
| SB170-B | DO-41 | 1K/Bulk |
| SB170-T | DO-41 | 5K/Tape & Reel, 13-inch |
| SB180-A | DO-41 | 5K/Ammo Pack |
| SB180-B | DO-41 | 1K/Bulk |
| SB180-T | DO-41 | 5K/Tape & Reel, 13-inch |
| SB190-A | DO-41 | 5K/Ammo Pack |
| SB190-B | DO-41 | 1K/Bulk |
| SB190-T | DO-41 | 5K/Tape & Reel, 13-inch |
| SB1100-A | DO-41 | 5K/Ammo Pack |
| SB1100-B | DO-41 | 1K/Bulk |
| SB1100-T | DO-41 | 5K/Tape & Reel, 13-inch |

Notes: 4. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>