

# DF005S THRU DF10S

## SINGLE-PHASE GLASS PASSIVATED SILICON SURFACE MOUNT BRIDGE RECTIFIER

Reverse Voltage – 50 to 1000 V

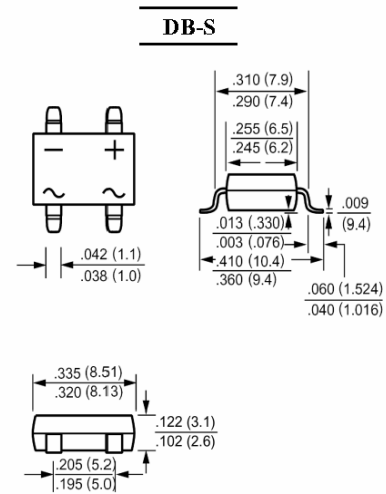
Forward Current – 1 A

### Features

- High surge overload rating of 50 A peak
- Ideal for printed circuit board
- Low forward voltage drop
- Glass passivated chip junction

### Mechanical Data

- Case: Molded plastic, DB-S
- Epoxy: UL 94V-0 rate flame retardant
- Terminal: Leads solderable per MIL-STD-202, method 208 guaranteed
- Mounting position: Any



**Dimensions in inches and (millimeters)**

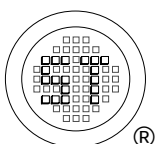
### Maximum Ratings and Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Parameter                                                                                                        | Symbols         | DF005S        | DF01S | DF02S | DF04S | DF06S | DF08S | DF10S | Units              |
|------------------------------------------------------------------------------------------------------------------|-----------------|---------------|-------|-------|-------|-------|-------|-------|--------------------|
| Maximum Recurrent Peak Reverse Voltage                                                                           | $V_{RRM}$       | 50            | 100   | 200   | 400   | 600   | 800   | 1000  | V                  |
| Maximum RMS Voltage                                                                                              | $V_{RMS}$       | 35            | 70    | 140   | 280   | 420   | 560   | 700   | V                  |
| Maximum DC Blocking Voltage                                                                                      | $V_{DC}$        | 50            | 100   | 200   | 400   | 600   | 800   | 1000  | V                  |
| Maximum Average Forward Rectified Current<br>at $T_A = 40^\circ\text{C}$ <sup>2)</sup>                           | $I_{AV}$        | 1             |       |       |       |       |       |       | A                  |
| Peak Forward Surge Current 8.3 ms Single Half-sine<br>-wave Superimposed on Rated Load (JEDEC Method)            | $I_{FSM}$       | 50            |       |       |       |       |       |       | A                  |
| Maximum Forward Voltage at 1 A DC                                                                                | $V_F$           | 1.1           |       |       |       |       |       |       | V                  |
| Maximum Reverse Current<br>$T_A = 25^\circ\text{C}$<br>at Rated DC Blocking Voltage<br>$T_A = 125^\circ\text{C}$ | $I_R$           | 5<br>500      |       |       |       |       |       |       | $\mu\text{A}$      |
| Typical Junction Capacitance <sup>1)</sup>                                                                       | $C_J$           | 25            |       |       |       |       |       |       | pF                 |
| Typical Thermal Resistance <sup>2)</sup>                                                                         | $R_{\theta JA}$ | 40            |       |       |       |       |       |       | $^\circ\text{C/W}$ |
| Typical Thermal Resistance <sup>2)</sup>                                                                         | $R_{\theta JL}$ | 15            |       |       |       |       |       |       | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range                                                                          | $T_J, T_S$      | - 55 to + 150 |       |       |       |       |       |       | $^\circ\text{C}$   |

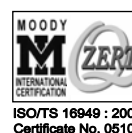
<sup>1)</sup> Measured at 1 MHz and applied reverse voltage of 4 V DC.

<sup>2)</sup> Units mounted P.C.B. with 0.5 X 0.5" (13 X 13 mm) copper pads.



