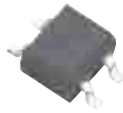


# MB05F-MB10F

Silicon Bridge Rectifiers



**VOLTAGE RANGE: 50 --- 1000 V**

**CURRENT: 0.5 A**

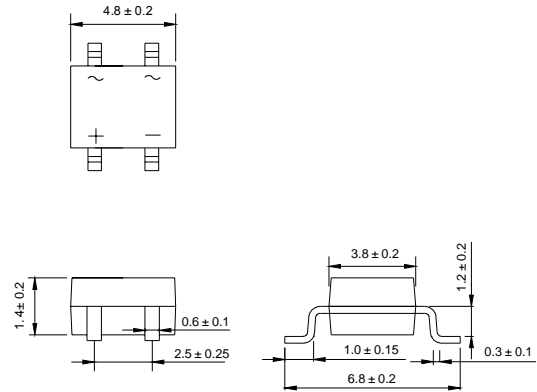
## MBF

### Features

- ◇ This series is UL recognized under Component Index, file number E239431
- ◇ Glass passivated chip junctions
- ◇ Plastic material has U/L flammability classification 94V-O
- ◇ High surge overload rating: 25A peak
- ◇ Saves space on printed circuit boards
- ◇ High temperature soldering guaranteed:
- ◇ 260°C/10 seconds at 5 lbs. (2.0kg) tension

### Mechanical Data

- ◇ Case: Molded plastic body over passivated junctions
- ◇ Terminals: Plated leads solderable per MIL-STD-750, Method 2026
- ◇ Polarity: Polarity symbols marked on body  
Dimensions in inches and (millimeters)
- ◇ Mounting Position: Any
- ◇ Weight: 0.0078 ounce, 0.22 gram



Dimensions in millimeters

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

		MB05F	MB1F	MB2F	MB4F	MB6F	MB8F	MB10F	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 output current @ $T_A=25^\circ\text{C}$	$I_{F(AV)}$	0.5							A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load	$I_{FSM}$	25							A
Maximum instantaneous forward voltage @ 0.4 A	$V_F$	1.0							V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	$I_R$	5.0 0.5							$\mu\text{A}$ mA
Typical junction capacitance per leg (NOTE 3)	$C_J$	13							pF
Typical thermal resistance per leg (NOTE 1) (NOTE 2)	$R_{JA}$ $R_{JL}$	85 20							$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	- 55 ---- + 150							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55 ---- + 150							$^\circ\text{C}$

NOTES: (1) On glass epoxy P.C.B. mounted on 0.05 x 0.05" (1.3 x 1.3mm) pads

(2) 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

(3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

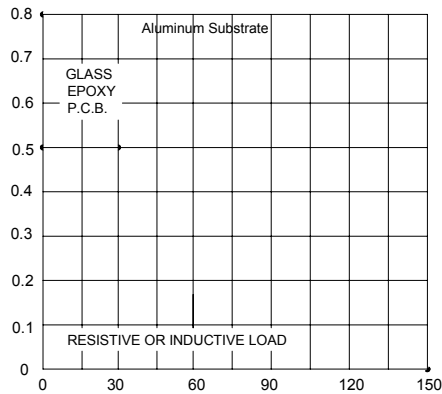
# MB05F-MB10F

Silicon Bridge Rectifiers

## Ratings AND Characteristic Curves

AVERAGE FORWARD CURRENT, AMPERES

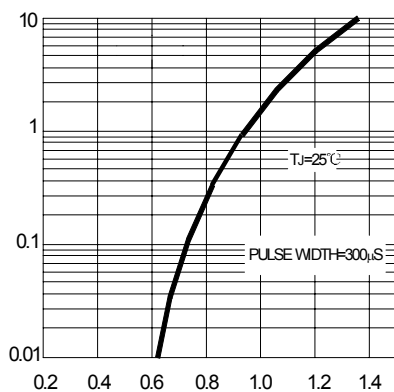
**FIG.1 – DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



AMBIENT TEMPERATURE, °C

INSTANTANEOUS FORWARD CURRENT, AMPERES

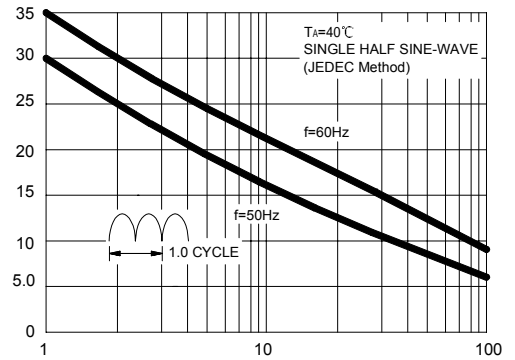
**FIG.3 – TYPICAL FORWARD VOLTAGE CHARACTERISTICS PER LEG**



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

PEAK FORWARD SURGE CURRENT, AMPERES

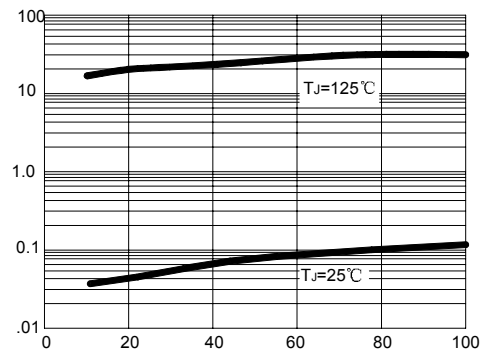
**FIG.2 – MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG**



NUMBER OF CYCLES AT 50/60Hz

INSTANTANEOUS REVERSE CURRENT, MICRO AMPERES

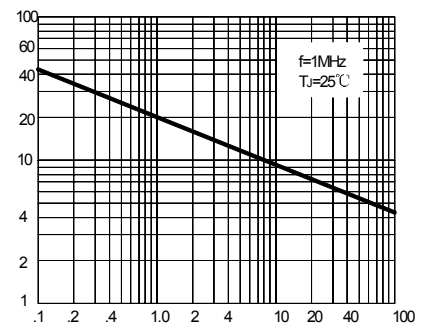
**FIG.4 – TYPICAL REVERSE CHARACTERISTIC**



PERCENT OF RATED PEAK REVERSE VOLTAGE, %

CAPACITANCE, pF

**FIG.5 – TYPICAL JUNCTION CAPACITANCE PER ELEMENT**



REVERSE VOLTAGE, VOLTS

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