

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

MB05F thru MB10F

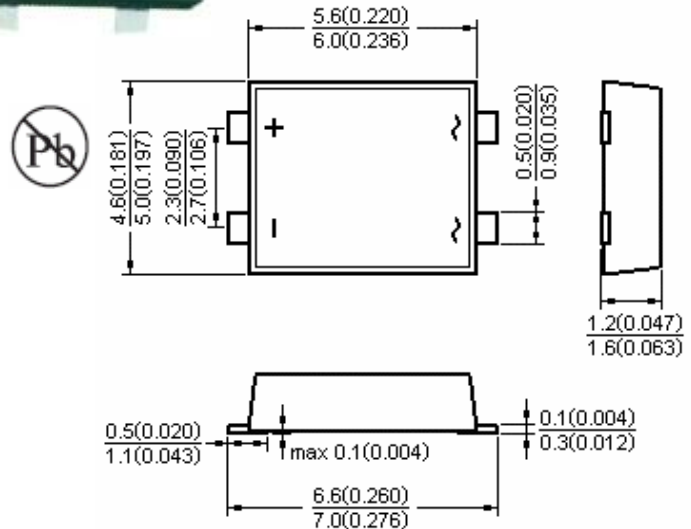
VOLTAGE - 50 TO 1000 VOLTS CURRENT - 0.5 AMPERES



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



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

Dimensions in millimeters and (inches)

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

Fig.1 Derating Curve For Output Rectified Current

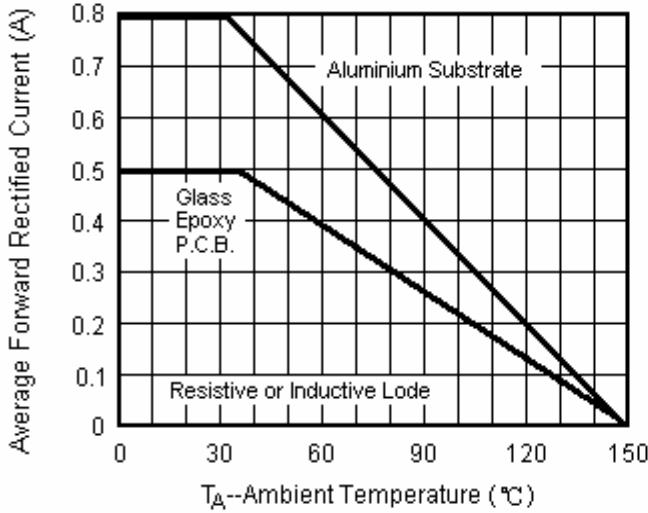


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current Per Leg

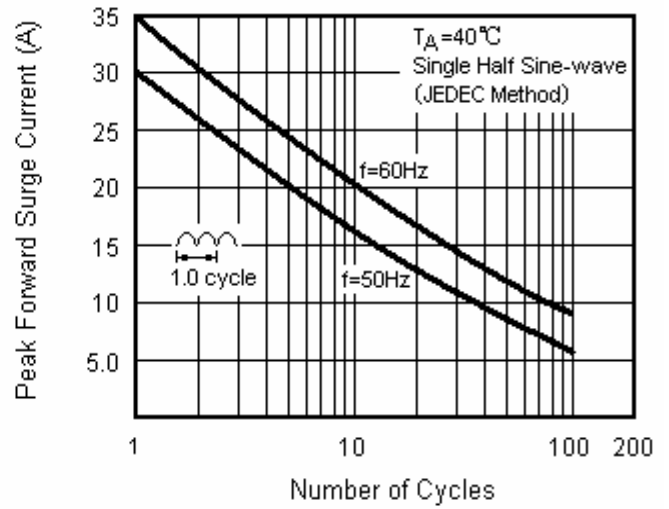


Fig.3 Typical Forward Voltage Characteristics Per Leg

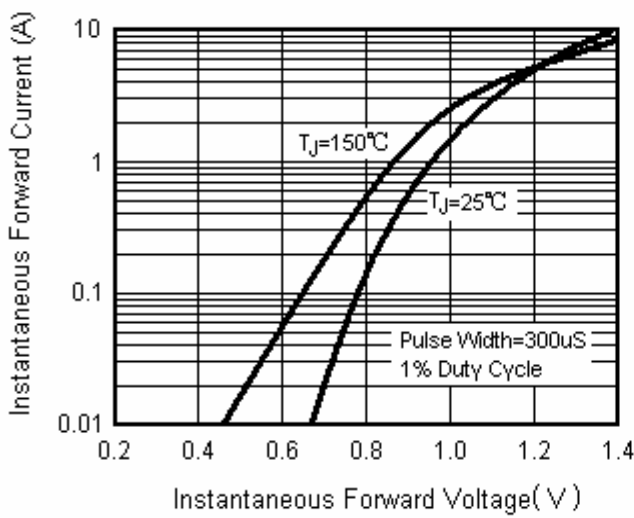


Fig.4 Typical Reverse Leakage Characteristics Per Leg

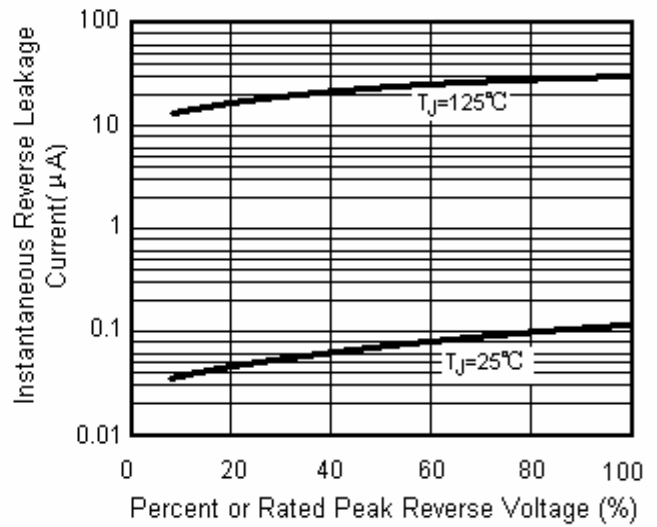


Fig.5 Typical Junction Capacitance Per Leg

