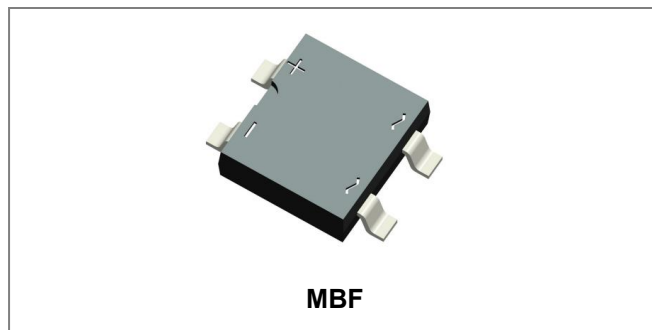


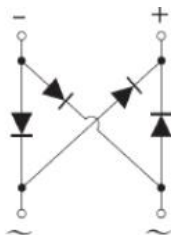
## MB05FU THRU MB10FU SINGLE PHASE 1.0AMP SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIER



### 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
- This is a Pb – Free Device
- “-HF” suffix is for Halogen Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

- Case: MBF, Molded plastic
- Terminals: Plated leads solderable per MIL-STD-202, Method 208
- Polarity: as marked on case
- Mounting Position: Any
- Lead Free: For RoHS / Lead Free Version

### Maximum Ratings @ $T_A=25^{\circ}\text{C}$ unless otherwise specified

| Type Number  | Symbol                | MB05FU | MB1FU | MB2FU | MB4FU | MB6FU | MB8FU | MB10FU | Units                |
|--|-----------------------|--------|-------|-------|-------|-------|-------|--------|----------------------|
| Peak Repetitive Reverse Voltage<br>DC Blocking Voltage   | $V_{RRM}$<br>$V_{DC}$ | 50     | 100   | 200   | 400   | 600   | 800   | 1000   | V                    |
| RMS Voltage  | $V_{RMS}$             | 35     | 70    | 140   | 280   | 420   | 480   | 700    | V                    |
| Maximum average forward rectified current<br>@ $T_C=100^{\circ}\text{C}$   | $I_o$                 | 1      |       |       |       |       |       |        | A                    |
| Non-Repetitive Peak Forward<br>Surge Current 8.3ms Single half<br>sine-wave superimposed on rated<br>load (JEDEC Method) | $I_{FSM}$             | 35     |       |       |       |       |       |        | A                    |
| $I^2t$ Rating for Fusing ( $t < 8.3\text{ms}$ )  | $I^2t$                | 5.083  |       |       |       |       |       |        | $\text{A}^2\text{s}$ |

**Electrical Characteristics:@T<sub>A</sub>=25°C unless otherwise specified**

| Type Number   | Symbol          | MB05FU | MB1FU | MB2FU | MB4FU        | MB6FU | MB8FU | MB10FU | Units |
|---|-----------------|--------|-------|-------|--------------|-------|-------|--------|-------|
| Forward Voltage per element @I <sub>F</sub> =0.5A<br>@I <sub>F</sub> =1.0A                          | V <sub>FM</sub> |        |       |       | 0.95<br>1.00 |       |       |        | V     |
| Peak Reverse Current @T <sub>A</sub> = 25°C<br>At Rated DC Blocking Voltage @T <sub>A</sub> = 125°C | I <sub>R</sub>  |        |       |       | 5<br>200     |       |       |        | μA    |
| Typical Junction Capacitance (Note 1)   | C <sub>j</sub>  |        |       |       | 25           |       |       |        | pF    |

\* Pulse width < 300 μs, duty cycle < 2%

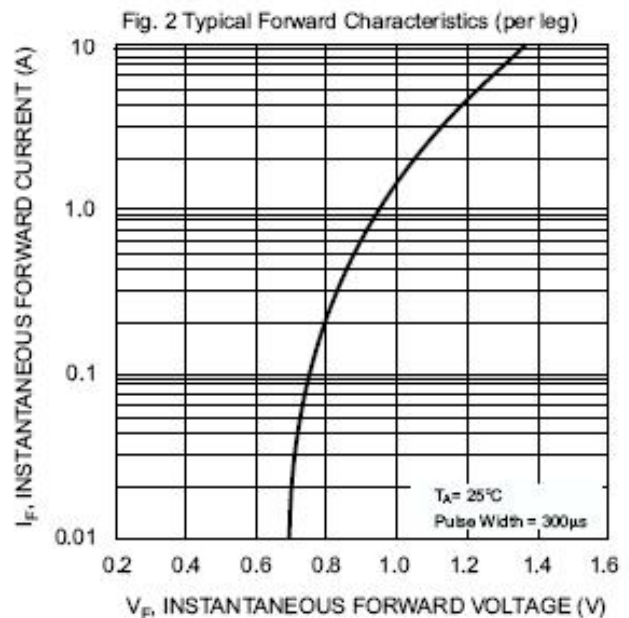
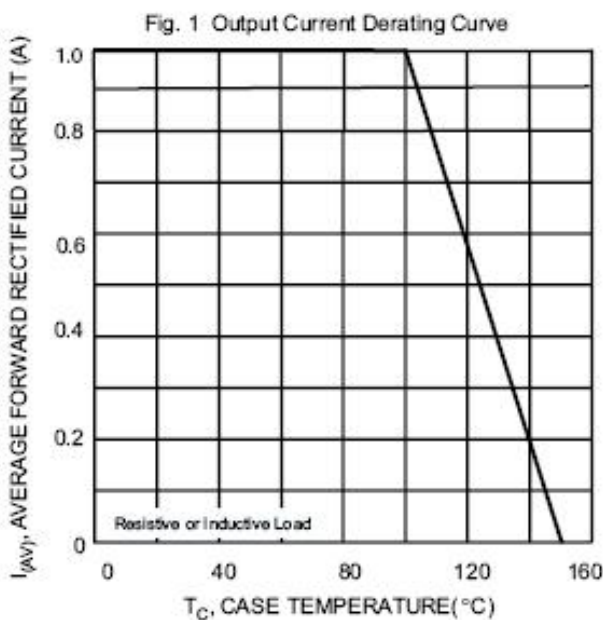
**Thermal-Mechanical Specifications:@T<sub>A</sub>=25°C unless otherwise specified**

