



**DESCRIPTION**

The MB1FR ~ MB10FR are available in MBF Package

- High Surge Current Capability
- Designed for Surface Mount Application
- Reverse Voltage - 100 to 1000 V
- Forward Current – 1A

**MECHANICAL DATA**

Case: MBF

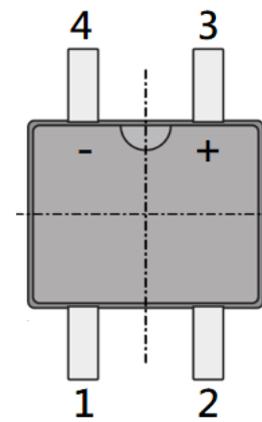
Terminals: Solderable per MIL-STD-750,  
Method 2026

Approx. Weight: 75mg / 0.0024oz

**PIN DESCRIPTION**

**ORDERING INFORMATION**

Package Type	Part Number
MBF	MB1FR
	MB2FR
	MB3FR
	MB4FR
	MB5FR
	MB6FR
	MB7FR
	MB8FR
	MB9FR
	MB10FR
SPQ	5,000 pcs/Reel
AiT provides all RoHS Compliant Products	



MBF Package

PIN#	DESCRIPTION
1	Input Pin ( ~ )
2	Input Pin ( ~ )
3	Output Anode ( + )
4	Output Cathode ( - )



## MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

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

Parameter	Symbol	MB1FR	MB2FR	MB4FR	MB6FR	MB8FR	MB10FR	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	100	200	400	600	800	1000	V
Maximum RMS Voltage	$V_{RMS}$	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	100	200	400	600	800	1000	V
Average Rectified Output Current at $T_A = 40\text{ }^\circ\text{C}$	$I_o$	1						A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	35						A
Maximum Forward Voltage at 1 A	$V_F$	1.1						V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A = 25\text{ }^\circ\text{C}$	$I_R$	5						$\mu\text{A}$
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A = 100\text{ }^\circ\text{C}$		100						
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A = 125\text{ }^\circ\text{C}$		500						
Typical Junction Capacitance <sup>(1)</sup>	$C_j$	13						pF
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$	60						$^\circ\text{C}/\text{W}$
	$R_{\theta JL}$	16						
Operating and Storage Temperature Range	$T_J$	-55 ~ +150						$^\circ\text{C}$
	$T_{STG}$	-55 ~ +150						$^\circ\text{C}$

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2) Mounted on glass epoxy PC board with 1.3mm<sup>2</sup> copper pad.



## TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. Average Rectified Output Current

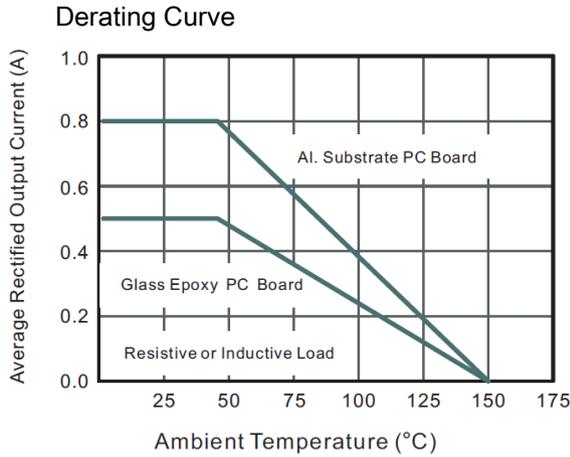


Fig 2. Typical Reverse Characteristics

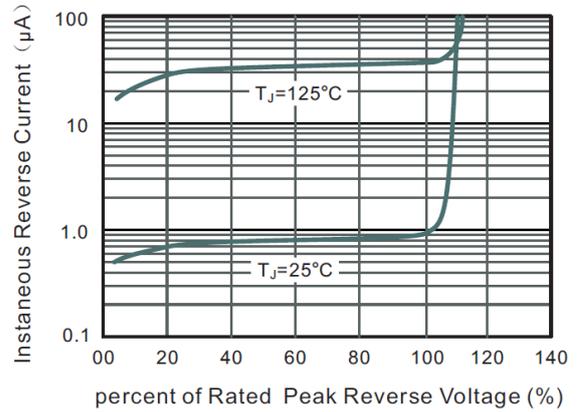


Fig3. Typical Instantaneous Forward Characteristics

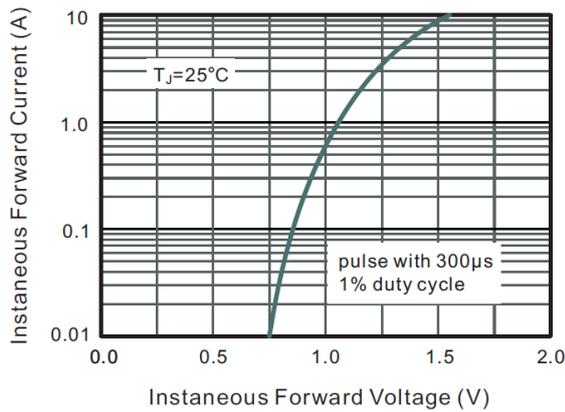


Fig4. Typical Junction Capacitance

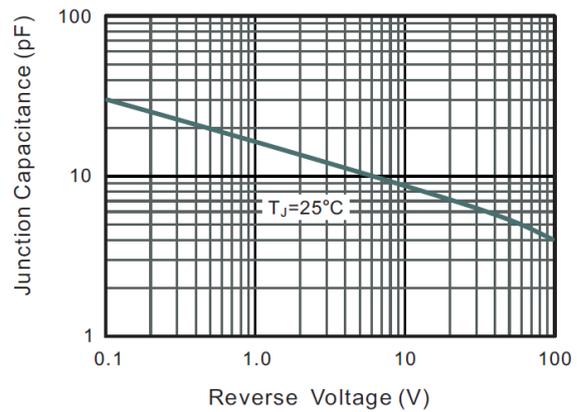
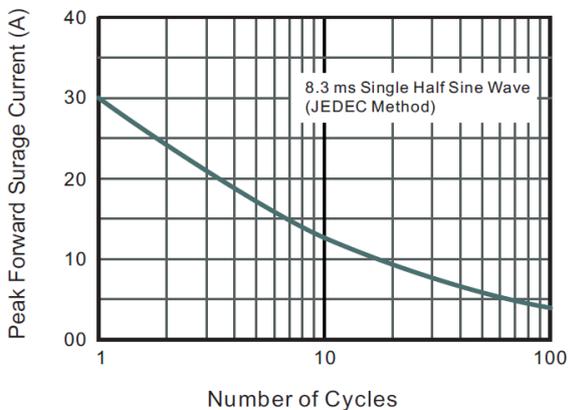


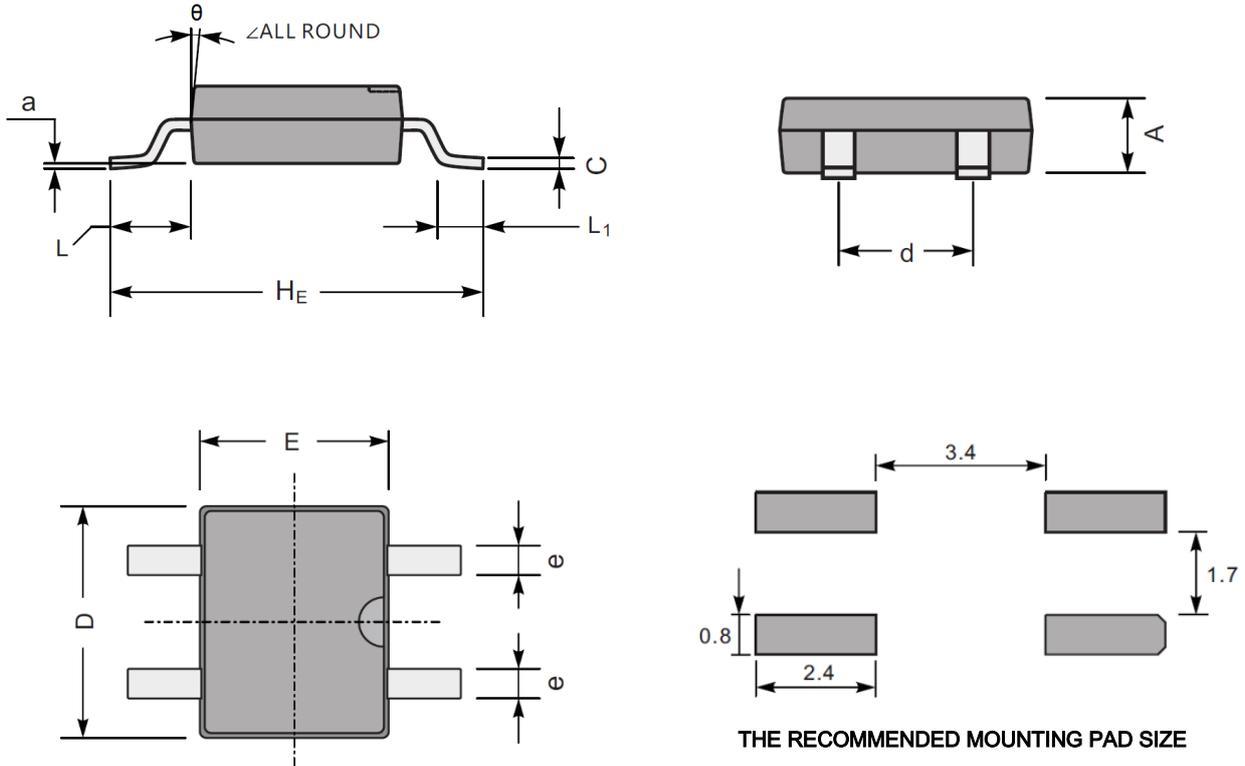
Fig5. Maximum Non-Repetitive Peak Forward Surge Current





**PACKAGE INFORMATION**

Dimension in MBF (Unit: mm)



THE RECOMMENDED MOUNTING PAD SIZE

Symbol	Min	Max
A	1.20	1.60
a	-	0.20
C	0.15	0.22
D	4.50	5.00
d	2.30	2.70
E	3.60	4.10
e	0.50	0.70
$H_E$	6.40	7.00
L	1.30	1.70
$L_1$	0.50	1.10
$\theta$	7°	



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