

## MB34F THRU MB320F

### 3A SURFACE MOUNT SCHOTTKY BRIDGE

#### FEATURES:

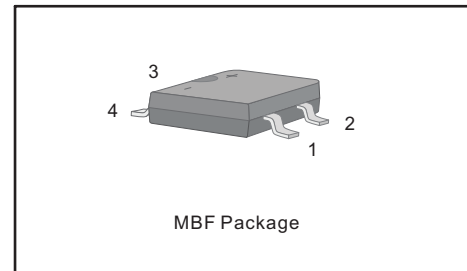
Reverse Voltage - 40 to 200 V  
Forward Current - 3 A  
High Surge Current Capability  
Designed for Surface Mount Application

#### 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            | MB34F      | MB36F    | MB38F | MB310F | MB320F | Units |
|-----------------------------------------------------------------------------------------------------------|--------------------|------------|----------|-------|--------|--------|-------|
| Maximum Repetitive Peak Reverse Voltage                                                                   | V <sub>RRM</sub>   | 40         | 60       | 80    | 100    | 200    | V     |
| Maximum RMS voltage                                                                                       | V <sub>RMS</sub>   | 28         | 42       | 56    | 70     | 140    | V     |
| Maximum DC Blocking Voltage                                                                               | V <sub>DC</sub>    | 40         | 60       | 80    | 100    | 200    | V     |
| Maximum Average Forward Rectified Current<br>at T <sub>c</sub> = 100 °C                                   | I <sub>F(AV)</sub> | 3.0        |          |       |        |        | A     |
| Peak Forward Surge Current,8.3ms<br>Single Half Sine-wave Superimposed<br>on Rated Load (JEDEC method)    | I <sub>FSM</sub>   | 80         |          | 70    |        |        | A     |
| Max Instantaneous Forward Voltage at 3 A                                                                  | V <sub>F</sub>     | 0.55       | 0.70     | 0.85  |        | 0.95   | V     |
| Maximum DC Reverse Current   T <sub>a</sub> = 25°C<br>at Rated DC Reverse Voltage   T <sub>a</sub> =100°C | I <sub>R</sub>     | 0.5<br>10  | 0.3<br>5 |       |        |        | mA    |
| Typical Junction Capacitance <sup>1)</sup>                                                                | C <sub>j</sub>     | 220        | 160      |       |        | 100    | pF    |
| Typical Thermal Resistance <sup>2)</sup>                                                                  | R <sub>θJA</sub>   | 65         |          |       |        |        | °C/W  |
| Operating Junction Temperature Range                                                                      | T <sub>j</sub>     | -55 ~ +150 |          |       |        |        | °C    |
| Storage Temperature Range                                                                                 | T <sub>stg</sub>   | -55 ~ +150 |          |       |        |        | °C    |

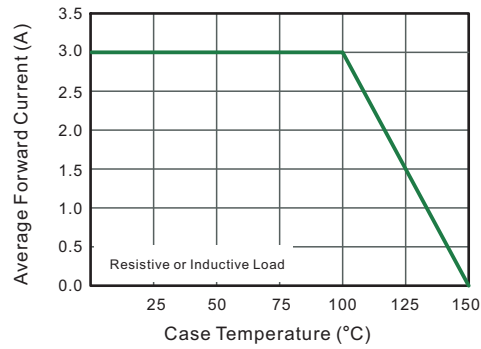
Note: 1. Measured at 1MHz and applied reverse voltage of 4 V D.C.

2. Mounted on glass epoxy PC board with 4×1.5"×1.5" ( 3.81×3.81 cm ) copper pad.

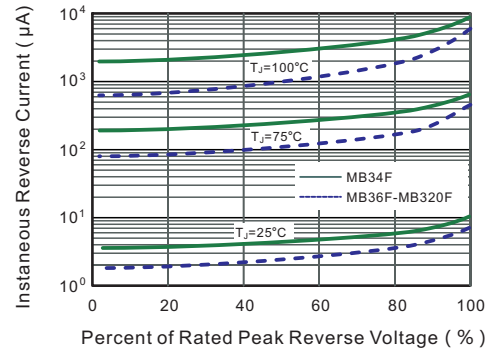


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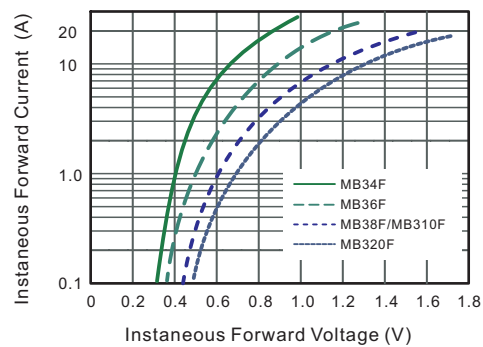
**Fig.1 Forward Current Derating Curve**



