

# DF005 THRU DF10

## SINGLE-PHASE GLASS PASSIVATED SILICON BRIDGE RECTIFIER

Reverse Voltage – 50 to 1000 Volts

Forward Current – 1.0 Ampere

### Features

- Glass passivated chip junction
- Low forward voltage drop
- High surge overload rating of 50 Amperes peak
- Ideal for printed circuit board
- High temperature soldering guaranteed: 260°C for 10 seconds

### Mechanical Data

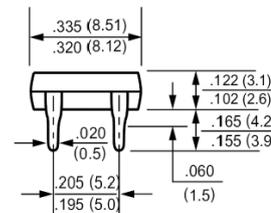
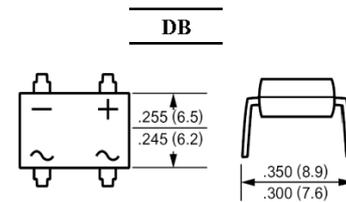
Case: Molded plastic, DB

Epoxy: UL 94V-O rate flame retardant

Terminals: Leads solderable per MIL-STD-202, method 208 guaranteed

Mounting position: Any

Weight: 0.02ounce, 0.4gram



Dimensions in inches and (millimeters)

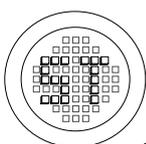
### Absolute Maximum Ratings and Characteristics

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%.

|   | Symbols                      | DF005       | DF01 | DF02 | DF04 | DF06 | DF08 | DF10 | 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 $T_A = 40^\circ\text{C}$                             | $I_{(AV)}$                   | 1           |      |      |      |      |      |      | A                  |
| Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$                    | 50          |      |      |      |      |      |      | A                  |
| Maximum Forward Voltage at 1A DC  | $V_F$                        | 1.1         |      |      |      |      |      |      | V                  |
| Maximum Reverse Voltage at Rated DC Blocking Voltage  | at $T_A = 25^\circ\text{C}$  | 5           |      |      |      |      |      |      | $\mu\text{A}$      |
|   | at $T_A = 125^\circ\text{C}$ | 500         |      |      |      |      |      |      |                    |
| 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 |      |      |      |      |      |      | $^\circ\text{C}$   |

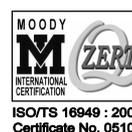
<sup>1)</sup> Measured at 1MHz and applied reverse voltage of 4VDC.

<sup>2)</sup> Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.5 x 0.5" (13 x 13mm) copper pads.



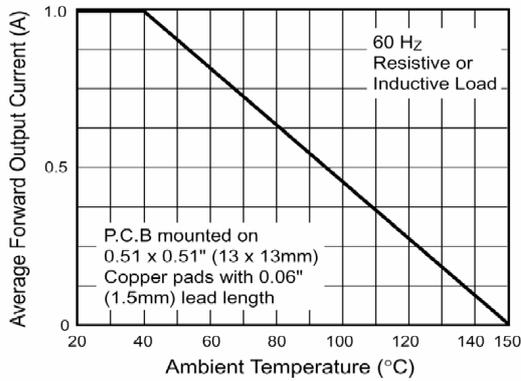
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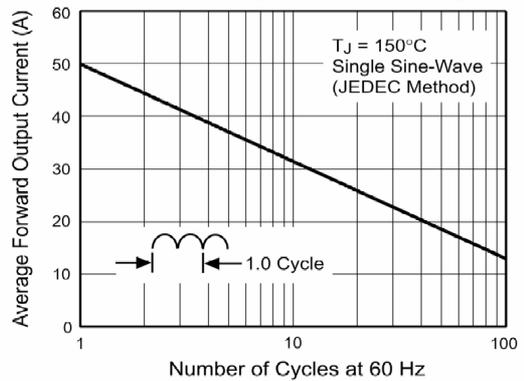


## RATINGS AND CHARACTERISTIC CURVES

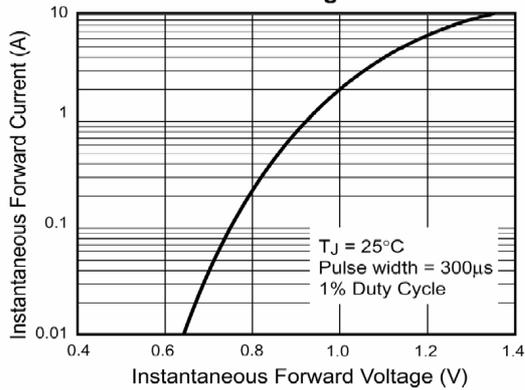
**Fig. 1 - Derating Curve Output Rectified Current**



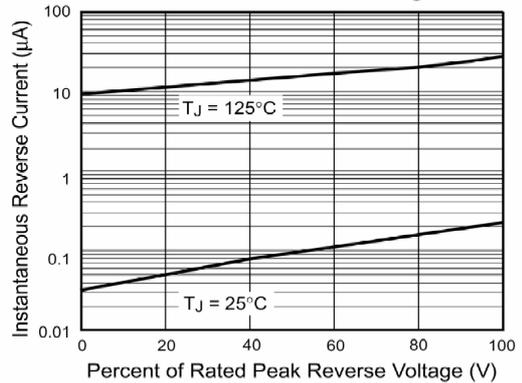
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



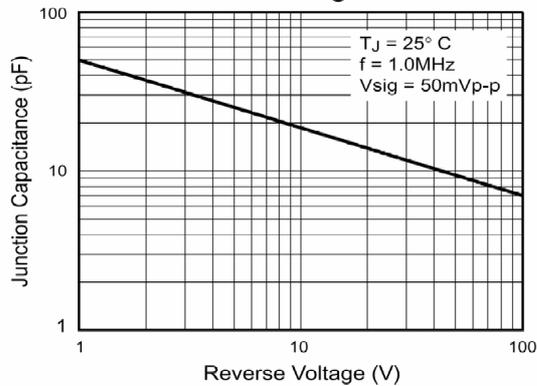
**Fig. 3 - Typical Forward Characteristics Per Leg**



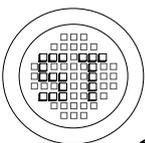
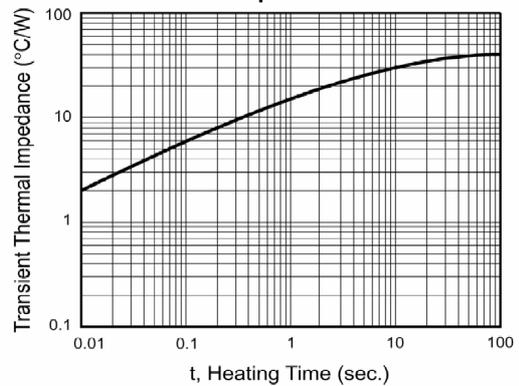
**Fig. 4 - Typical Reverse Leakage Characteristics Per Leg**



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



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



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ISO 14001:2004  
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