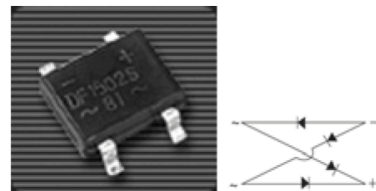


## Features

- ◆ Ideal for printed circuit boards
- ◆ Applicable for automotive insertion
- ◆ High surge current capability
- ◆ Solder Dip 260 °C, 40 seconds



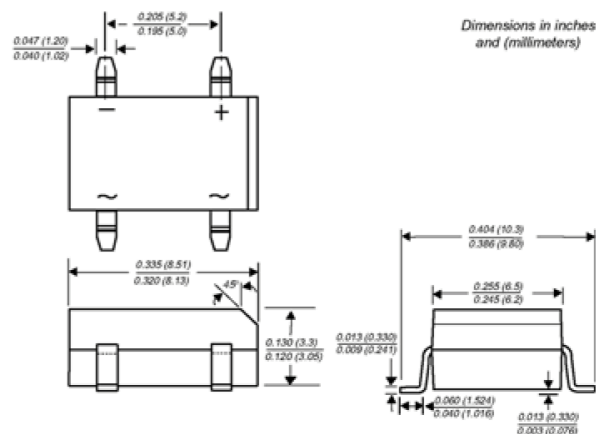
DFS

## Mechanical Data

- ◆ Case: DFS
- ◆ Epoxy meets UL-94V-0 Flammability rating
- ◆ Terminals: Matte tin plated (E3 Suffix) leads, solderable per J-STD-002B and JESD22-B102D
- ◆ Polarity: As marked on body

## Typical Applications

General purpose use in ac-to-dc bridge full wave rectification for SMPS, Lighting Ballaster, Adapter, Battery Charger, Home Appliances, Office Equipment, and Telecommunication applications



## Maximum Ratings and Electrical Characteristics

(T<sub>A</sub>=25°C unless otherwise noted)

| Parameter                                                                                                           | Symbols                              | DF005S<br>DBS101 | DF01S<br>DBS102 | DF02S<br>DBS103 | DF04S<br>DBS104 | DF06S<br>DBS105 | DF08S<br>DBS106 | DF10S<br>DBS107 | Units              |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------------|
| Maximum repetitive peak reverse voltage                                                                             | V <sub>RRM</sub>                     | 50               | 100             | 200             | 400             | 600             | 800             | 1000            | Volts              |
| Maximum RMS voltage                                                                                                 | V <sub>RMS</sub>                     | 35               | 70              | 140             | 280             | 420             | 560             | 700             | Volts              |
| Maximum DC blocking voltage                                                                                         | V <sub>DC</sub>                      | 50               | 100             | 200             | 400             | 600             | 800             | 1000            | Volts              |
| Maximum average forward output rectified current at T <sub>A</sub> =40°C (Note 2)                                   | I <sub>F(AV)</sub>                   | 1.0              |                 |                 |                 |                 |                 |                 | Amp                |
| Peak forward surge current single half sine-wave superimposed on rated load (JEDEC Method)                          | I <sub>FSM</sub>                     | 30.0             |                 |                 |                 |                 |                 |                 | Amps               |
| Rating for fusing (t < 8.3ms)                                                                                       | Pt                                   | 10               |                 |                 |                 |                 |                 |                 | A <sup>2</sup> sec |
| Maximum instantaneous forward voltage drop per leg at 0.5A                                                          | V <sub>F</sub>                       | 1.1              |                 |                 |                 |                 |                 |                 | Volts              |
| Maximum DC reverse current<br>T <sub>A</sub> =25°C<br>at rated DC blocking voltage per leg<br>T <sub>A</sub> =125°C | I <sub>R</sub>                       | 5.0<br>500       |                 |                 |                 |                 |                 |                 | µA                 |
| Typical junction capacitance per leg (Note 1)                                                                       | C <sub>J</sub>                       | 25               |                 |                 |                 |                 |                 |                 | pF                 |
| Typical thermal resistance per leg (Note 2)                                                                         | R <sub>θJA</sub><br>R <sub>θJL</sub> | 40<br>15         |                 |                 |                 |                 |                 |                 | °C/W               |
| Operating junction and storage temperature range                                                                    | T <sub>J</sub> , T <sub>STG</sub>    | -55 to +150      |                 |                 |                 |                 |                 |                 | °C                 |

- Notes:**
1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
  2. Units mounted on P.C.B. with 0.51 x 0.51" (13 x 13mm) copper pads

## RATINGS AND CHARACTERISTIC CURVES

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

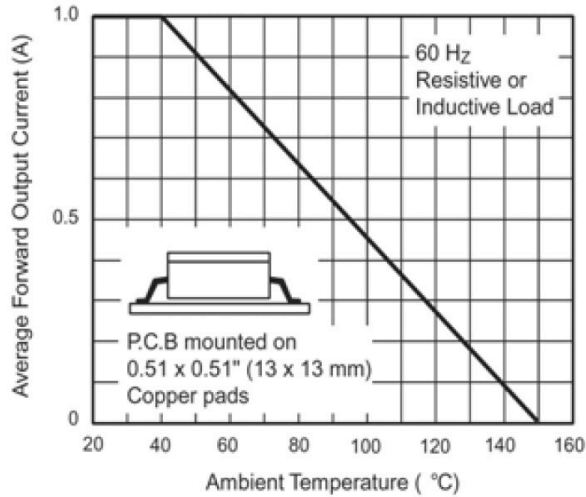


Figure 1. Derating Curve Output Rectified Current

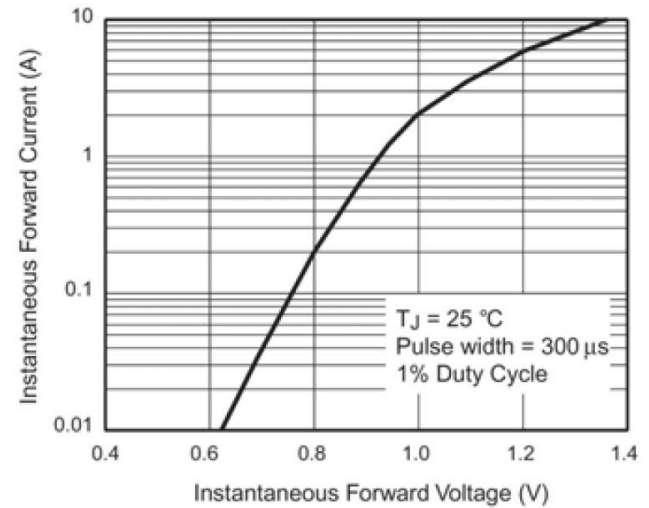


Figure 3. Typical Forward Characteristics Per Leg

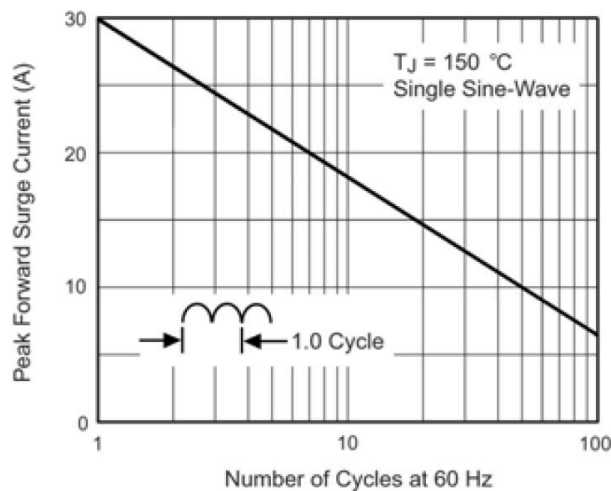


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

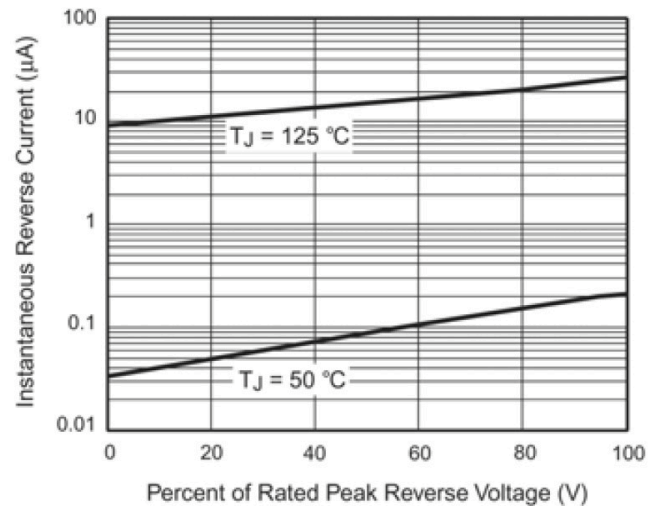


Figure 4. Typical Reverse Leakage Characteristics Per Leg

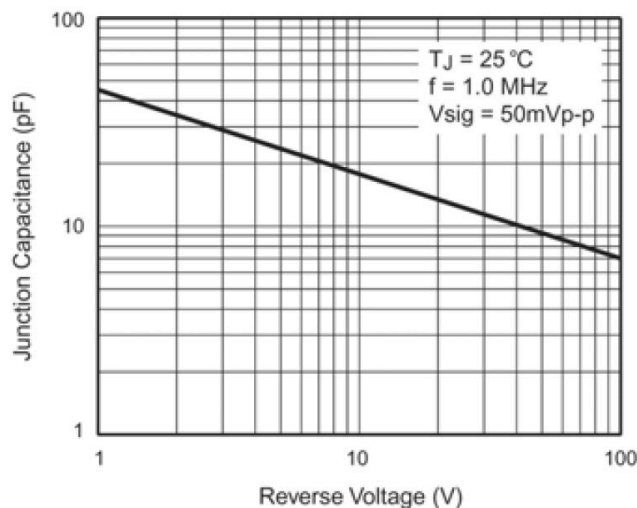


Figure 5. Typical Junction Capacitance Per Leg

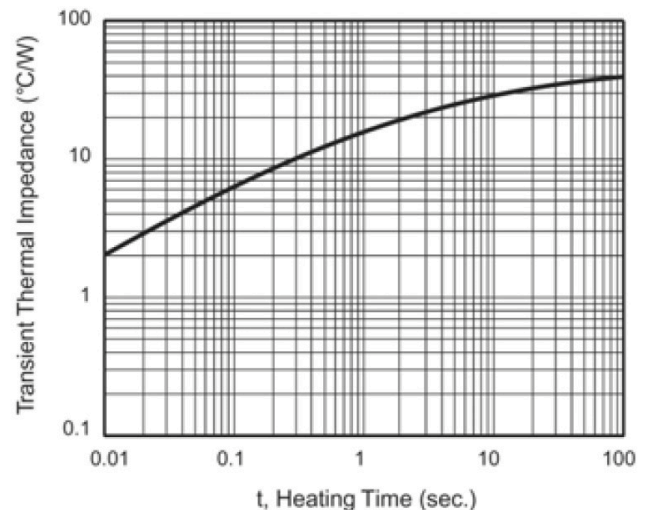


Figure 6. Typical Transient Thermal Impedance