

**Low Profile Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifier**

# MB05F thru MB10F

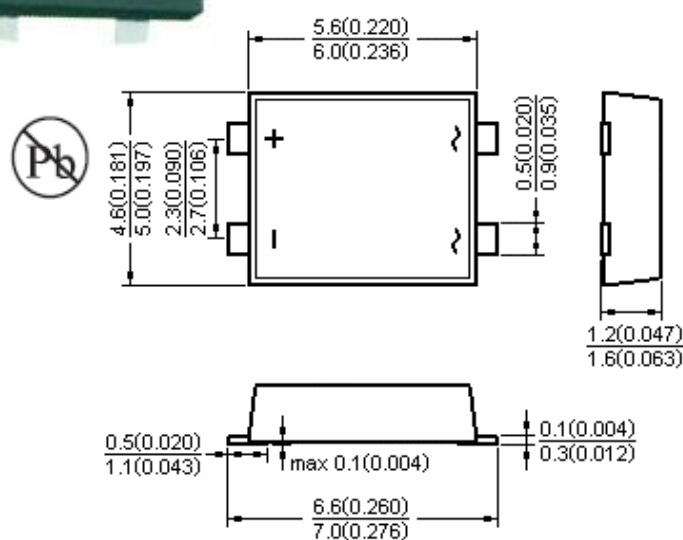
VOLTAGE - 50 TO 1000 VOLTS    CURRENT - 0.5 AMPERES



**MBF**

### FEATURES

- Low profile space
- Ideal for automated placement
- Glass passivated chip junction
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering:  
260°C/10 seconds at terminals
- Component in accordance to  
RoHS 2002/95/1 and WEEE 2002/96/EC



Dimensions in millimeters and (inches)

### MECHANICAL DATA

- Case: MBF Molded plastic over glass passivated chip
- Terminals: Solder plated, solderable per J-STD-002B and JESD22-B102D
- Polarity: Polarity symbols marked on body

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	Symbol	MB05F	MB1F	MB2F	MB4F	MB6F	MB8F	MB10F	UNIT
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
Maximum average forward output rectified current at $T_A=30^\circ\text{C}$ -on glass-epoxy P.C.B(NOTE 1) -on aluminum substrate(NOTE 2)	$I_{F(AV)}$	0.5 0.8							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load(JEDEC Method)	$I_{FSM}$	35							A
Maximum instantaneous forward voltage drop per leg at 0.4A	$V_F$	1							V
Maximum DC reverse current at $T_A = 25^\circ\text{C}$ rated DC blocking voltage per leg $T_A = 125^\circ\text{C}$	$I_R$	5.0 100							$\mu\text{A}$
Typical junction capacitance per leg at 4.0 V ,1MHz	$C_J$	13							pF
Thermal resistance per leg	(NOTE 1) $R_{\theta JA}$	85							$^\circ\text{C/W}$
	(NOTE 2) $R_{\theta JA}$	70							
	(NOTE 1) $R_{\theta JL}$	20							
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

NOTE1: On glass epoxy P.C.B. mounted on 0.05×0.05" (1.3×1.3mm) pads

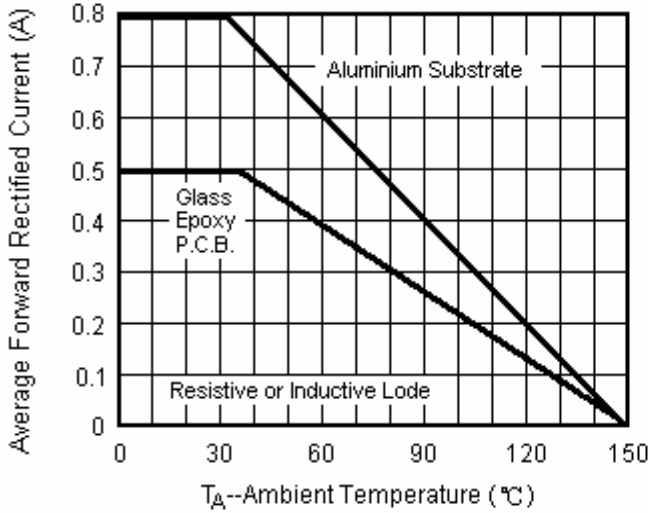
NOTE2: On aluminum substrate P.C.B. with an area of 0.8" × 0.8" (20×20mm) mounted on 0.05×0.05" (1.3×1.3mm) solder pad

