



SDBS12 THRU SDBS110

1.0 AMP. Schottky Barrier Rectifiers



Voltage Range
20 to 100 Volts
Current
1.0 Ampere

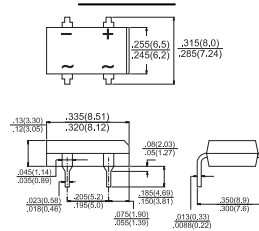
Features

- ✦ Metal to silicon rectifier, majority carrier conduction
- ✦ Low forward voltage drop
- ✦ Easy pick and place
- ✦ High surge current capability
- ✦ Plastic material used carriers Underwriters Laboratory Classification 94V-0
- ✦ Epitaxial construction
- ✦ High temperature soldering:
260°C/ 10 seconds at terminals
- ✦ Small size, single installation lead solderable per MIL-STD-202 Method 208

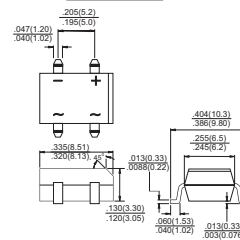
Mechanical Data

- ✦ Case: Molded plastic
- ✦ Terminals: Solder plated
- ✦ Polarity: Indicated by cathode band

DB



DBS



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Type Number | Symbol | SDB 12 | SDB 13 | SDB 14 | SDB 15 | SDB 16 | SDB 19 | SDB 110 | Units |
|--|-------------------|-------------|---------|---------|-------------|---------|---------|------------------|---------------------------|
| | | SDBS 12 | SDBS 13 | SDBS 14 | SDBS 15 | SDBS 16 | SDBS 19 | SDBS 110 | |
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 20 | 30 | 40 | 50 | 60 | 90 | 100 | V |
| Maximum RMS Voltage | V_{RMS} | 14 | 21 | 28 | 35 | 42 | 63 | 70 | V |
| Maximum DC Blocking Voltage | V_{DC} | 20 | 30 | 40 | 50 | 60 | 90 | 100 | V |
| Maximum Average Forward Rectified Current at T_L (See Fig. 1) | $I_{(AV)}$ | 1.0 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 30 | | | | | | | A |
| Maximum Instantaneous Forward Voltage (Note 1) @ 1.0A | V_F | 0.5 | | 0.75 | | 0.80 | | V | |
| Maximum DC Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$ | I_R | 0.4 | | | | | 0.05 | | mA |
| | | 10 | | 5.0 | | 0.5 | | | |
| Typical Junction Capacitance (Note 3) | C_j | 50 | | | | | | | pF |
| Typical Thermal Resistance (Note 2) | $R_{\theta_{JL}}$ | 28 | | | | | | | $^\circ\text{C}/\text{W}$ |
| | $R_{\theta_{JA}}$ | 88 | | | | | | | $^\circ\text{C}/\text{W}$ |
| Operating Temperature Range | T_J | -65 to +125 | | | -65 to +150 | | | $^\circ\text{C}$ | |
| Storage Temperature Range | T_{STG} | -65 to +150 | | | | | | | $^\circ\text{C}$ |

Notes: 1. Pulse Test with PW=300 usec, 1% Duty Cycle

2. Measured on P.C.Board with 0.5 x 0.5"(12 x 12mm) Copper Pad Areas.

3. Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.



RATINGS AND CHARACTERISTIC CURVES (SDBS12 THRU SDBS110)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

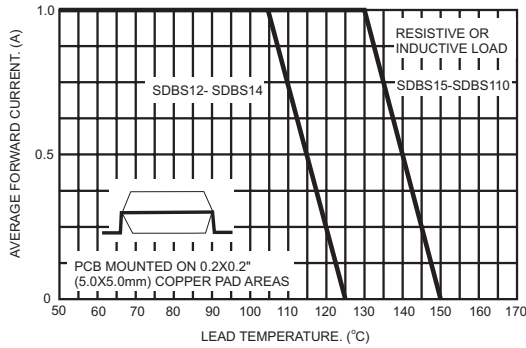


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

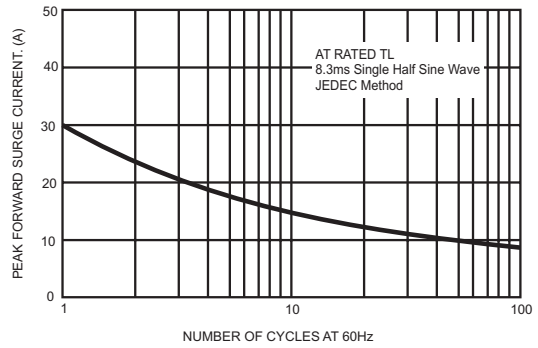


FIG.3- TYPICAL FORWARD CHARACTERISTICS

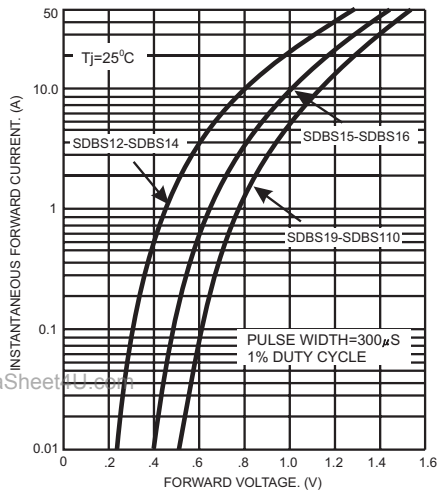


FIG.4- TYPICAL REVERSE CHARACTERISTICS

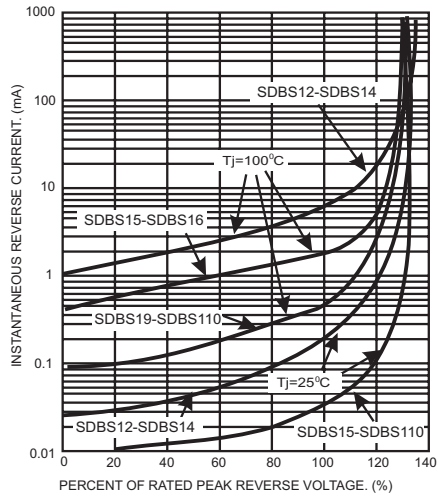


FIG.5- TYPICAL JUNCTION CAPACITANCE

