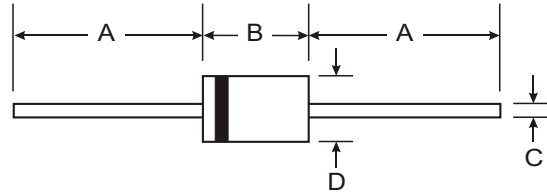


Features

- 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
- Plastic Material: UL Flammability Classification Rating 94V-0



| 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 | | |

Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 1.1 grams (approx.)
- Mounting Position: Any
- Marking: Type Number

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 | V _{RRM} | 20 | 30 | 40 | 50 | 60 | V |
| Working Peak Reverse Voltage | V _{RWM} | | | | | | |
| DC Blocking Voltage | V _R | | | | | | |
| RMS Reverse Voltage | V _{R(RMS)} | 14 | 21 | 28 | 35 | 42 | V |
| Average Rectified Output Current (See Figure 1) (Note 1) | I _O | 5.0 | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I _{FSM} | 150 | | | | | A |
| Forward Voltage (Note 2) @ I _F = 5.0A | V _{FM} | 0.55 | | | 0.67 | | V |
| Peak Reverse Current @ T _A = 25°C at Rated DC Blocking Voltage (Note 2) @ T _A = 100°C | I _{RM} | 0.5 | | | 25 | | mA |
| Typical Thermal Resistance Junction to Ambient (Note 1) (Note 3) | R _{θJA} | 25 | | | | | °C/W |
| | R _{θJL} | 8 | | | | | |
| Operating Temperature Range | T _J | -65 to +125 | | | -65 to +150 | | °C |
| Storage Temperature Range | T _{STG} | -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.

