

# MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

## MB05F THRU MB10F

Product specification

## 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

## Mechanical Data

**Case** : JEDEC MBF Molded plastic body

**Terminals** : Solder plated, solderable per MIL-STD-750,Method 2026

**Polarity** : Polarity symbol marking on body

**Mounting Position** : Any

**Weight** : 0.0026 ounce, 0.075 grams

## Maximum Ratings And Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

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

| Parameter  | SYMBOLS         | MB05 | MB1F | MB2F | MB4F        | MB6F | MB8F | MB10F | UNITS         |
|--|-----------------|------|------|------|-------------|------|------|-------|---------------|
| Marking Code   |                 |      |      |      |             |      |      |       |               |
| Maximum repetitive peak reverse voltage  | $V_{RRM}$       | 50   | 100  | 200  | 400         | 600  | 800  | 1000  | V             |
| Maximum RMS voltage  | $V_{RMS}$       | 140  | 140  | 140  | 280         | 420  | 560  | 700   | V             |
| Maximum DC blocking voltage  | $V_{DC}$        | 50   | 100  | 200  | 400         | 600  | 800  | 1000  | V             |
| Maximum average forward rectified current<br>at $T_c=30^{\circ}C$ On glass-epoxy P.C.B.<br>On aluminum substrate | $I_{F(AV)}$     |      |      |      | 0.5<br>0.8  |      |      |       | A             |
| Peak forward surge current,<br>8.3ms single half sine-wave superimposed on<br>rated load (JEDEC Method)          | $I_{FSM}$       |      |      |      | 30          |      |      |       | A             |
| Maximum instantaneous forward voltage drop<br>per leg at 1A  | $V_F$           |      |      |      | 1.1         |      |      |       | V             |
| Maximum DC reverse current $T_A=25^{\circ}C$<br>at rated DC blocking voltage $T_A=100^{\circ}C$                  | $I_R$           |      |      |      | 5<br>500    |      |      |       | $\mu A$       |
| Typical junction capacitance        NOTE3  | $C_J$           |      |      |      | 13          |      |      |       | PF            |
| Typical thermal resistance   | $R_{\theta JA}$ |      |      |      | 60          |      |      |       | $^{\circ}C/W$ |
| Operating temperature range  | $T_J$           |      |      |      | -55 to +150 |      |      |       | $^{\circ}C$   |
| storage temperature range  | $T_{STG}$       |      |      |      | -55 to +150 |      |      |       | $^{\circ}C$   |

NOTES:1.On glass epoxy P.C.B. mounted on 0.05x0.05"(1.3x1.3mm) pads

2.On aluminum substrate P.C.B. with on area of 0.8"x0.8"(20x20mm) mounted on 0.05X0.05"(1.3X1.3mm) solder pad

3.Measured at 1.0MHz and applied reverse voltage of 4.0 volts.

**Ratings And Characteristic Curves**

Fig. 1 Output Current Derating Curve

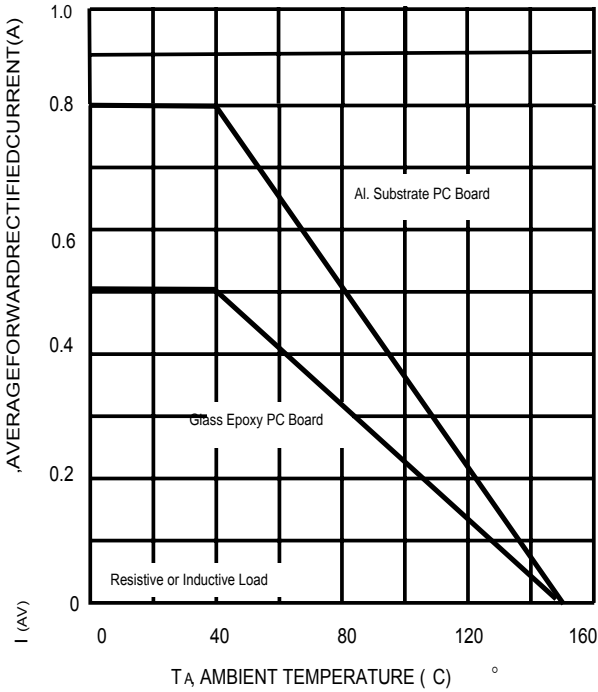


Fig. 2 Typical Forward Characteristics (per leg)

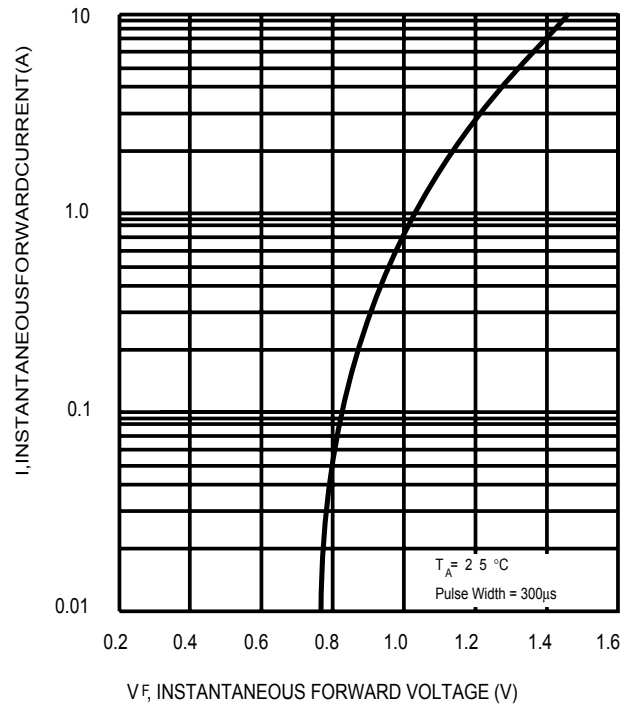


Fig. 3 Maximum Peak Forward Surge Current (per leg)

