



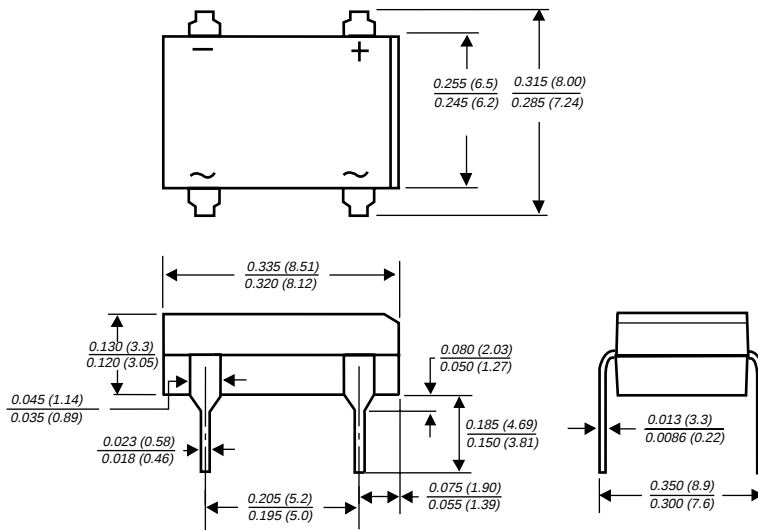
## DF005M thru DF10M

Vishay Semiconductors  
formerly General Semiconductor

### Miniature Glass Passivated Single-Phase Bridge Rectifiers

Reverse Voltage 50 to 1000V  
Forward Current 1.0A

#### Case Style DFM



#### Features

- This series is UL listed under the Recognized Component Index, file number E54214
- Plastic package used has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated chip junction
- High surge overload rating of 50 Amperes peak
- Ideal for printed circuit boards
- High temperature soldering guaranteed: 260°C/10 seconds, at 5 lbs. (2.3kg) tension

#### Mechanical Data

**Case:** Molded plastic body over passivated junctions  
**Terminals:** Plated leads solderable per MIL-STD-750, Method 2026

**Polarity:** Polarity symbols as marked on body

**Mounting Position:** Any

**Weight:** 0.014oz., 0.4g

**Packaging codes/options:**  
45/50 ea. per Bulk Tube

### Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter                                                                             | Symbol                             | DF 005M     | DF 01M | DF 02M | DF 04M | DF 06M | DF 08M | DF 10M | Unit               |
|---------------------------------------------------------------------------------------|------------------------------------|-------------|--------|--------|--------|--------|--------|--------|--------------------|
| Device Marking Code                                                                   |                                    | DF005       | DF01   | DF02   | DF04   | DF06   | DF08   | DF10   |                    |
| Maximum repetitive 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                  |
| Max. average forward output rectified current at $T_A=40^\circ\text{C}$               | $I_F(AV)$                          | 1.0         |        |        |        |        |        |        | A                  |
| Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$                          | 50          |        |        |        |        |        |        | A                  |
| Rating for fusing ( $t < 8.3\text{ms}$ )                                              | $I^2t$                             | 10          |        |        |        |        |        |        | A <sup>2</sup> sec |
| Typical thermal resistance per leg (NOTE 1)                                           | $R_{\theta JA}$<br>$R_{\theta JL}$ | 40<br>15    |        |        |        |        |        |        | °C/W               |
| Operating junction and storage temperature range                                      | $T_J, T_{STG}$                     | -55 to +150 |        |        |        |        |        |        | °C                 |

### Electrical Characteristics

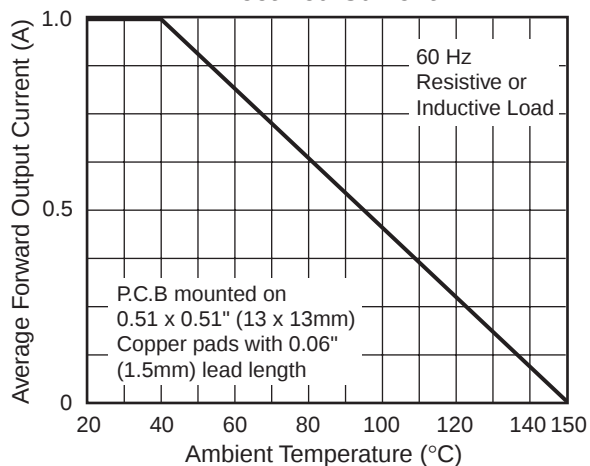
Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter                                                                                                                | Symbol | DF 005M    | DF 01M | DF 02M | DF 04M | DF 06M | DF 08M | DF 10M | Unit          |
|--------------------------------------------------------------------------------------------------------------------------|--------|------------|--------|--------|--------|--------|--------|--------|---------------|
| Maximum instantaneous forward voltage drop per leg at 1.0A                                                               | $V_F$  | 1.1        |        |        |        |        |        |        | V             |
| Maximum reverse current<br>at rated DC blocking voltage per leg<br>$T_A = 25^\circ\text{C}$<br>$T_A = 125^\circ\text{C}$ | $I_R$  | 5.0<br>500 |        |        |        |        |        |        | $\mu\text{A}$ |
| Typical junction capacitance per leg at 4.0V, 1MHz                                                                       | $C_J$  | 25         |        |        |        |        |        |        | pF            |

