

0.8A Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifiers-50-1000V

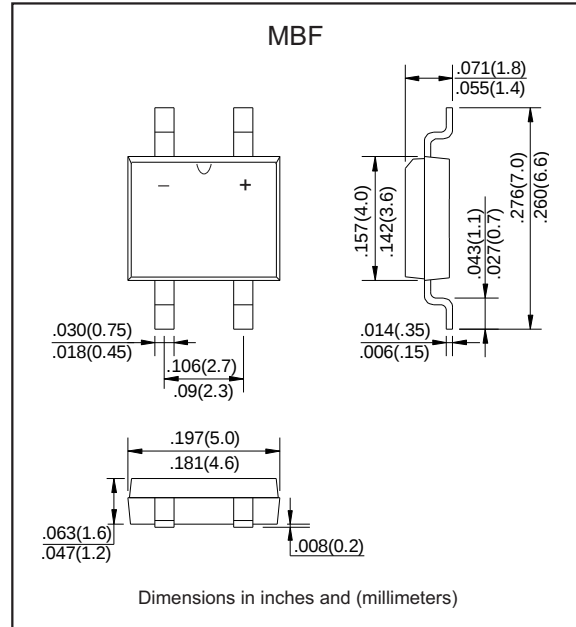
Features

- Surge overload ratings to 30 amperes peak.
- Save space on printed circuit board.
- Ideal for automated replacement.
- Reliable low cost construction utilizing molded plastic technology results in inexpensive product.
- Glass passivated chip junctions.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen free part, ex. MB05F-H.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, MBF
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : marked on body
- Mounting Position : Any