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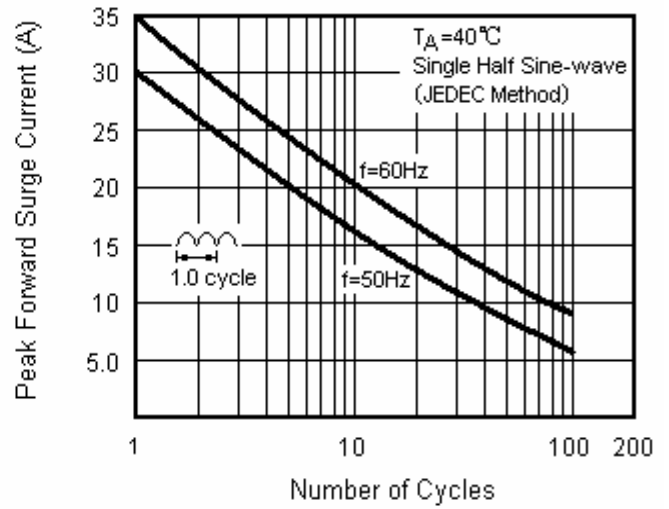
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Characteristic Curves ( $T_A=25^\circ\text{C}$  unless otherwise noted)

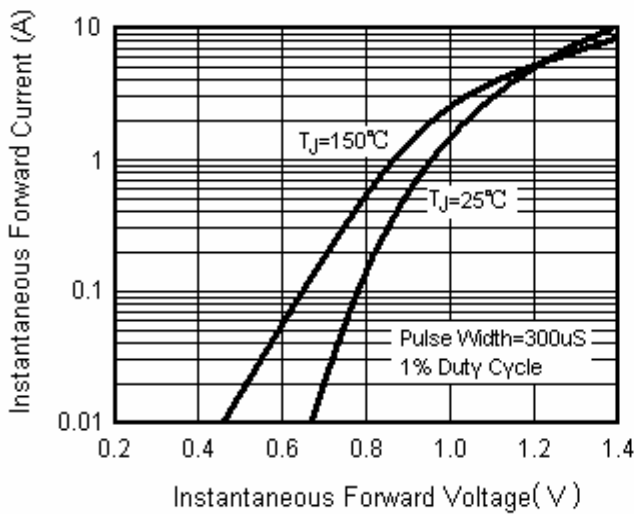
**Fig.1 Derating Curve For Output Rectified Current**



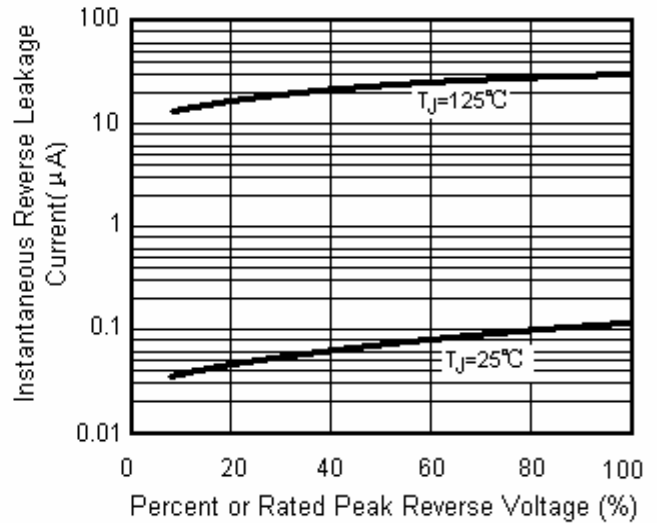
**Fig.2 Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



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



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



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

