

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-0



Mechanical Date

- **Case:** MBF, Molded Plastic
- **Terminals:** Plated Leads Solderable per MIL-STD-202, Method 208
- **Polarity:** As Marked on Case
- **Mounting Position:** Any
- **Marking:** Type Number
- **Lead Free:** For RoHS / Lead Free Version

Major Ratings and Characteristics

I_O	0.5 A, 0.8A
V_{RRM}	50 V to 1000 V
I_{FSM}	30 A
I_R	5 μ A
V_F	1.05V
T_j max.	150 °C

Maximum Ratings & Thermal Characteristics ($T_A = 25$ °C unless otherwise noted)

Single Phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Items	Symbol	MB 05F	MB 1F	MB 2F	MB 4F	MB 6F	MB 8F	MB 10F	UNIT
Peak Repetitive Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	V_{RWM}								
DC Blocking Voltage	V_R								
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current ⁽¹⁾	I_O	0.5							A
Average Rectified Output Current ⁽²⁾		0.8							
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load(JEDEC Method)	I_{FSM}	30							A
I^2t Rating for Fusing ($t < 8.3ms$)	I^2t	3.7							A^2s
Thermal resistance from junction to lead ⁽¹⁾	R_{BjL}	20							°C/W
Thermal resistance from junction to ambient ⁽¹⁾	R_{BjA}	75							°C/W
Operating junction and storage temperature	T_J, T_{STG}	-55 to +150							°C

Note 1: Mounted on glass epoxy PC board with 1.3mm² solder pad.

Note 2: Mounted on aluminum substrate PC board with 1.3mm² solder pad.

Electrical Characteristics ($T_A = 25$ °C unless otherwise noted)

Items	Test conditions	Symbol	Min	Type	Max	UNIT
Instantaneous forward voltage	$I_F=0.5A^{(3)}$	V_F	-	-	1.05	V
Reverse current	$V_R=V_{DC}$	I_R	-	-	10	μ A
			-	-	500	
Typical junction capacitance	4.0 V , 1MHz	C_J	-	13	-	p F

Note: 3.Pulse test:300 μ s pulse width,1% duty cycle.

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

Fig.1 Output Current Derating Curve

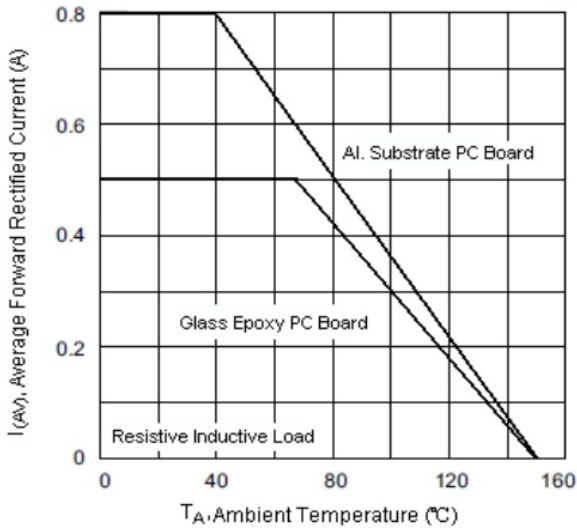


Fig.2 Typical Forward Characteristics (per leg)

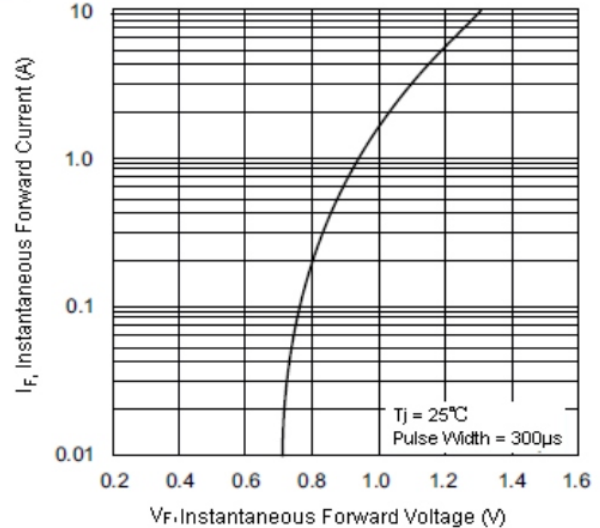


Fig.3 Maximum Peak Forward Surge Current (per leg)