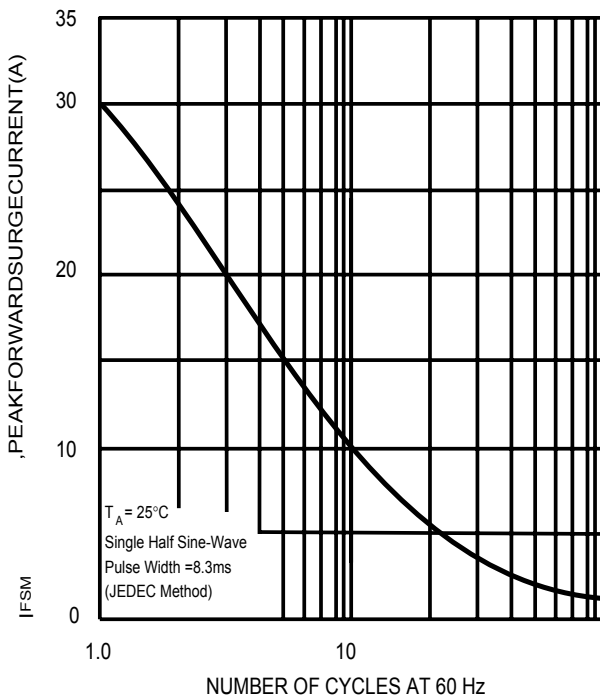
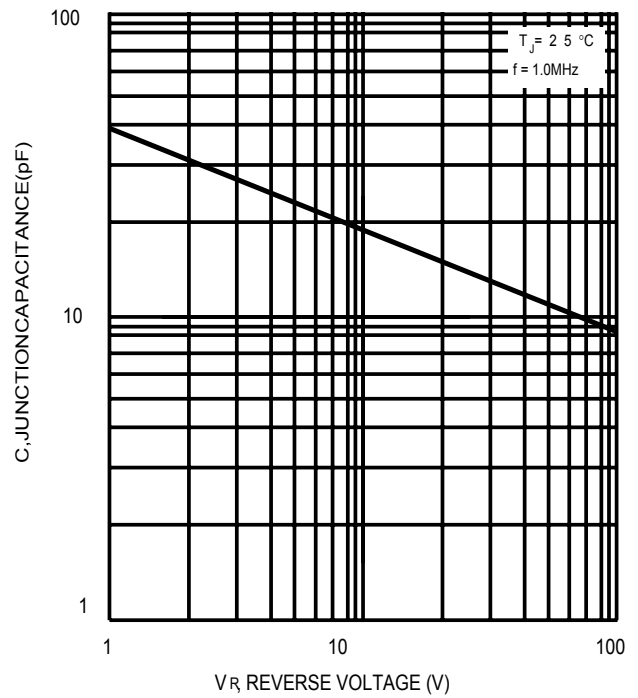
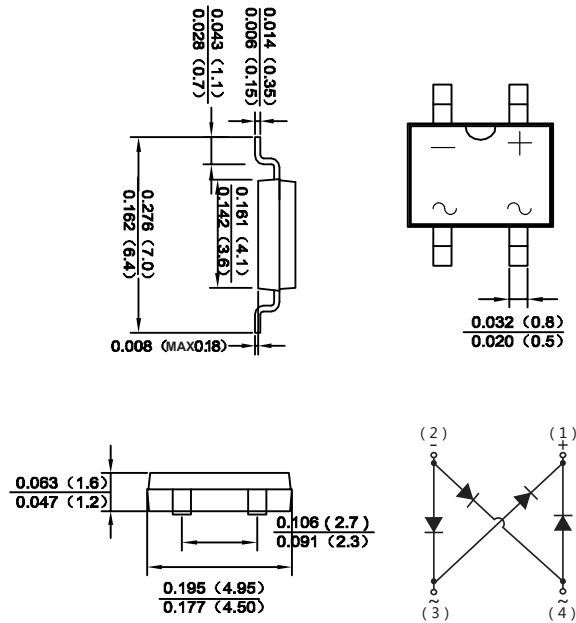


Fig. 4 Typical Junction Capacitance



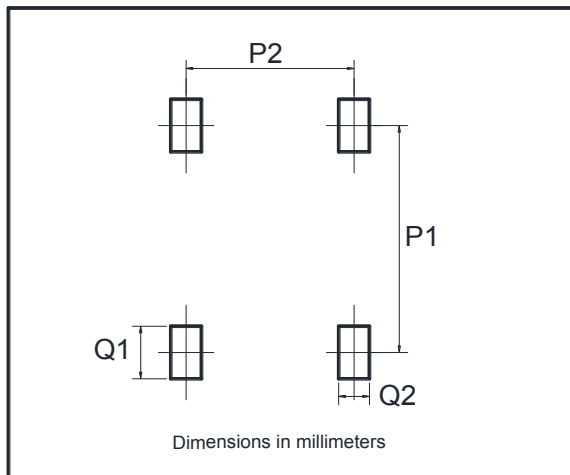
The curve above is for reference only.

**MBF**



Dimensions in inches and (millimeters)

**Suggested Pad Layout**



| Dim | Min  |
|-----|------|
| P1  | 6.00 |
| P2  | 2.40 |
| Q1  | 1.84 |
| Q2  | 1.20 |

**REEL SPECIFICATION**

| P/N              | PKG | QTY  |
|------------------|-----|------|
| MB05F THRU MB10F | MBF | 5000 |

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