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

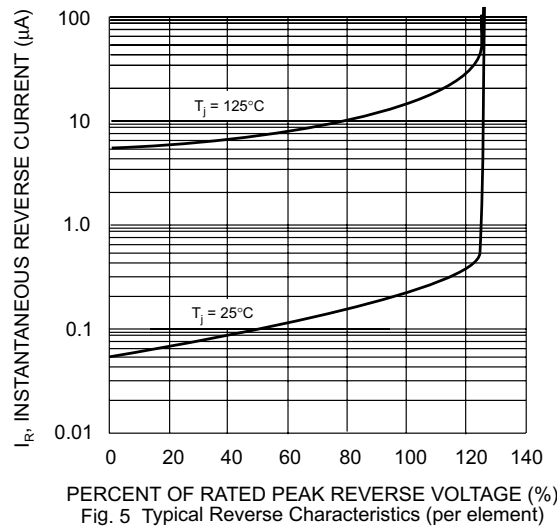
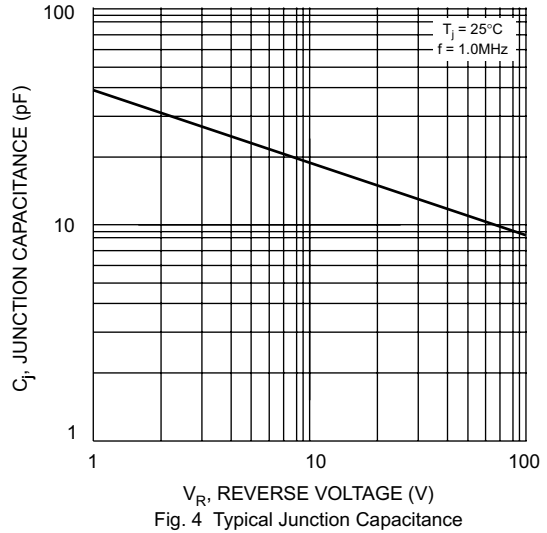
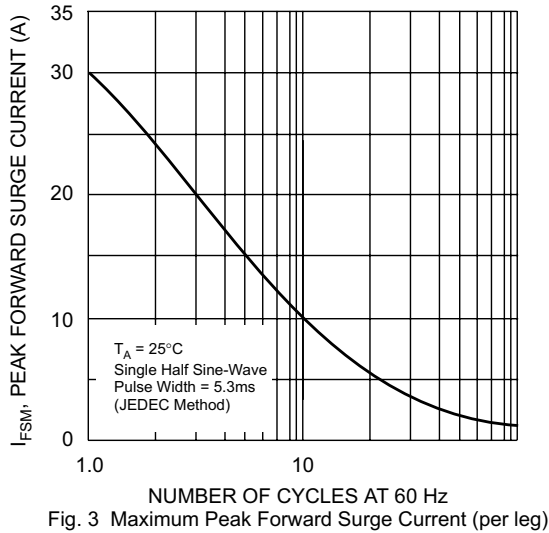
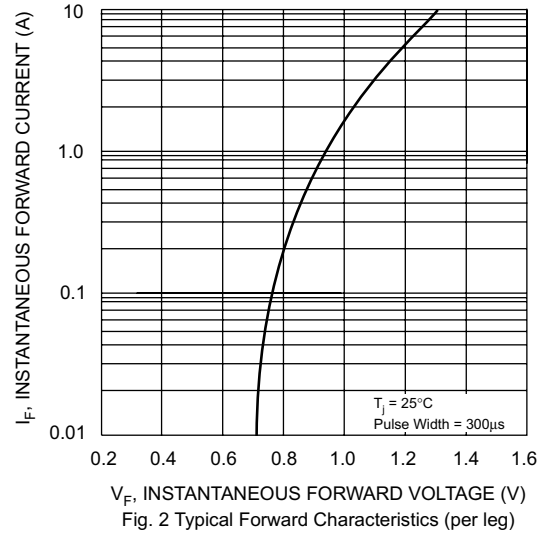
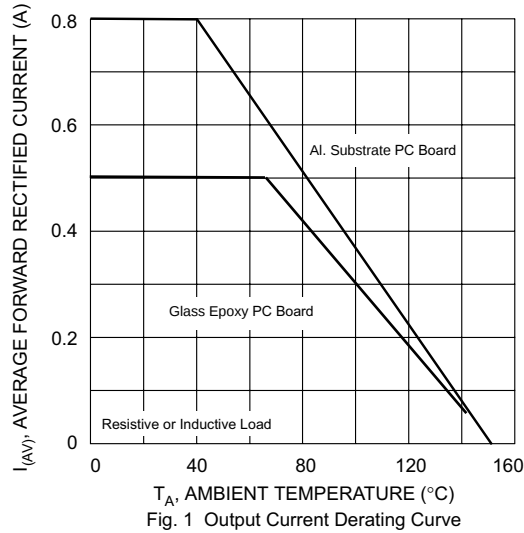
CHARACTERISTICS	SYMBOL	MB05F	MB1F	MB2F	MB4F	MB6F	MB8F	MB10F	UNIT
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current @ $T_J=25^{\circ}\text{C}$	$I_{(AV)}$	0.8							A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	I_{FSM}	30							A
Maximum Forward Voltage at 0.8A DC	V_F	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage @ $T_J=25^{\circ}\text{C}$ @ $T_J=125^{\circ}\text{C}$	I_R	10 500							μA
$I^2 t$ Rating for Fusing($t < 8.3\text{ms}$)	$I^2 t$	3.74							A^2s
Typical Junction Capacitance Per Element(Note1)	C_J	15							pF
Typical Thermal Resistance (Note2)	$R_{\theta JA}$	65							$^{\circ}\text{C}/\text{W}$
Operating Temperature Range	T_J	-55 to +150							$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150							$^{\circ}\text{C}$

Note:1.Measured at 1.0MHz and applied reverse voltage of 4.0V DC

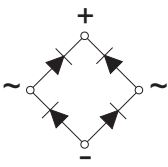
2. Thermal resistance from junction to ambient mounted on P.C.B with 0.5*0.5"(13*13mm)copper pads.

