

3A SURFACE MOUNT SCHOTTKY BRIDGE

RECTIFIER Reverse Voltage - 40 to 200 V

Forward Current - 3A

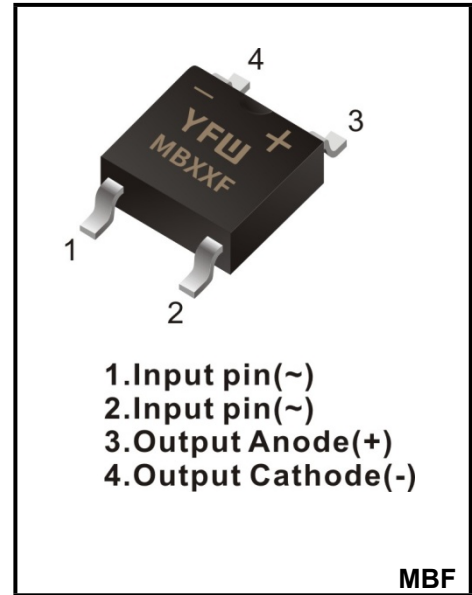
FEATURES

- ◆ High current capability
- ◆ Low forward voltage drop
- ◆ Low power loss, high efficiency
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives



MECHANICAL DATA

- ◆ Case: MBF
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 88mg / 0.0031oz



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_{RRM} | 40 | 60 | 80 | 100 | 200 | V |
| Maximum RMS voltage | V_{RMS} | 28 | 42 | 56 | 70 | 140 | V |
| Maximum DC Blocking Voltage | V_{DC} | 40 | 60 | 80 | 100 | 200 | V |
| Average Rectified Output Current | $I_{F(AV)}$ | 3 | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load(JEDEC method) | I_{FSM} | 80 | | 70 | | | A |
| Max Instantaneous Forward Voltage at 3 A | V_F | 0.55 | 0.70 | 0.85 | | 0.95 | V |
| Maximum DC Reverse Current @ $T_A=25^{\circ}C$ at Rated DC Blocking Voltage @ $T_A=100^{\circ}C$ | I_R | 0.5 | 0.3 | | | | μA |
| | | 10 | 5 | | | | |
| Typical Junction Capacitance (Note1) | C_j | 220 | 160 | | | 100 | pF |
| Typical Thermal Resistance (Note2) | $R_{\theta JA}$ | 65 | | | | | $^{\circ}C/W$ |
| Operating and Storage Temperature Range | T_j | -55 ~ +150 | | | | | $^{\circ}C$ |
| Storage Temperature Range | T_{stg} | -55 ~ +150 | | | | | $^{\circ}C$ |

(1) Measured at 1 MHz 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.