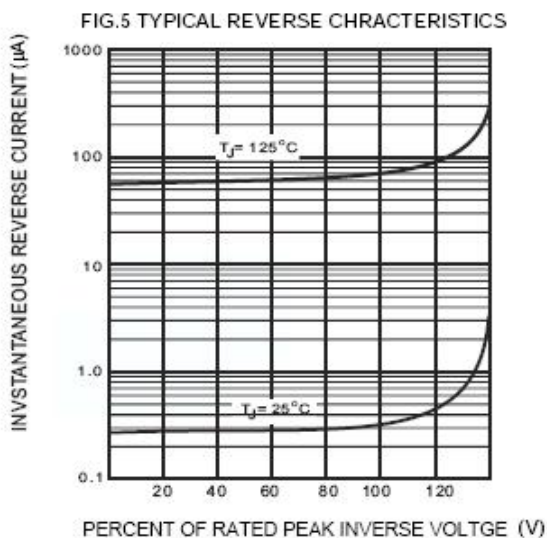
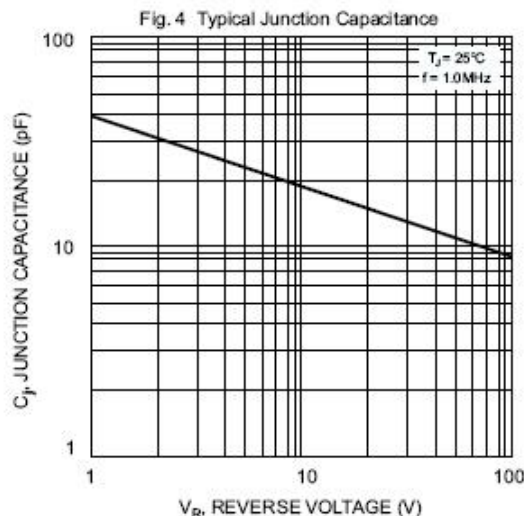
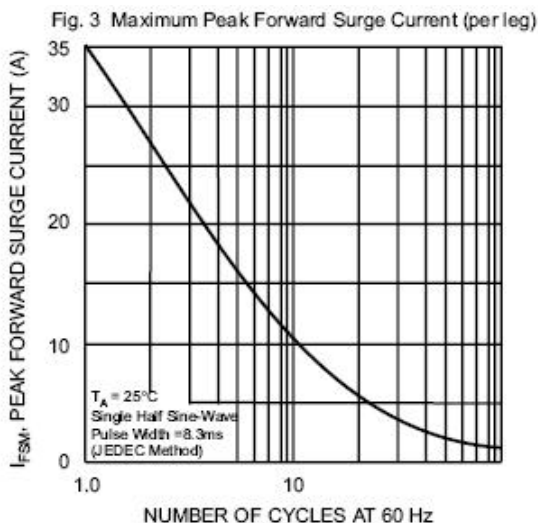
| Type Number                                      | Symbol                            | MB05FU | MB1FU | MB2FU | MB4FU   | MB6FU | MB8FU | MB10FU | Units |
|--|-----------------------------------|--------|-------|-------|---------|-------|-------|--------|-------|
| Typical Thermal Resistance per leg(Note 2)       | R <sub>θJA</sub>                  |        |       |       | 60      |       |       |        | °C/W  |
|  | R <sub>θJL</sub>                  |        |       |       | 16      |       |       |        |       |
| Operating Junction and Storage Temperature Range | T <sub>J</sub> , T <sub>STG</sub> |        |       |       | -55+150 |       |       |        | °C    |

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

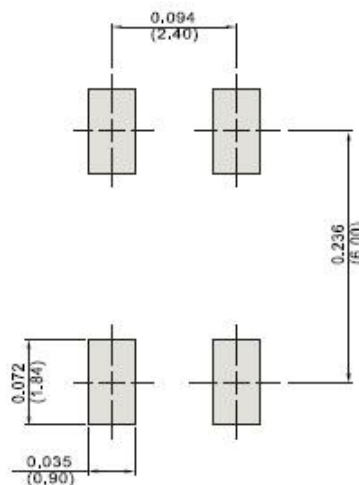
2. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B with 0.5×0.5"(13×13mm)copper pads.