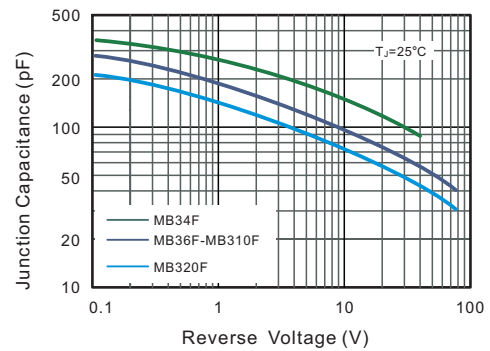
**Fig.2 Typical Reverse Characteristics**



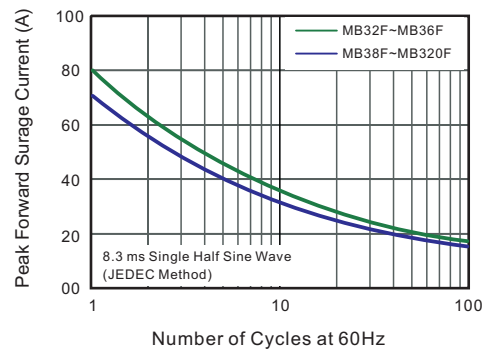
**Fig.3 Typical Forward Characteristic**



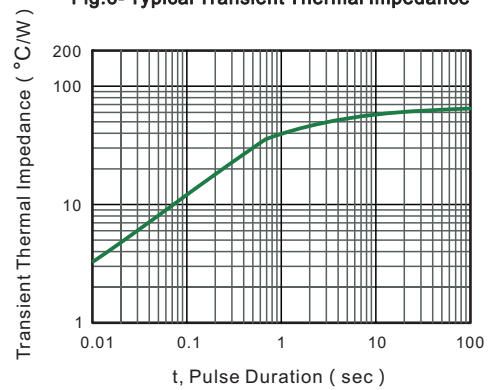
**Fig.4 Typical Junction Capacitance**

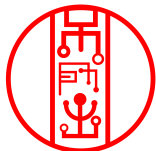


**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



**Fig.6- Typical Transient Thermal Impedance**



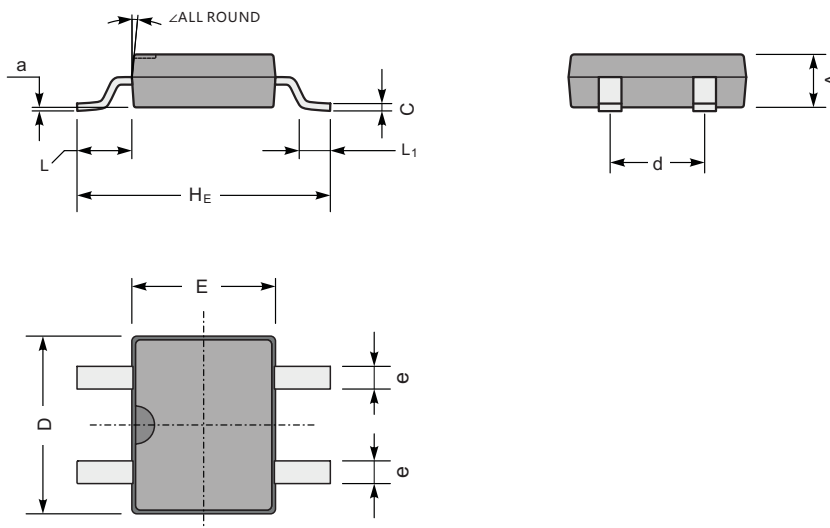


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## PACKAGE OUTLINE

Plastic surface mounted package; 4 leads

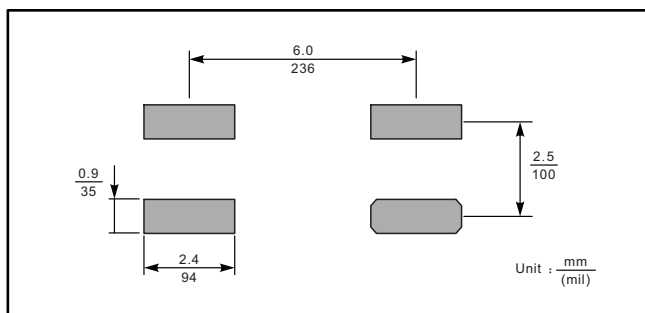
MBF



MBF mechanical data

| UNIT |     | A   | C    | D   | E   | H <sub>E</sub> | 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 |
|-------------|--------------|
| MB34F       | MB34F        |
| MB36F       | MB36F        |
| MB38F       | MB38F        |
| MB310F      | MB310F       |
| MB320F      | MB320F       |