Fig.1 Forward Current Derating Curve

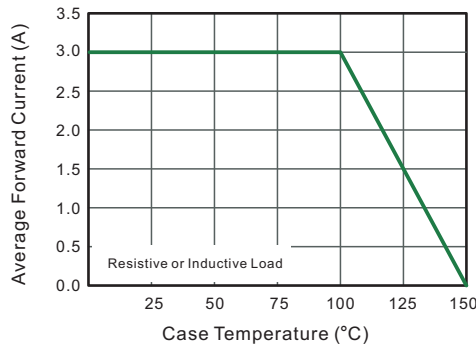


Fig.2 Typical Reverse Characteristics

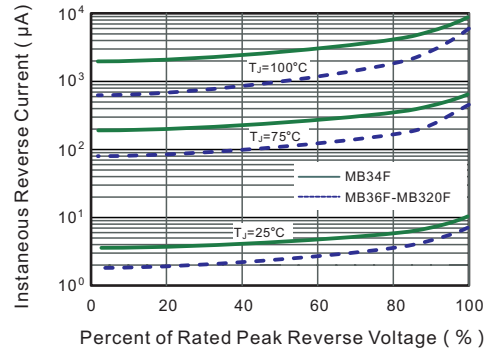


Fig.3 Typical Forward Characteristic

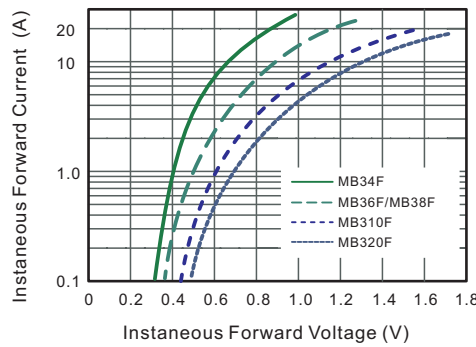


Fig.4 Typical Junction Capacitance

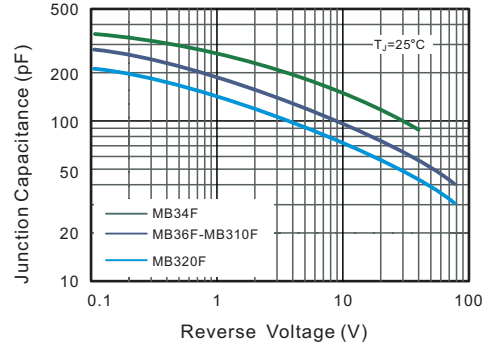


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

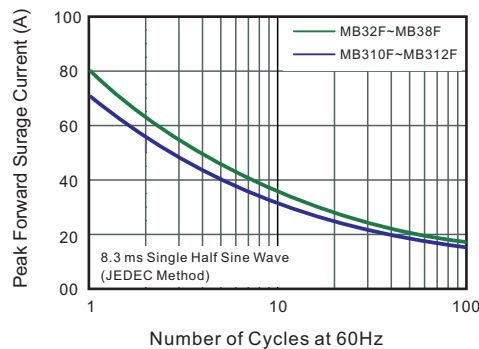
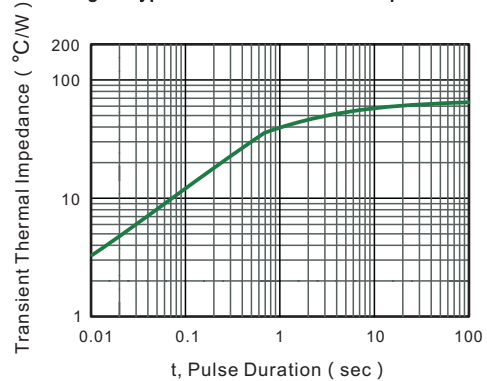


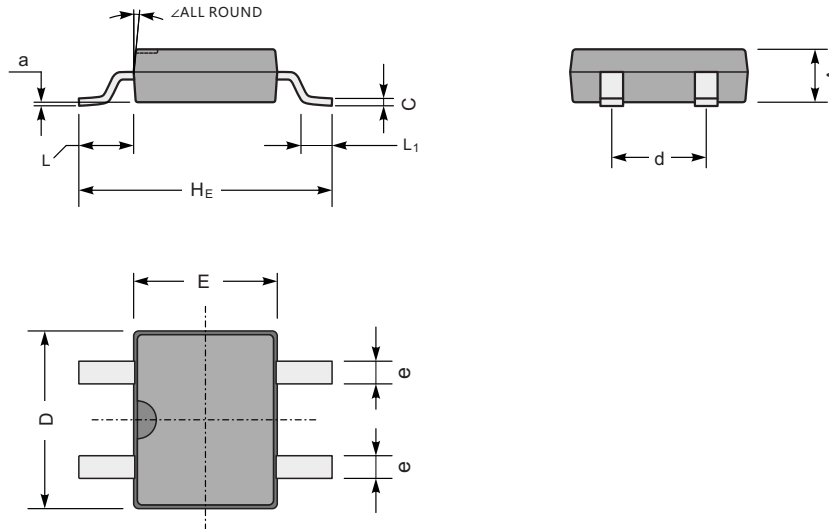
Fig.6 Typical Transient Thermal Impedance



Package Outline

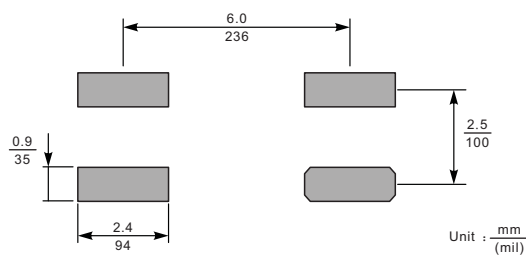
MBF

Plastic surface mounted package; 4 leads



| UNIT | | A | C | D | E | H _E | d | e | L | L ₁ | 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



Summary of Packing Options

| Package | Packing Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| MBF | Tape/Reel, 13" reel | 5000 | EIA-481-1 |