



## SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIER

### MB1F - MB10F

VOLTAGE RANGE - 100 to 1000 V  
CURRENT - 0.8 A

#### FEATURES

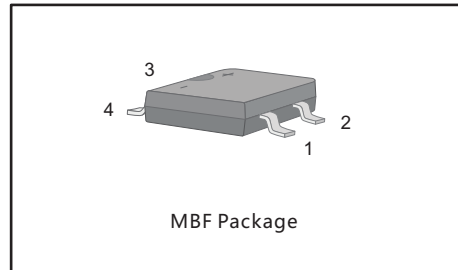
- Glass Passivated Chip Junction
- Reverse Voltage - 100 to 1000 V
- Forward Current - 0.8 A
- High Surge Current Capability
- Designed for Surface Mount Application

#### MECHANICAL DATA

- Case: MBF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 75mg 0.0026oz

#### PINNING

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



#### 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 current derate by 20 %.

| Parameter                                                                                                                            | Symbols                            | MB1F       | MB2F | MB4F | MB6F | MB8F | MB10F | Units                |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------|------|------|------|------|-------|----------------------|
| 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 $T_a = 50\text{ }^{\circ}\text{C}$                                                               | $I_O$                              | 0.8        |      |      |      |      |       | A                    |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)                                    | $I_{FSM}$                          | 30         |      |      |      |      |       | A                    |
| Maximum Forward Voltage at 0.8 A                                                                                                     | $V_F$                              | 1.1        |      |      |      |      |       | V                    |
| Maximum DC Reverse Current at Rated DC Blocking Voltage<br>@ $T_A=25\text{ }^{\circ}\text{C}$<br>@ $T_A=125\text{ }^{\circ}\text{C}$ | $I_R$                              | 5<br>40    |      |      |      |      |       | $\mu\text{A}$        |
| Typical Junction Capacitance ( Note1 )                                                                                               | $C_j$                              | 13         |      |      |      |      |       | pF                   |
| Typical Thermal Resistance ( Note2 )                                                                                                 | $R_{\theta JA}$<br>$R_{\theta JL}$ | 95<br>30   |      |      |      |      |       | $^{\circ}\text{C/W}$ |
| Operating and Storage Temperature Range                                                                                              | $T_j, T_{slg}$                     | -55 ~ +150 |      |      |      |      |       | $^{\circ}\text{C}$   |

- Note:** 1. Measured at 1MHz and applied reverse voltage of 4 V D.C.  
2. Mounted on glass epoxy PC board with  $4 \times (5 \times 5 \text{ mm}^2)$  copper pad.



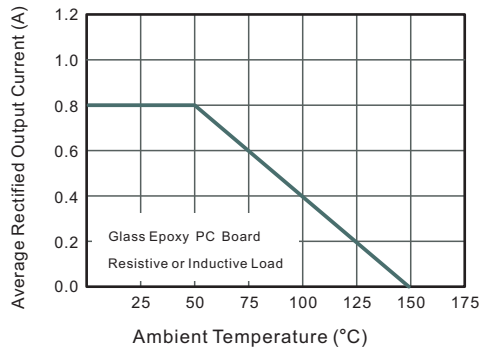
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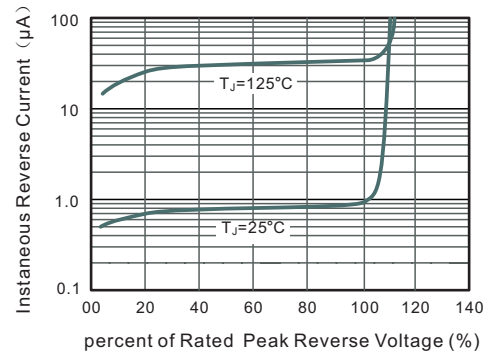
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### RATING AND CHARACTERISTIC CURVES MB1F - MB10F

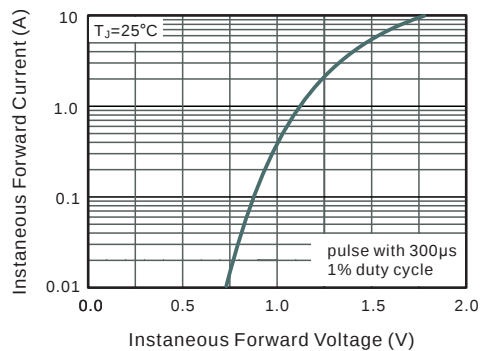
**Fig.1 Average Rectified Output Current Derating Curve**



