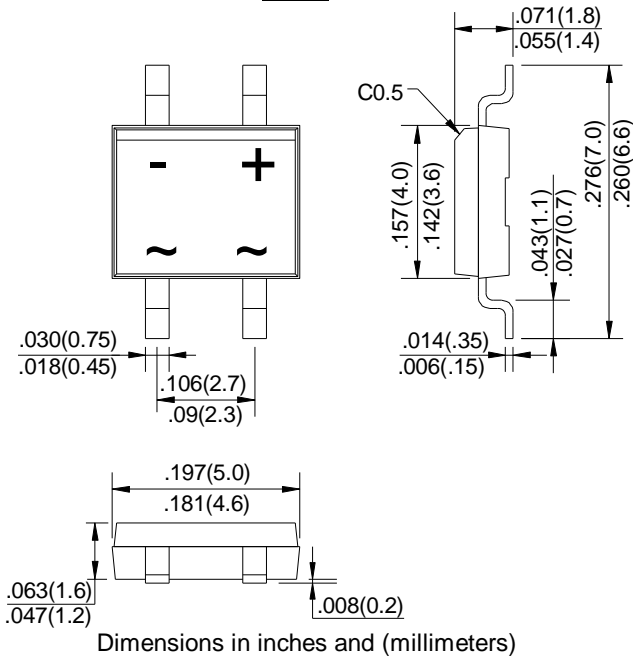




# MB05F THRU MB10F

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

**MBF**



**REVERSE VOLTAGE: 50 to 1000 VOLTS**  
**FORWARD CURRENT: 0.5 AMPERE**

**FEATURES**

- Surge overload rating: 30 amperes peak
- Ideal for printed circuit board
- Plastic material has Underwriters Laboratory Flammability Classification 94V-0
- Low leakage
- Reliable low cost construction utilizing molded

**MECHANICAL DATA**

Case: Molded plastic, MBF  
 Epoxy: UL 94V-O rate flame retardant  
 Terminals: 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.

|   |                 | MB05F       | MB1F | MB2F | MB4F | MB6F | MB8F | MB10F | Units |
|---|-----------------|-------------|------|------|------|------|------|-------|-------|
| Maximum Recurrent Peak Reverse Voltage  | $V_{RRM}$       | 50          | 100  | 200  | 400  | 600  | 800  | 1000  | Volts |
| Maximum RMS Voltage   | $V_{RMS}$       | 35          | 70   | 140  | 280  | 420  | 560  | 700   | Volts |
| Maximum DC Blocking Voltage   | $V_{DC}$        | 50          | 100  | 200  | 400  | 600  | 800  | 1000  | Volts |
| Maximum Average Forward Rectified Current<br>(see Fig. 1) on glass-epoxy P.C.B (Note 2)<br>on aluminum substrate (Note 3) | $I_{(AV)}$      | 0.5<br>0.8  |      |      |      |      |      |       | Amp   |
| Peak Forward Surge Current,<br>8.3ms single half-sine-wave<br>superimposed on rated load (JEDEC method)                   | $I_{FSM}$       | 30          |      |      |      |      |      |       | Amp   |
| Maximum Forward Voltage<br>at 0.4A DC and 25 °C   | $V_F$           | 1.0         |      |      |      |      |      |       | Volts |
| Maximum Reverse Current at $T_A=25^\circ C$<br>at Rated DC Blocking Voltage $T_A=125^\circ C$                             | $I_R$           | 5.0<br>500  |      |      |      |      |      |       | uAmp  |
| Typical Junction Capacitance (Note 1)   | $C_J$           | 13          |      |      |      |      |      |       | pF    |
| Typical Thermal Resistance (Note 3)   | $R_{\theta JA}$ | 60          |      |      |      |      |      |       | °C/W  |
| Typical Thermal Resistance (Note 2)   | $R_{\theta JL}$ | 16          |      |      |      |      |      |       | °C/W  |
| Operating and Storage Temperature Range   | $T_J, T_{stg}$  | -55 to +150 |      |      |      |      |      |       | °C    |

