

FEATURES

- | Ideal For Surface Mount Application
- | The Plastic Material Used Carries Underwriters Laboratory Flammability Recognition 94V-0
- | Surge Overload Ratings to 30 Amperes



MBF

MECHANICAL DATA

- | Case: Molded Plastic
- | Polarity: Marked On Body
- | Mounting Position: Any

APPROVALS

| | |
|-------------|------------------------------------|
| RoHS | Compliance with 2011/65/EU |
| HF | Compliance with IEC61249-2-21:2003 |

MAXIMUM RATINGS AND CHARACTERISTICS (T_A=25°C)

| Parameter | Symbol | MB05F | MB1F | MB2F | MB4F | MB6F | MB8F | MB10F | Unit |
|---|----------------------------------|-----------------------|------|------|------|------|------|-------|--------------------|
| Marking | | MB05F | MB1F | MB2F | MB4F | MB6F | MB8F | MB10F | |
| Maximum Repetitive Peak Reverse Voltage | V _{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Rms Bridge Input Voltage | V _{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | |
| Maximum Dc Blocking Voltage | V _{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | |
| Maximum Average Forward Rectified Output Current at T _a =40°C | I _{F(AV)} | 0.8 | | | | | | | A |
| Peak Forward Surge Current Single Sine-wave Superimposed On Rated Load (Jedec Method) | I _{FSM} | 30 | | | | | | | |
| Maximum Instantaneous Forward Voltage Drop Per Leg at 0.5A | V _F | 1.1 | | | | | | | V |
| Maximum Dc Reverse Current At Rated DC Blocking Voltage Per Element | I _R | T _A =25°C | | | | | | 10 | μA |
| | | T _A =125°C | | | | | | 500 | |
| Typical Thermal Resistance Per Element (1) | R _{θJA} | 110 | | | | | | | °C/W |
| Rating For Fusing (T<8.3ms) | I ² t | 10 | | | | | | | A ² sec |
| Typical Junction Capacitance Per Element (2) | C _J | 25.0 | | | | | | | pF |
| Operating Junction And Storage Temperature Range | T _J ,T _{STG} | -55 to +150 | | | | | | | °C |

Notes: (1)Thermal Resistance From Junction To Ambient On P.C.Board Mounting.
 (2)Measured At 2.0mhz And Applied Reverse Voltage Of 4.0 Volts.