**Ratings and Characteristics Curves**





**FIG.6 MOUNTING PAD LAYOUT**

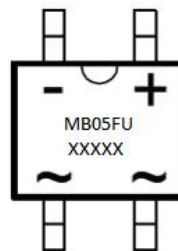


**Ordering Information**

| Device                       | Package | Plating | Shipping       |
|------------------------------|---------|---------|----------------|
| MB05FU<br>THRU<br>MB10FU     | MBF     | Pure Sn | 5000pcs / reel |
| MB05FUTR<br>THRU<br>MB10FUTR | MBF     | Pure Sn | 5000pcs / reel |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**



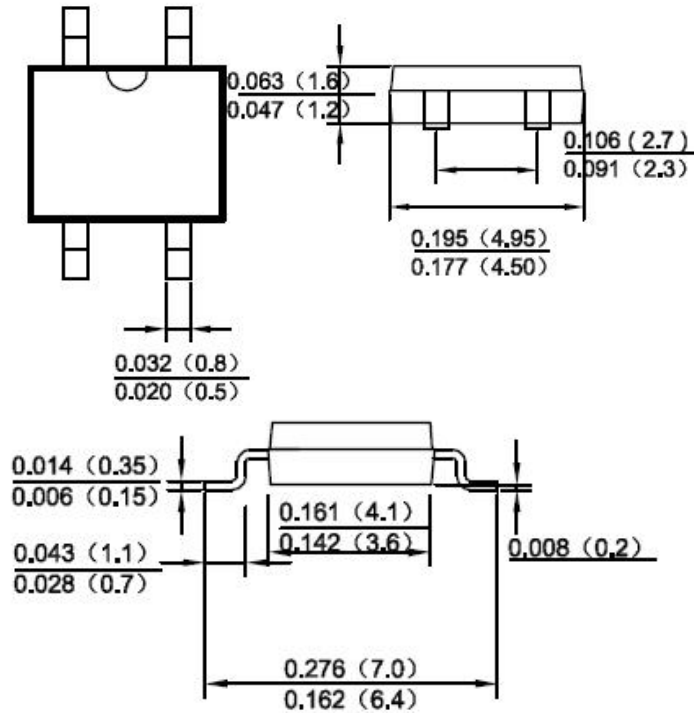
**MB05FU**

Where XXXXX is YYWWL

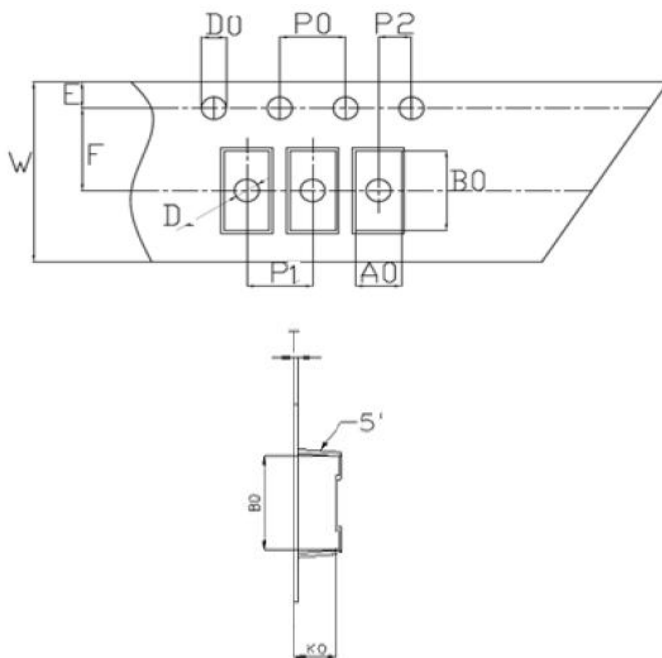
MB05FU = Type Number  
YY = Year  
WW = Week  
L = Lot Number

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

**Mechanical Dimensions MBF(Inches/Millimeters)**



**Carrier Tape & Reel Specification MBF**



| SYMBOL | Millimeters |       |
|--------|-------------|-------|
|        | Min.        | Max.  |
| A0     | 5.21        | 5.41  |
| B0     | 7.10        | 7.30  |
| D0     | 1.50        | 1.60  |
| D1     | 1.40        | 1.60  |
| P0     | 3.90        | 4.10  |
| P1     | 7.90        | 8.10  |
| P2     | 1.95        | 2.05  |
| E      | 1.65        | 1.85  |
| K0     | 1.55        | 1.75  |
| F      | 5.45        | 5.55  |
| W      | 11.90       | 12.10 |
| T      | 0.24        | 0.30  |
| 10P0   | 39.80       | 40.20 |



**Technical Data**  
**Data Sheet N2268, Rev. -**



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