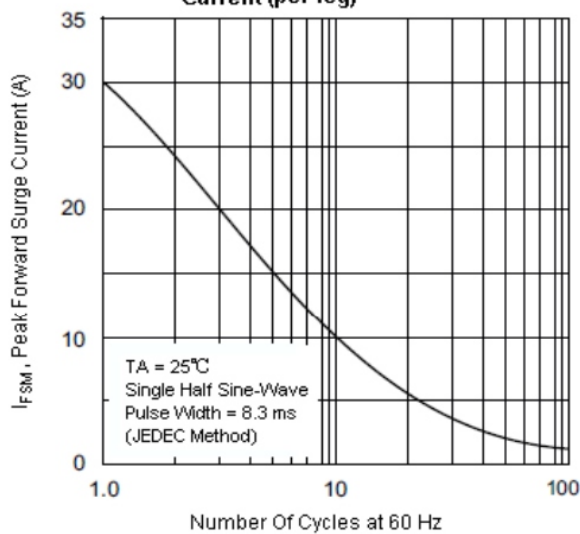


Fig.4 Typical Junction Capacitance

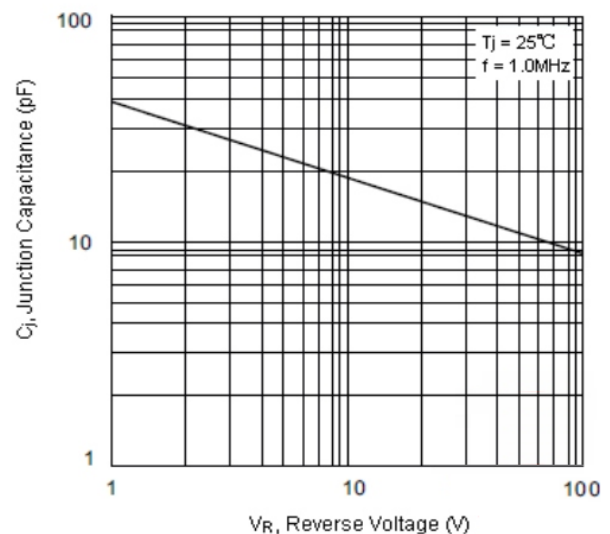
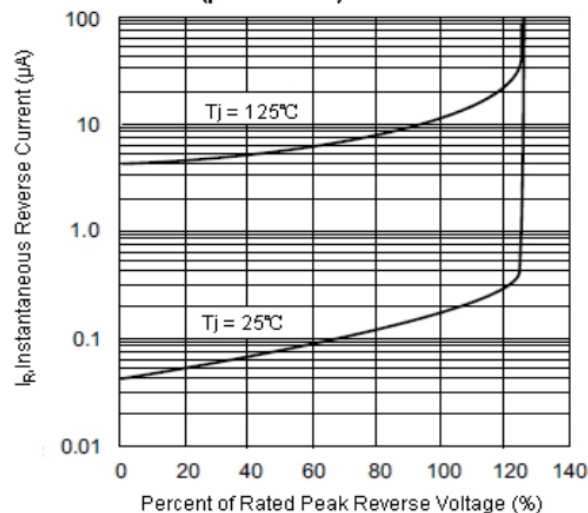
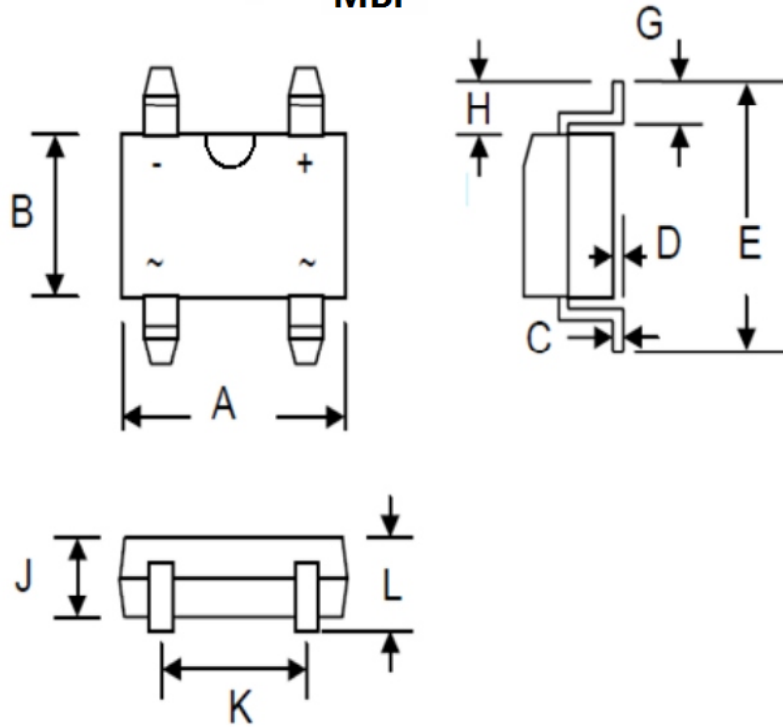


Fig.5 Typical Reverse Characteristics (per element)



Package Outline

MBF



UNIT: mm (inch)

DIM	MIN	MAX	DIM	MIN	MAX
A	4.50 (0.177)	4.95 (0.195)	G	0.50 (0.020)	1.10 (0.043)
B	3.60 (0.142)	4.10 (0.161)	H	1.30 (0.051)	1.70 (0.067)
C	0.15 (0.006)	0.35 (0.014)	J	1.20 (0.047)	1.60 (0.063)
D	-	0.20 (0.008)	K	2.30 (0.091)	2.70 (0.106)
E	6.40 (0.252)	7.00 (0.276)	L	-	2.00 (0.079)