

# DB101S THRU DB107S

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

Reverse Voltage – 50 to 1000 V

Forward Current – 1 A

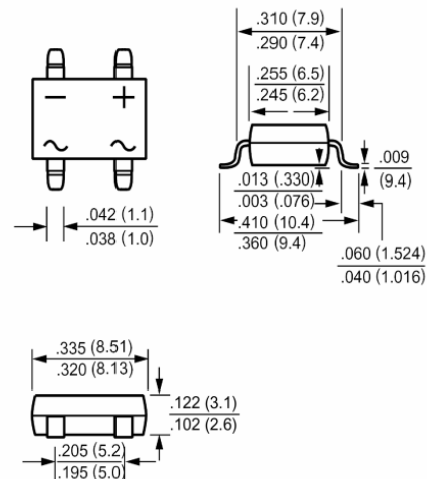
### DB-S

#### 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



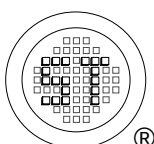
#### Maximum Ratings and Electrical Characteristics

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         | DB101S      | DB102S | DB103S | DB104S | DB105S | DB106S | DB107S | 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 at $T_A = 40^\circ\text{C}$ <sup>2)</sup>                        | $I_{(AV)}$      | 1           |        |        |        |        |        |        | A                  |
| Peak Forward Surge Current 8.3 ms Single Half-sine 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 $T_A = 25^\circ\text{C}$<br>at Rated DC Blocking Voltage $T_A = 125^\circ\text{C}$ | $I_R$           | 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.

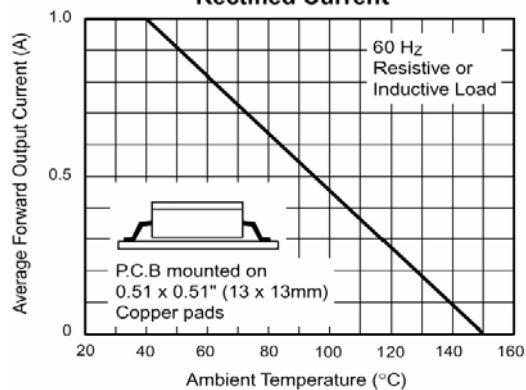


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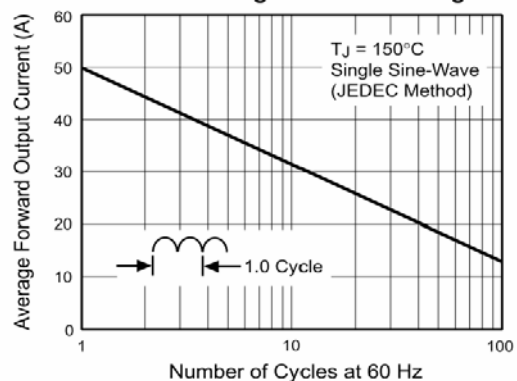
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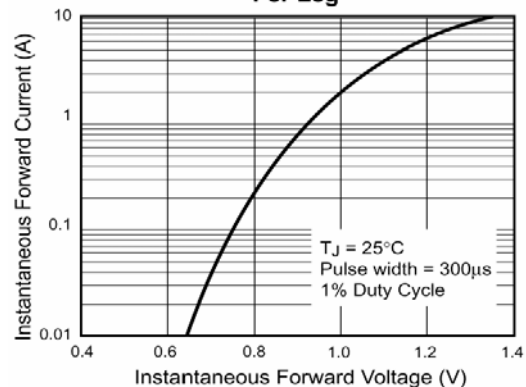
**Fig. 1 - Derating Curve Output Rectified Current**



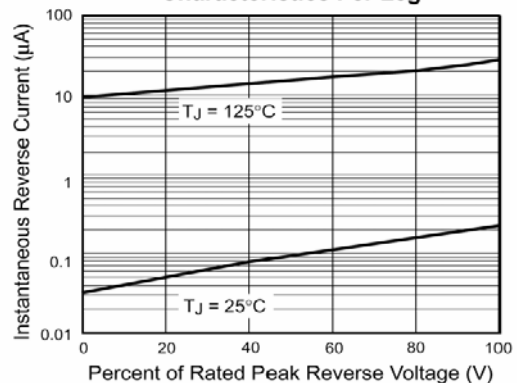
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



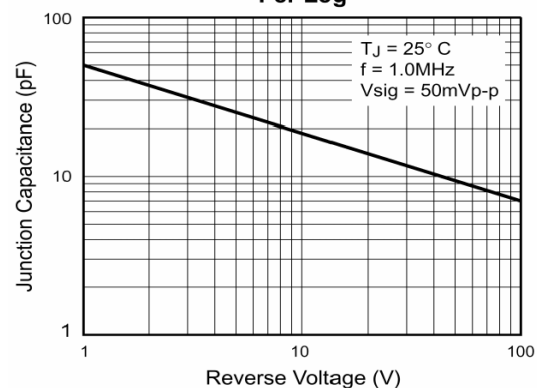
**Fig. 3 - Typical Forward Characteristics Per Leg**



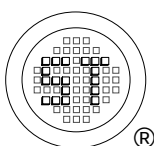
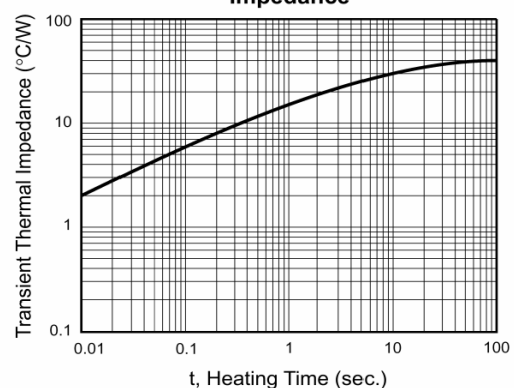
**Fig. 4 - Typical Reverse Leakage Characteristics Per Leg**



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



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



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ISO/TS 16949 : 2002  
Certificate No. 05103



ISO 14001:2004  
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