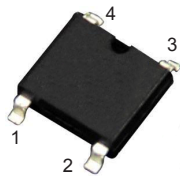


## Bridge Rectifier



MBF

### 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 %.

### Features

- Low profile package
- Ideal for automated placement
- Ultrafast reverse recovery time
- Low power losses, high efficiency
- Low forward voltage drop
- High surge capability

### Mechanical Date

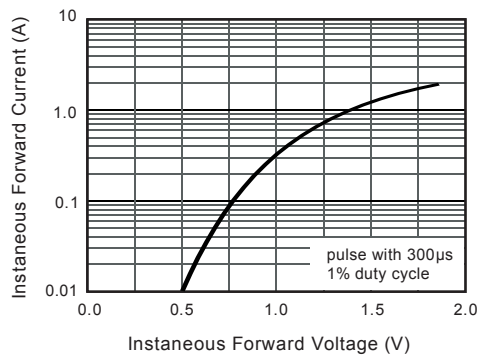
- **Case:** MBF Molded plastic body over Schottky barrier chips
- **Terminals:** Solder plated, solderable per JESD22-B102
- **Polarity:** Polarity symbols marked on body

| Items                                                                                             | Symbol          | MB10F-A     | UNIT          |
|---------------------------------------------------------------------------------------------------|-----------------|-------------|---------------|
| Maximum repetitive peak reverse voltage                                                           | $V_{RRM}$       | 1000        | V             |
| Maximum RMS voltage                                                                               | $V_{RMS}$       | 700         | V             |
| Maximum DC blocking voltage                                                                       | $V_{DC}$        | 1000        | V             |
| Maximum average forward output rectified current at $T_A=30^{\circ}C$                             | $I_{F(AV)}$     | 1.0         | A             |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$       | 30          | A             |
| Typical Thermal Resistance (Note1)                                                                | $R_{\theta JA}$ | 90          | $^{\circ}C/W$ |
|                                                                                                   | $R_{\theta JL}$ | 30          |               |
| Maximum Forward Voltage per leg at 1.0 A                                                          | $V_F$           | 1.30        | V             |
| Maximum DC Reverse Current $T_J=25^{\circ}C$<br>at Rated DC Blocking Voltage $T_J=125^{\circ}C$   | $I_R$           | 10          | $\mu A$       |
|                                                                                                   |                 | 500         |               |
| Operating junction temperature range                                                              | $T_J$           | -55 to +150 | $^{\circ}C$   |
| Storage temperature range                                                                         | $T_{STG}$       | -55 to +150 | $^{\circ}C$   |

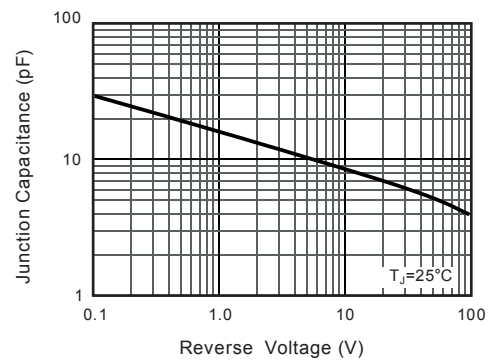
Note 1: Mounted on glass epoxy PC board with 4×1.5"×1.5" (3.81×3.81 cm) copper pad

## RATINGS AND CHARACTERISTICS CURVES (TA = 25 °C unless otherwise noted)

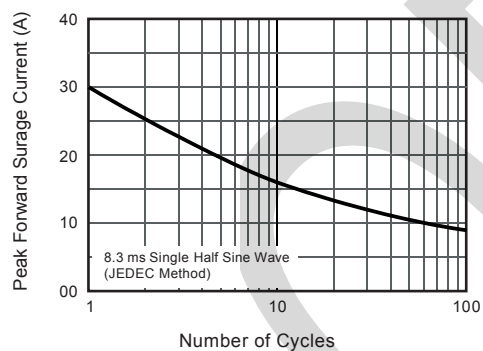
**Fig.1 Typical Instantaneous Forward Characteristics**



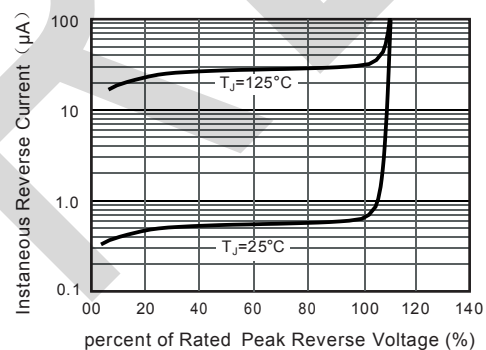
**Fig.2 Typical Junction Capacitance**



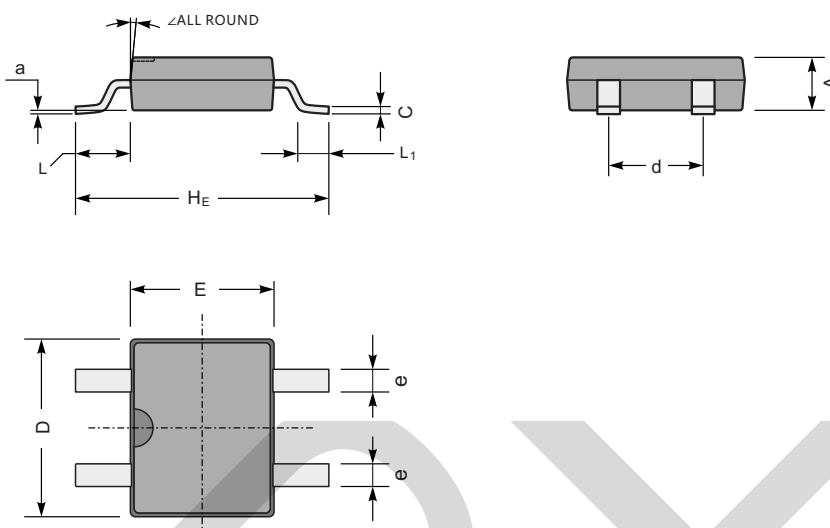
**Fig.3 Maximum Non-Repetitive Peak Forward Surge Current**



**Fig.4 Typical Reverse Characteristics**



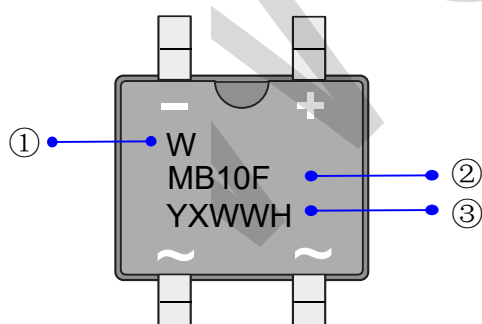
## PACKAGE OUTLINE DIMENSIONS



MBF mechanical data

| UNIT |     | A   | C    | D   | E   | H <sub>E</sub> | d   | e   | L   | L <sub>1</sub> | a   | $\angle$ |
|------|-----|-----|------|-----|-----|----------------|-----|-----|-----|----------------|-----|----------|
| 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             | —   |          |

## Marking Information



- ①W : Company's trademark
- ②Product model : MB10F-A is abbreviated to MB10F

### ③PDC information :

Y X WW H

- H:Halogen-free
- WW:Week code(01 to 53)
- X:Internal identification code
- Y:Year code(ex:0=2020)