

Amber Electronic Limited

MB05F – MB10F Silicon Bridge Rectifier

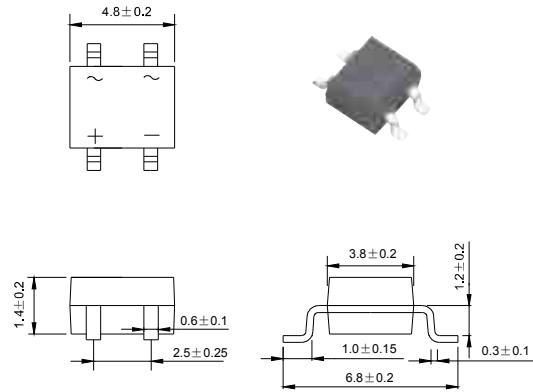
Features

UL recognized under Component Index,
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

MBF



Dimensions in millimeters

VOLTAGE RANGE: 50 --- 1000 V
CURRENT: 0.5 A

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 @ $T_A=25$	$I_{F(AV)}$	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 @ $T_A=25$ at rated DC blocking voltage @ $T_A=100$	I_R	5.0 0.5							μA mA
Typical junction capacitance per leg (NOTE 3)	C_J	13							pF
Typical thermal resistance per leg (NOTE 1) (NOTE 2)	$R_{\theta JA}$ $R_{\theta JL}$	85 20							°C/W
Operating junction temperature range	T_J	- 55 ---- + 150							°C
Storage temperature range	T_{STG}	- 55 ---- + 150							°C

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

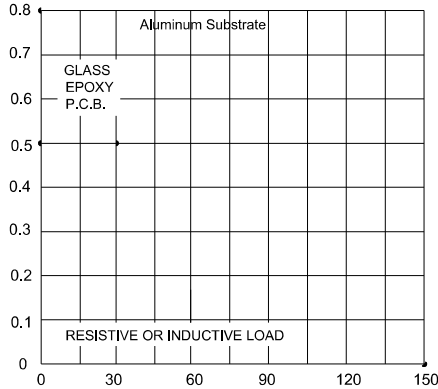
(2) On aluminum substrate P.C.B. with an area of 0.8" x 0.8" (20 x 20mm) mounted on 0.05 x 0.05" (1.3 x 1.3mm) solder pad

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

Ratings AND Characteristic Curves

FIG.1 – DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

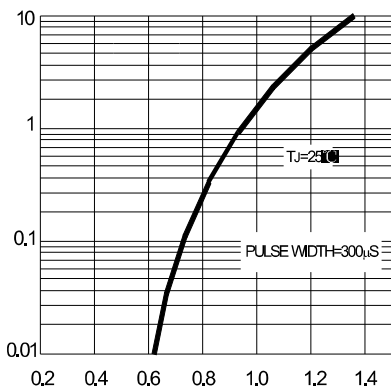
AVERAGE FORWARD CURRENT, AMPERES



AMBIENT TEMPERATURE, °C

FIG.3 – TYPICAL FORWARD VOLTAGE CHARACTERISTICS PER LEG

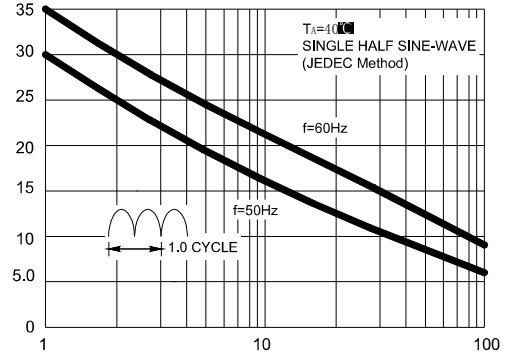
INSTANTANEOUS FORWARD CURRENT, AMPERES



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

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

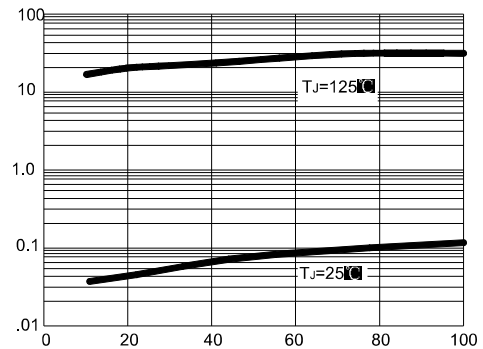
PEAK FORWARD SURGE CURRENT, AMPERES



NUMBER OF CYCLES AT 50/60Hz

FIG.4 – TYPICAL REVERSE CHARACTERISTIC

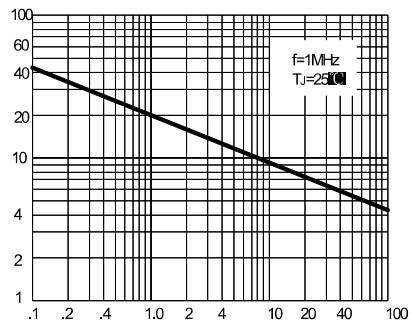
INSTANTANEOUS REVERSE CURRENT, MICRO AMPERES



PERCENT OF RATED PEAK REVERSE VOLTAGE, %

FIG.5 – TYPICAL JUNCTION CAPACITANCE PER ELEMENT

CAPACITANCE, pF



REVERSE VOLTAGE, VOLTS