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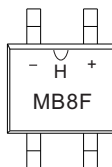
Rating and characteristic curves



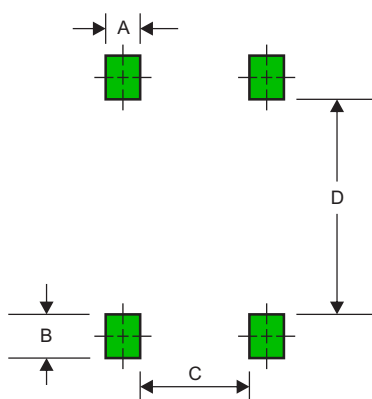
Pinning information

Simplified outline	Symbol
	

Marking

Type number	Marking code	Example	
MB05F MB1F MB2F MB4F MB6F MB8F MB10F	MB05F MB1F MB2F MB4F MB6F MB8F MB10F	1. For Halogen Device 	2. For Halogen-free Device 

Suggested solder pad layout

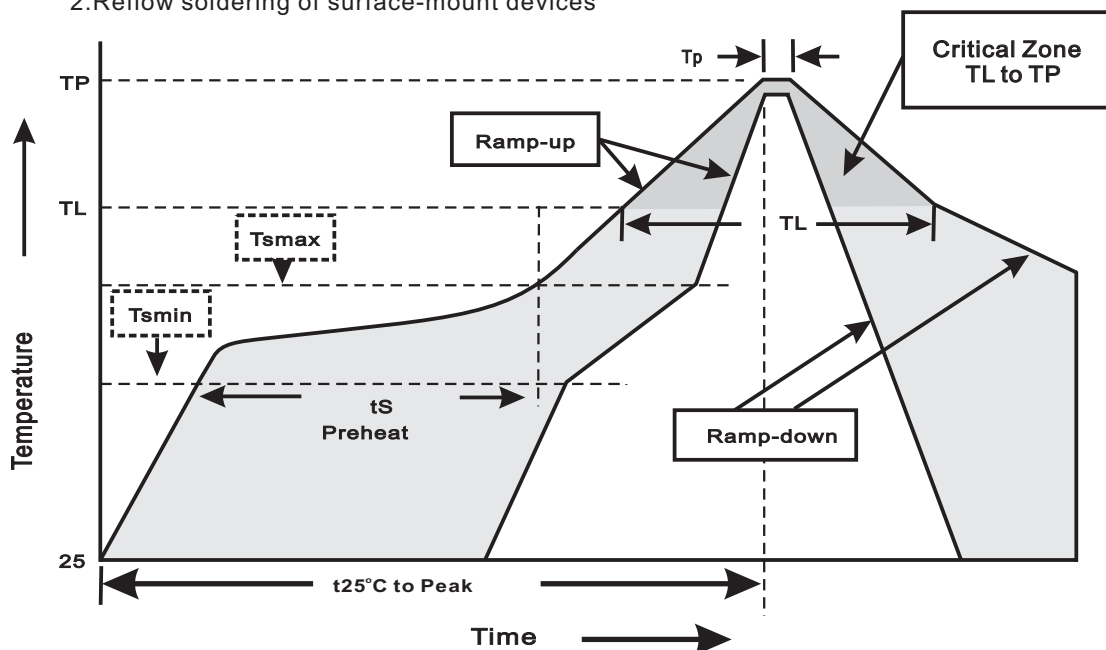


Dimensions in inches and (millimeters)

PACKAGE	A	B	C	D
MBF	0.023 (0.58)	0.030 (0.76)	0.070 (1.78)	0.226 (5.75)

Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T _L to T _P)	<3°C/sec
Preheat -Temperature Min(T _{smin}) -Temperature Max(T _{smax}) -Time(min to max)(t _s)	150°C 200°C 60~120sec
T _{smax} to T _L -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(T _L) -Time(t _L)	217°C 60~260sec
Peak Temperature(T _P)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(t _P)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes