

# SURFACE MOUNT BRIDGE RECTIFIERS

# MB05F - MB10F

Vishaymas General Semiconductor

## Features

- Glass Passivated Die Construction
- Low Forward Voltage Drop
- High Current Capability
- High Surge Current Capability
- Designed for Surface Mount Application
- Plastic Material – UL Flammability 94V-O

## Mechanica Data

**Case:** MBF, Molded Plastic

**Terminals:** Plated Leads Solderable  
per MIL-STD-202, Method 208

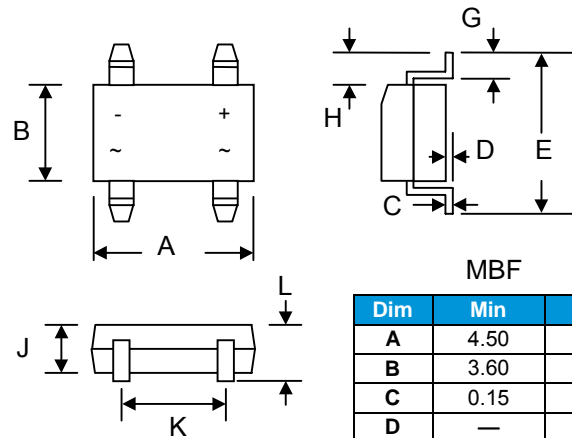
**Polarity:** As Marked on Case

**Weight:** 0.134 grams (approx.)

**Mounting Position:** Any

**Marking:** Type Number

**Lead Free:** For RoHS / Lead Free Version



Dim	Min	Max
A	4.50	4.95
B	3.60	4.10
C	0.15	0.35
D	—	0.20
E	6.40	7.00
G	0.50	1.10
H	1.30	1.70
J	1.20	1.60
K	2.30	2.70
L	—	1.80
All Dimensions in mm		

## Maximum Ratings and Electrical Characteristics

@T<sub>A</sub>=25°C unless otherwise specified Single Phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbo	MB05F	MB1F	MB2F	MB4F	MB6F	MB8F	MB10F	Unit	
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>									
Working Peak Reverse Voltage	V <sub>VRM</sub>	50	100	200	400	600	800	1000	V	
DC Blocking Voltage	V <sub>R</sub>									
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V	
Average Rectified Output Current (Note 1) @T <sub>A</sub> = 40°C	I <sub>O</sub>	0.5								A
Average Rectified Output Current (Note 2) @T <sub>A</sub> = 40°C		0.8								
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	30								A
I <sup>2</sup> t Rating for Fusing (t < 8.3ms)	I <sup>2</sup> t	5.0								A <sup>2</sup> s
Forward Voltage per element @I <sub>F</sub> = 0.5A	V <sub>FM</sub>	1.0								V
Peak Reverse Current @T <sub>A</sub> = 25°C At Rated DC Blocking Voltage @T <sub>A</sub> = 125°C	I <sub>RM</sub>	5.0 500								μA
Typical Junction Capacitance per leg (Note 3)	C <sub>j</sub>	13								pF
Typical Thermal Resistance per leg (Note 1)	R <sub>θJA</sub> R <sub>θJL</sub>	60 16								°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-55 to +150								°C

- Note: 1. Mounted on glass epoxy PC board with 1.3mm<sup>2</sup> solder pad.  
2. Mounted on aluminum substrate PC board with 1.3mm<sup>2</sup> solder pad.  
3. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts.

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

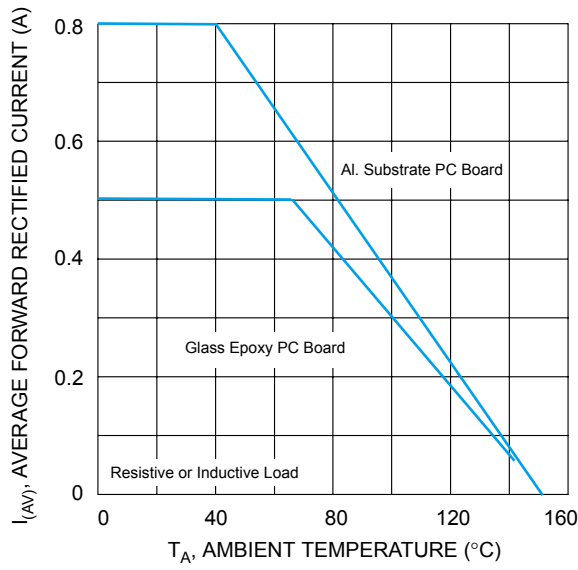


Fig. 1 Output Current Derating Curve

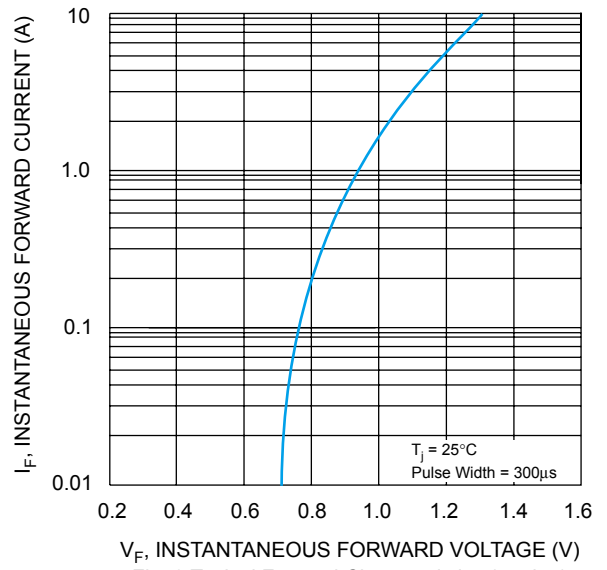


Fig. 2 Typical Forward Characteristics (per leg)

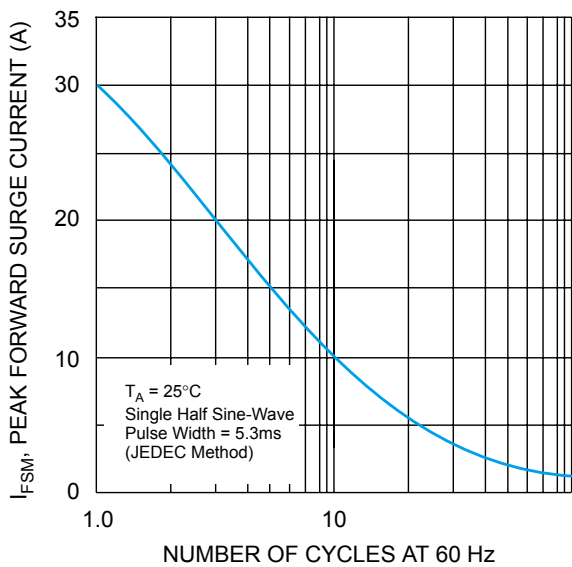


Fig. 3 Maximum Peak Forward Surge Current (per leg)

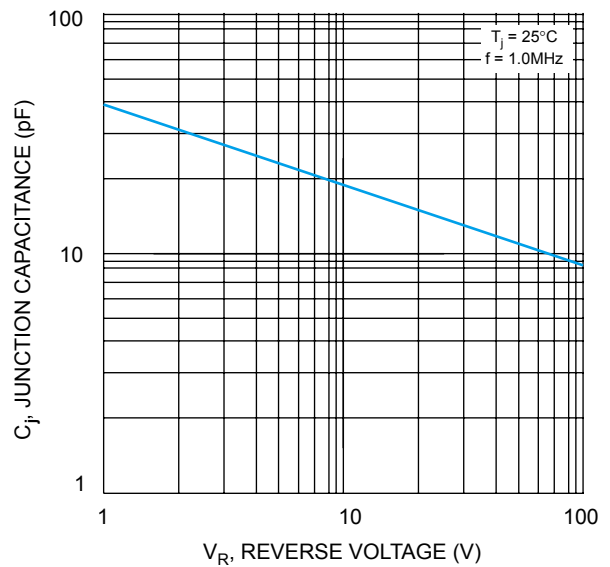


Fig. 4 Typical Junction Capacitance