CHARACTERISTIC CURVES

Fig. 1- Derating Curve for Output Rectified Current

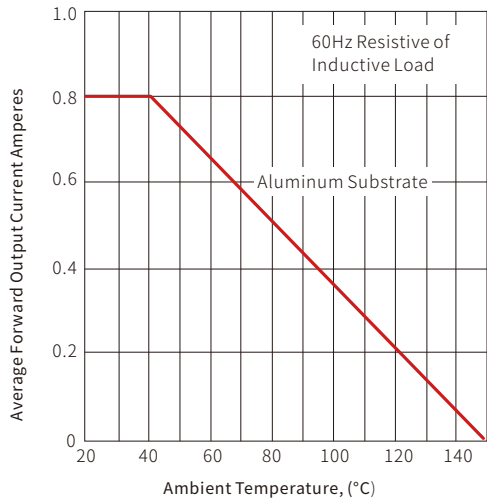


Fig. 2- Maximum Non-repetitive Peak Forward Surge Current

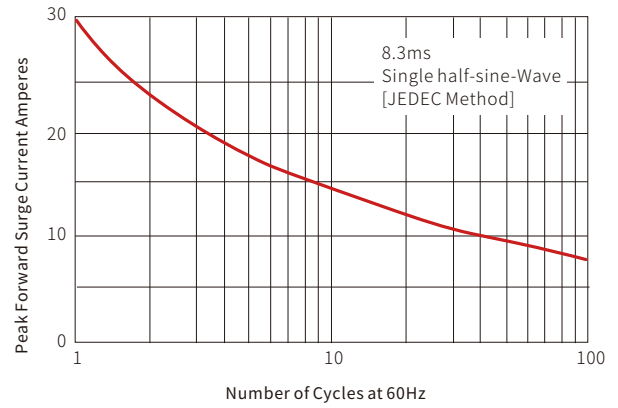


Fig. 3- Typical Instantaneous Forward Characteristics

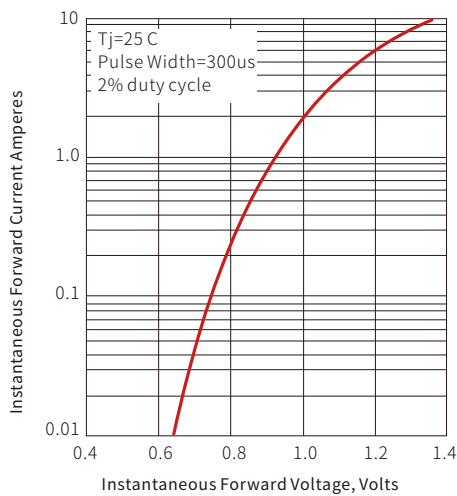


Fig. 4- Typical Revers Characteristics

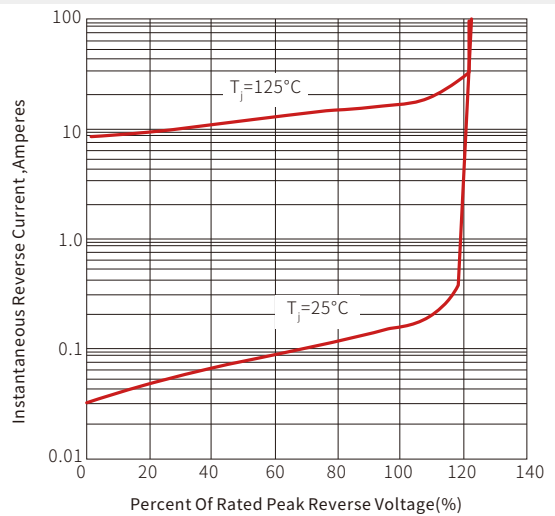
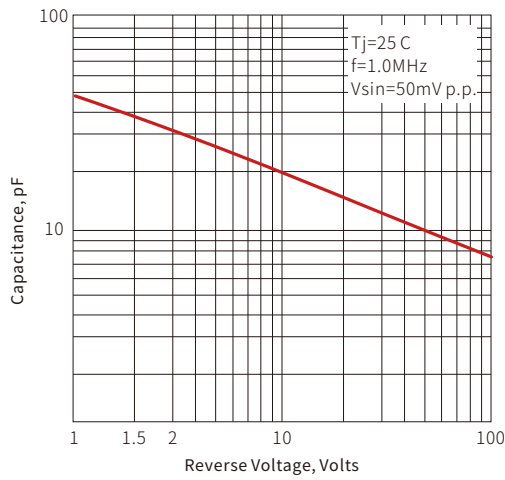
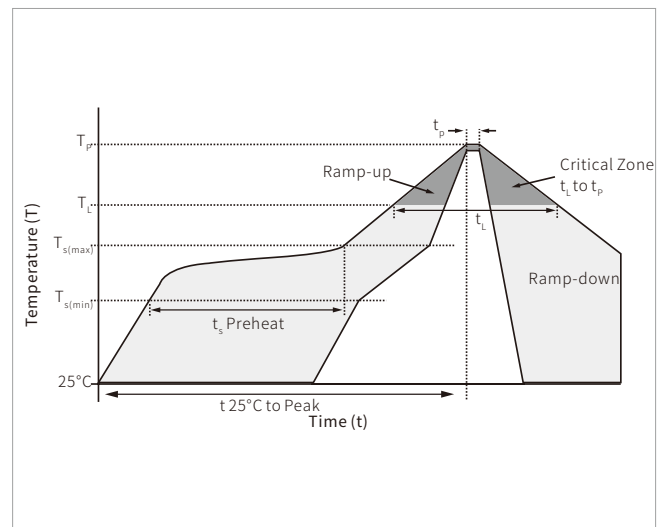