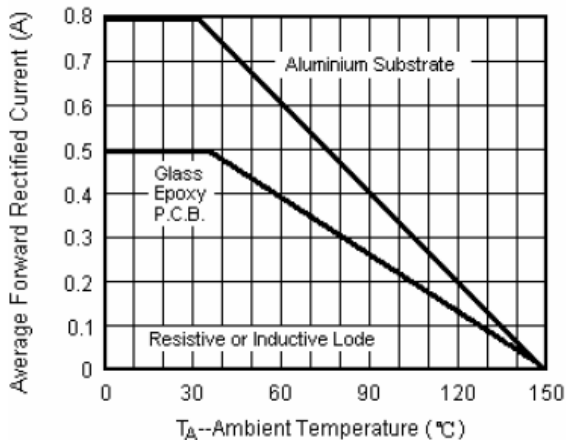
**NOTES:**

- 1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
- 2- On glass epoxy P.C.B. mounted on 0.05 x 0.05" (1.3 x 1.3mm) pads
- 3- On aluminum substrate P.C.B. with an area of 0.8" x 0.8" (20 x 20mm) mounted on 0.05 x 0.05" (1.3 x 1.3mm) solder pad

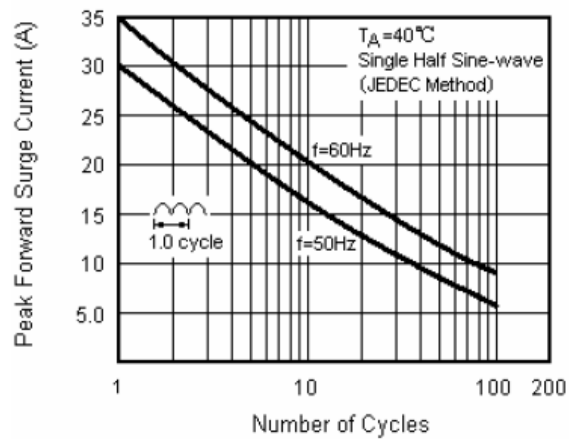
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Characteristic Curves ( $T_A=25\text{ }^\circ\text{C}$  unless otherwise noted)

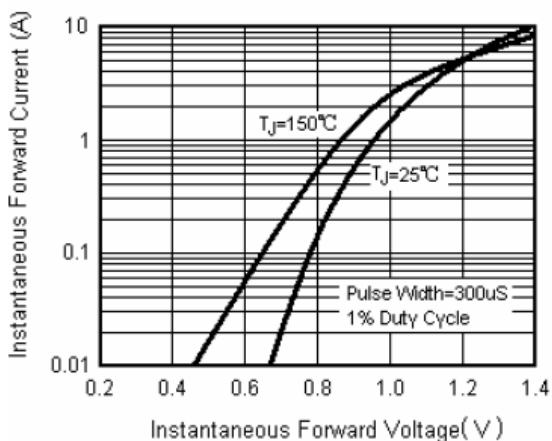
**Fig.1 Derating Curve For Output Rectified Current**



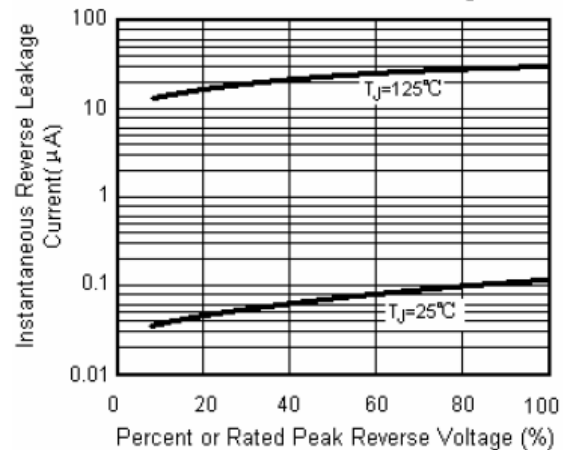
**Fig.2 Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



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



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



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