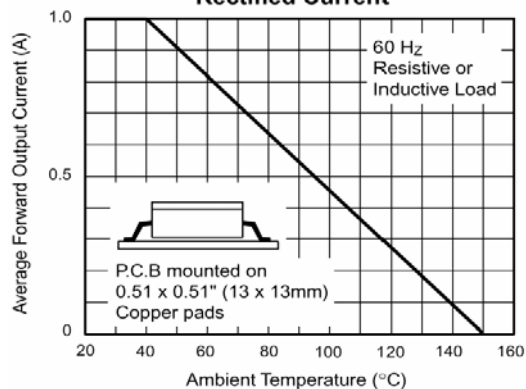
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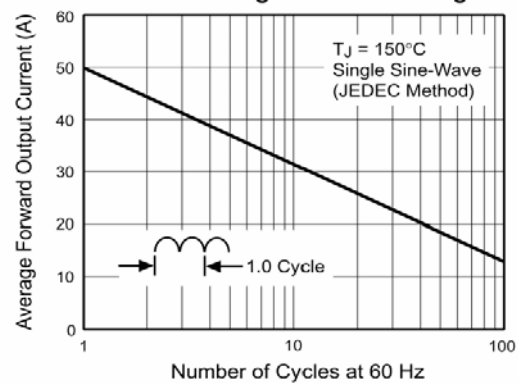


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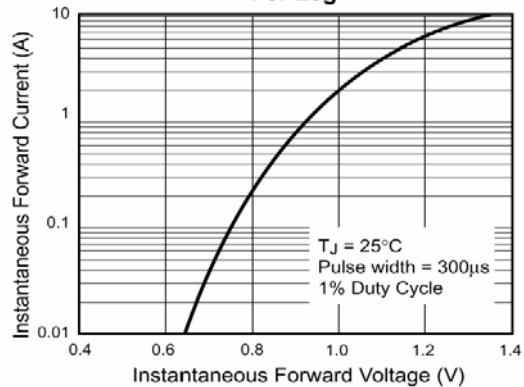
**Fig. 1 - Derating Curve Output Rectified Current**



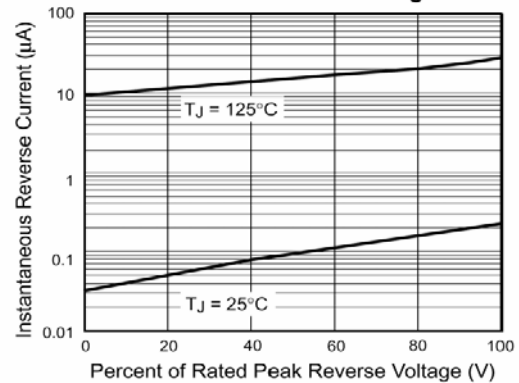
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



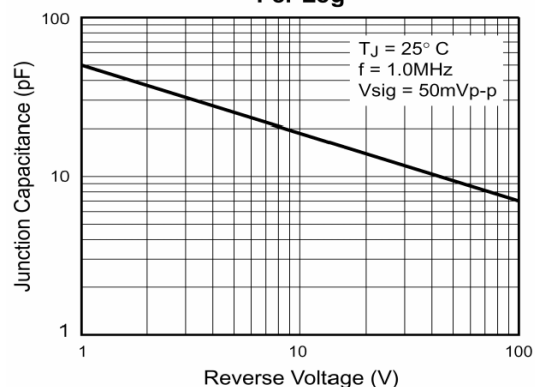
**Fig. 3 - Typical Forward Characteristics Per Leg**



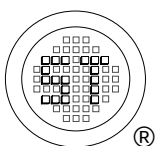
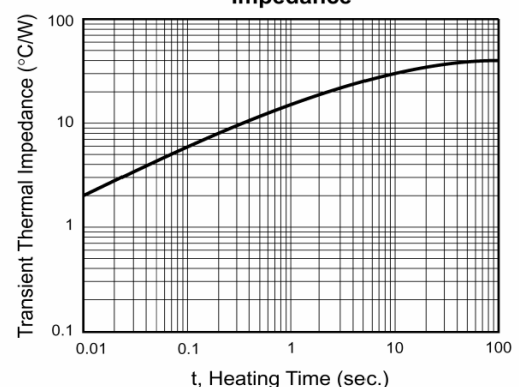
**Fig. 4 - Typical Reverse Leakage Characteristics Per Leg**



**Fig. 5 - Typical Junction Capacitance Per Leg**



**Fig. 6 - Typical Transient Thermal Impedance**



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Certificate No. 05103



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