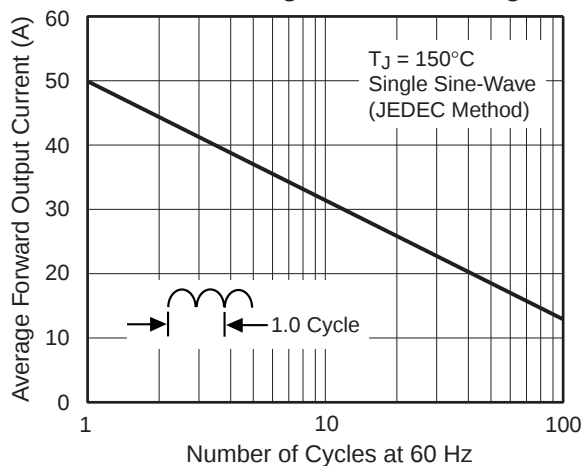
**Note:** (1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.5 x 0.5" (13 x 13mm) copper pads

## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

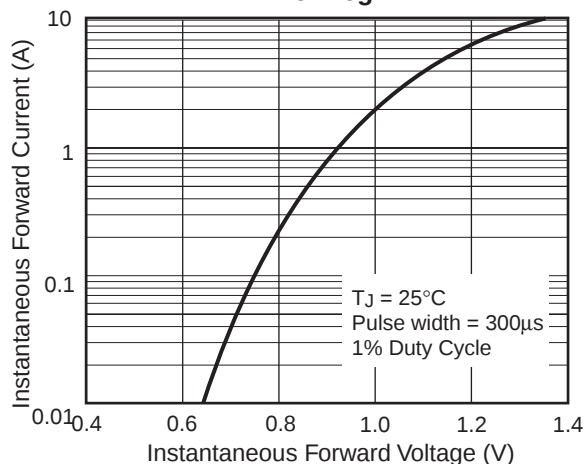
**Fig. 1 - Derating Curve Output Rectified Current**



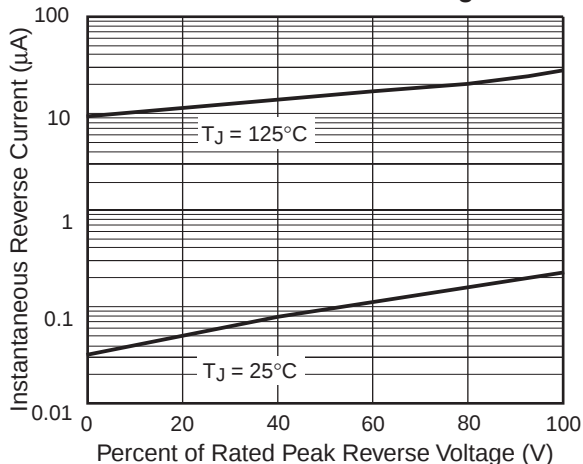
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



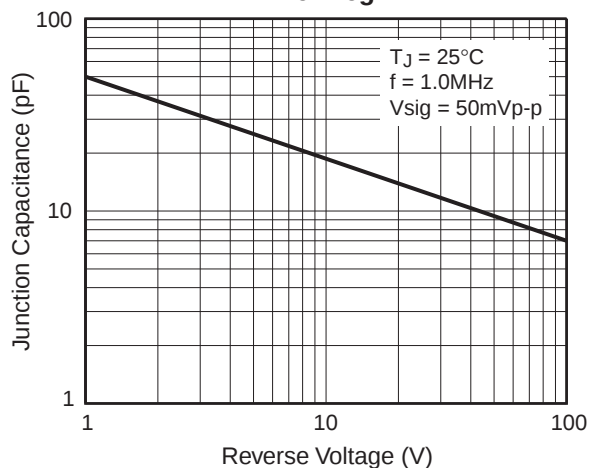
**Fig. 3 - Typical Forward Characteristics Per Leg**



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



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



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