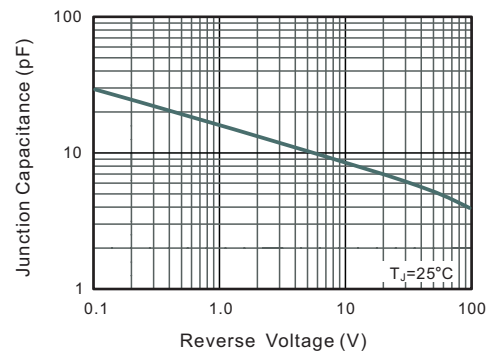
**Fig.2 Typical Reverse Characteristics**



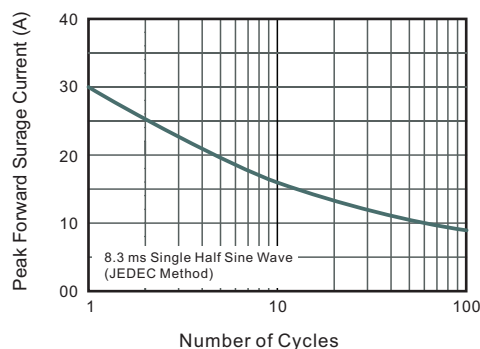
**Fig.3 Typical Instantaneous Forward Characteristics**



**Fig.4 Typical Junction Capacitance**



**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**





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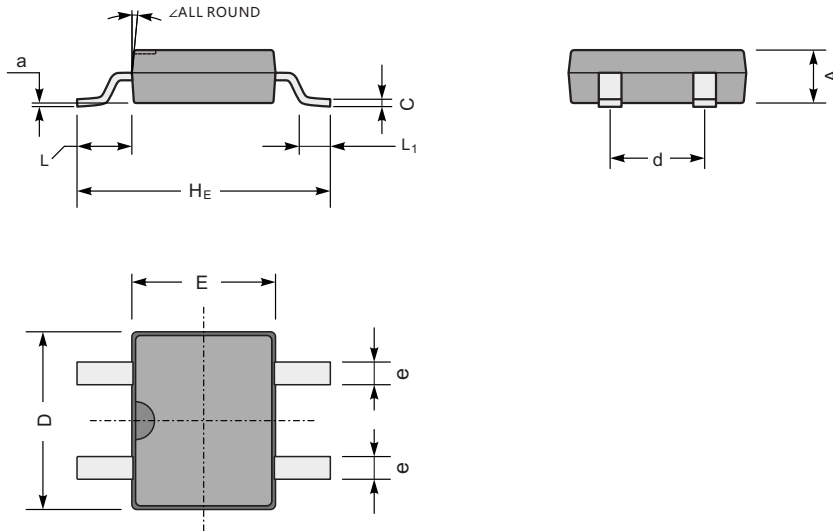
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### PACKAGE OUTLINE

Plastic surface mounted package; 4 leads

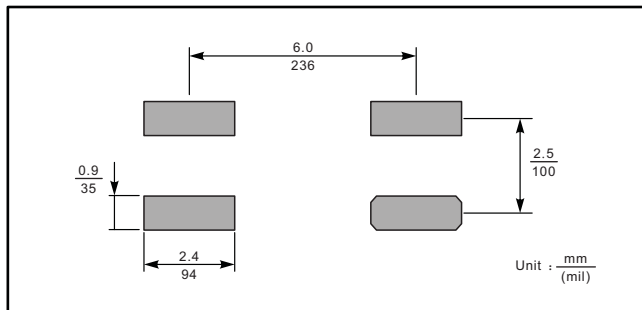
**MBF**



MBF mechanical data

| UNIT |     | A   | C    | D   | E   | HE  | d   | e   | L   | L <sub>1</sub> | a   | ∠  |
|------|-----|-----|------|-----|-----|-----|-----|-----|-----|----------------|-----|----|
| mm   | max | 1.6 | 0.22 | 5.0 | 4.1 | 7.0 | 2.7 | 0.8 | 1.7 | 1.1            | 0.2 | 7° |
|      | min | 1.2 | 0.15 | 4.5 | 3.6 | 6.4 | 2.3 | 0.5 | 1.3 | 0.5            | —   |    |
| mil  | max | 63  | 8.7  | 197 | 161 | 276 | 106 | 31  | 67  | 43             | 8   |    |
|      | min | 47  | 5.9  | 177 | 142 | 252 | 91  | 20  | 51  | 20             | —   |    |

### The recommended mounting pad size



### Marking

| Type number | Marking code |
|-------------|--------------|
| MB1F        | MB1F         |
| MB2F        | MB2F         |
| MB4F        | MB4F         |
| MB6F        | MB6F         |
| MB8F        | MB8F         |
| MB10F       | MB10F        |