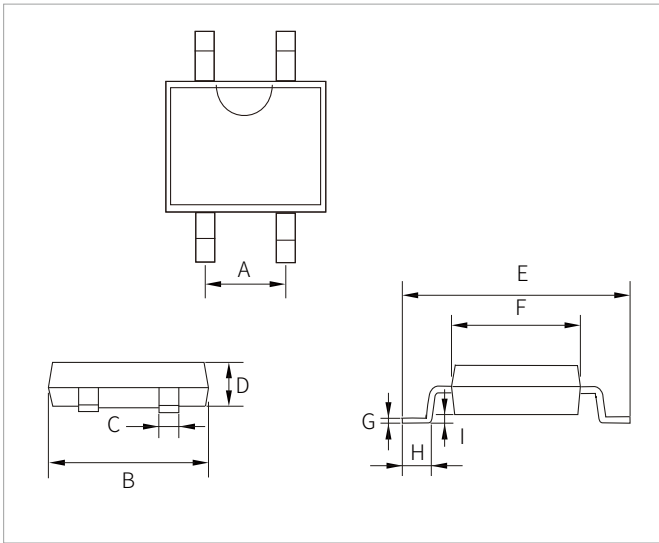
Fig. 5-Typical Junction Capacitance


SOLDERING PARAMETERS

| Reflow Condition | | Lead-free assembly |
|--|---|--------------------|
| Pre Heat | Temperature Max ($T_{s(\text{min})}$) | 150°C |
| | Temperature Max ($T_{s(\text{max})}$) | 200°C |
| | Time (min to max) (t_s) | 60 – 180 secs |
| Average ramp up rate (Liquidus Temp (T_L) to peak) | | 3°C/second max |
| $T_{s(\text{max})}$ to T_L - Ramp-up Rate | | 3°C/second max |
| Reflow | Temperature (T_L) (Liquidus) | 217°C |
| | Time (min to max) (t_L) | 60 – 150 seconds |
| Peak Temperature (T_p) | | 260°C |
| Time within 5°C of actual peak Temperature (t_p) | | 20 – 40 seconds |
| Ramp-down Rate | | 6°C/second max |
| Time 25°C to peak Temperature (T_p) | | 8 minutes max. |
| Do not exceed | | 260°C |



MBF PACKAGE INFORMATION



| Ref. | Millimeters | | Inches | |
|------|-------------|------|-----------|-------|
| | Min. | Max. | Min. | Max. |
| A | 2.30 | 2.70 | 0.091 | 0.106 |
| B | 4.50 | 4.90 | 0.177 | 0.193 |
| C | 0.50 | 0.70 | 0.020 | 0.028 |
| D | 1.20 | 1.60 | 0.047 | 0.063 |
| E | 7.00Max | | 0.276Max. | |
| F | 3.60 | 4.00 | 0.142 | 0.157 |
| G | 0.10 | 0.30 | 0.004 | 0.012 |
| H | 0.70 | 1.10 | 0.028 | 0.043 |
| I | 0.2 Max. | | 0.008Max. | |

ORDERING INFORMATION

| Part Number | Component Package | QTY/Reel | Reel Size |
|-------------|-------------------|----------|-----------|
| MB05F-MB10F | MBF | 5000PCS | 13" |

Headquarters

No.3387 Shendu Road
Pujiang I&E Park
Minhang Shanghai China
201000

Hotline

400-021-5756

Web

<https://www.semiware.com>

Sales Center

Tel: 86-21-3463-7458
Email: sales18@semiware.com

Customer Service

Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support

Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions

Tel: 86-21-3463-7172
Ext: 8868
Email: cs03@semiware.com

By QR Code

Website



Wechat

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