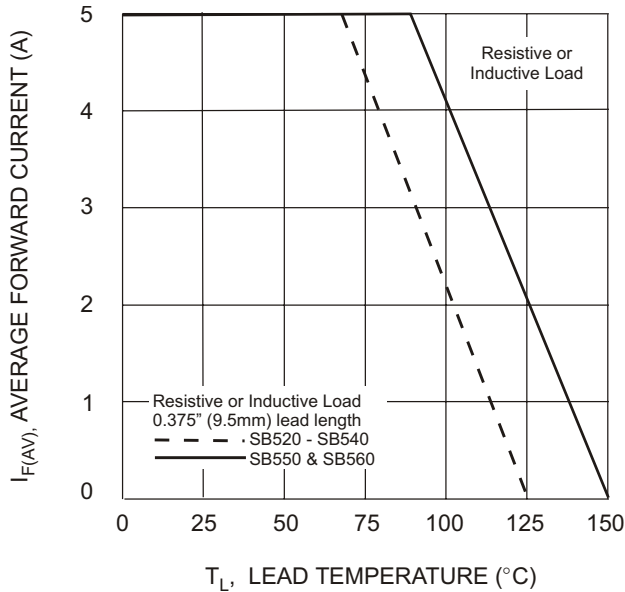


Fig. 1 Forward Current Derating Curve

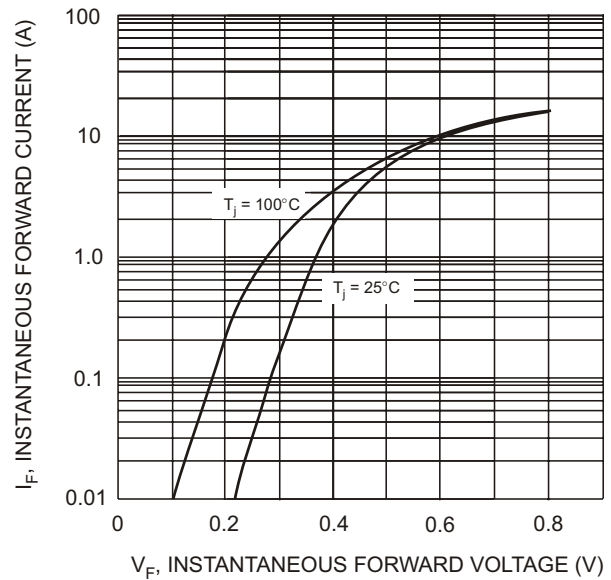


Fig. 2 Typical Forward Characteristics, SB520 - SB540

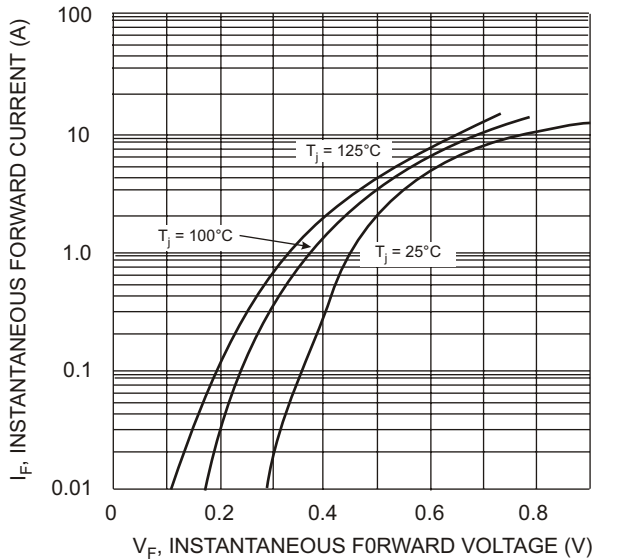


Fig. 3 Typical Forward Characteristics, SB550 & SB560

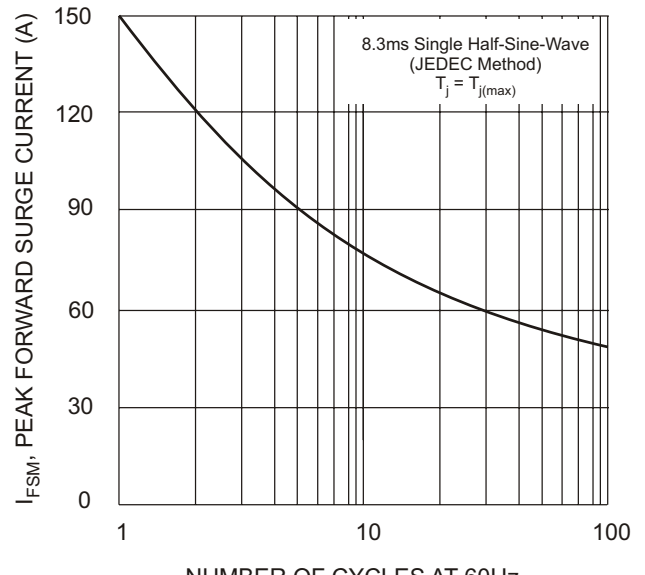


Fig. 4 Max Non-Repetitive Peak Fwd Surge Current

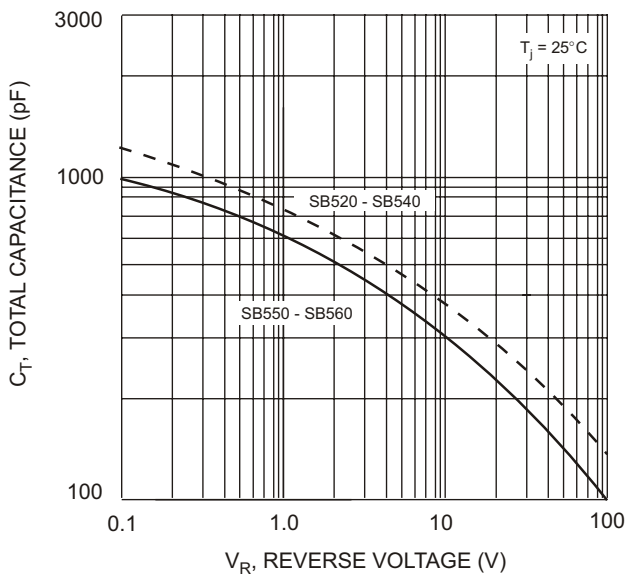


Fig. 5 Typical Total Capacitance

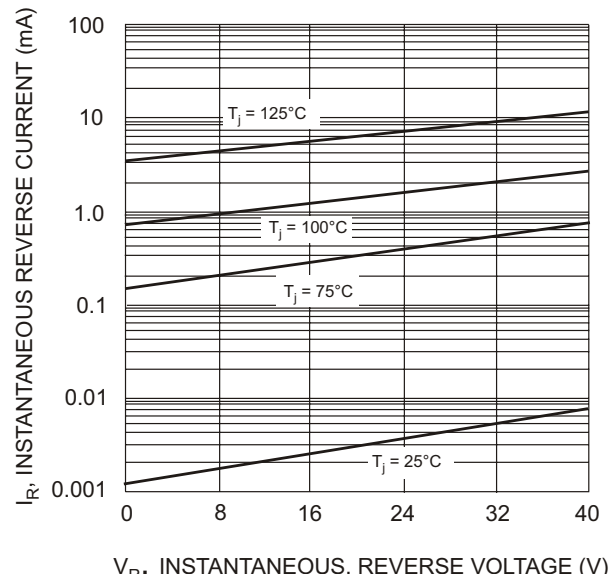
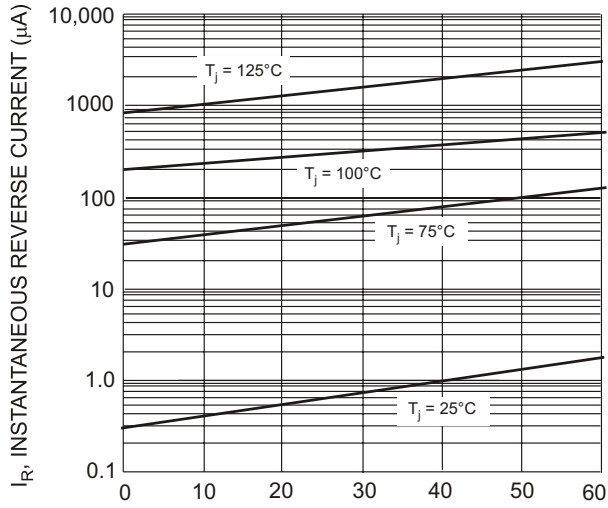


Fig. 6 Typical Reverse Characteristics, SB520 - SB540



V_R , INSTANTANEOUS REVERSE VOLTAGE (V)
Fig. 7 Typical Reverse Characteristics, SB550 & SB560