



SB320 THRU SB3B0

MEDIUM CURRENT SCHOTTKY BARRIER RECTIFIER

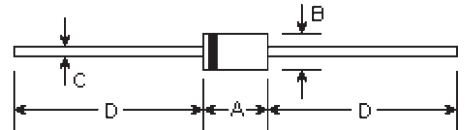
Reverse Voltage - 20 to 100 Volts

Forward Current - 3.0 Amperes

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low V_F
- High surge capacity
- Epitaxial construction
- Guardring for transient protection
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3Kg) tension

DO-201AD



Mechanical Data

- **Case:** DO-201AD molded plastic body
- **Terminals:** Plated axial leads, solderable per MIL-STD-750, method 2026
- **Polarity:** Color band denotes cathode
- **Mounting Position:** Any
- **Weight:** 0.041 ounce, 1.15 grams

| DIMENSIONS | | | | | |
|------------|--------|-------|-------|------|------|
| DIM | inches | | mm | | Note |
| | Min. | Max. | Min. | Max. | |
| A | 0.283 | 0.374 | 7.20 | 9.50 | |
| B | 0.189 | 0.208 | 4.80 | 5.30 | ϕ |
| C | 0.048 | 0.051 | 1.20 | 1.30 | ϕ |
| D | 1.000 | - | 25.40 | - | |

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

| | Symbols | SB 320 | SB 330 | SB 340 | SB 350 | SB 360 | SB 370 | SB 380 | SB 390 | SB 3B0 | Units |
|--|------------------------------------|--------------|--------|--------|-------------|--------|--------|--------|--------|--------|-------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | Volts |
| Maximum RMS voltage | V_{RMS} | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 | Volts |
| Maximum DC blocking voltage | V_{DC} | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | Volts |
| Maximum average forward rectified current at 0.375" (9.5mm) lead length (see Fig. 1) | $I_{(AV)}$ | 3.0 | | | | | | | | | Amps |
| Peak forward surge current, 8.3mS single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method) | I_{FSM} | 80.0 | | | | | | | | | Amps |
| Maximum instantaneous forward voltage at 3.0A (Note 1) | V_F | 0.55 | | | 0.70 | | | 0.85 | | | Volts |
| Maximum instantaneous reverse current at rated DC blocking voltage (Note 1) $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$ | I_R | 0.5 20.0 | | | 0.5 10.0 | | | | | | mA |
| Typical thermal resistance (Note 2) | $R_{\theta JA}$ $R_{\theta JL}$ | 40.0 10.0 | | | | | | | | | °C/W |
| Operating junction temperature range | T_J | -65 to +125 | | | -65 to +150 | | | | | | °C |
| Storage temperature range | T_{STG} | -65 to +150 | | | | | | | | | °C |

Notes:

(1) Pulse test: 300µs pulse width, 1% duty cycle

(2) Thermal resistance from junction to lead vertical P.C.B. mounting, 0.500" (12.7mm) lead length with 2.5"X2.5" (63.5X63.5mm) copper pad

RATINGS AND CHARACTERISTIC CURVES

FIG. 1 - FORWARD CURRENT DERATING CURVE

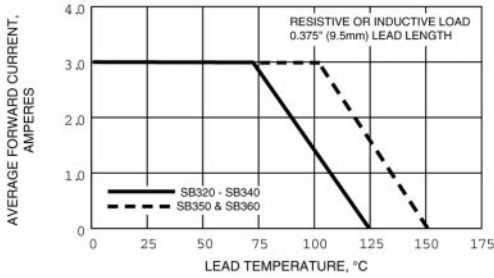


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

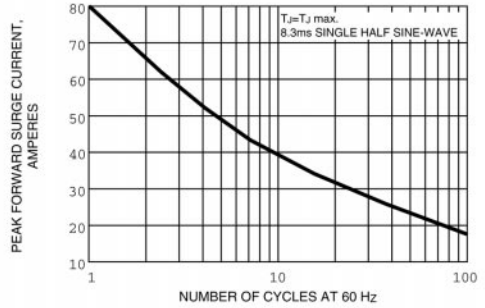


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

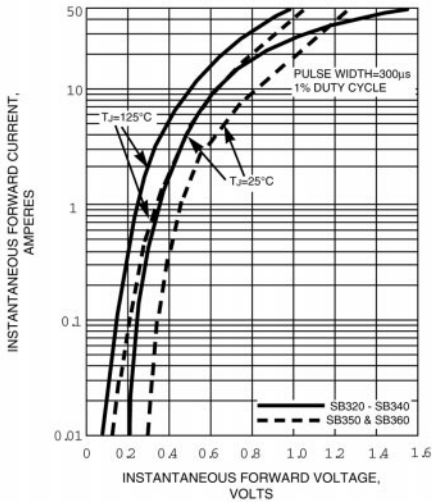


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

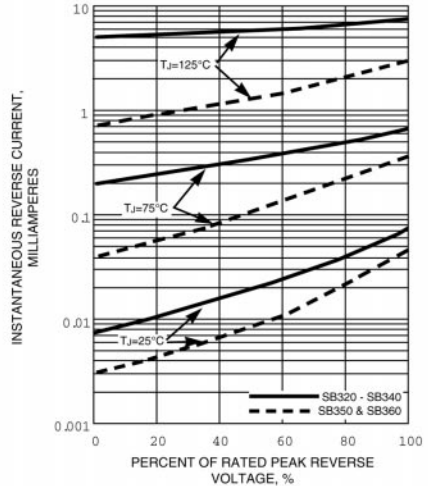


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

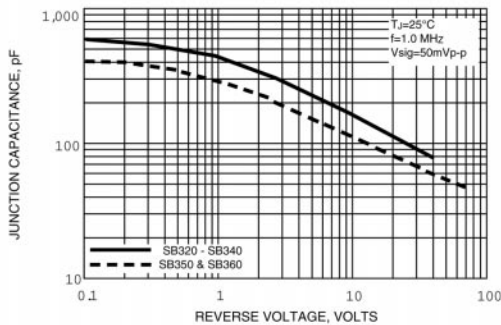


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

