

### Major Ratings and Characteristics

|                    |                              |
|--------------------|------------------------------|
| $I_{F(AV)}$        | 1.0 A                        |
| $V_{RRM}$          | 20 V to 100 V                |
| $I_{FSM}$          | 30 A                         |
| $V_F$              | 0.50 V, 0.55V, 0.70 V, 0.85V |
| $T_j \text{ max.}$ | 125 °C                       |

Patent Pending

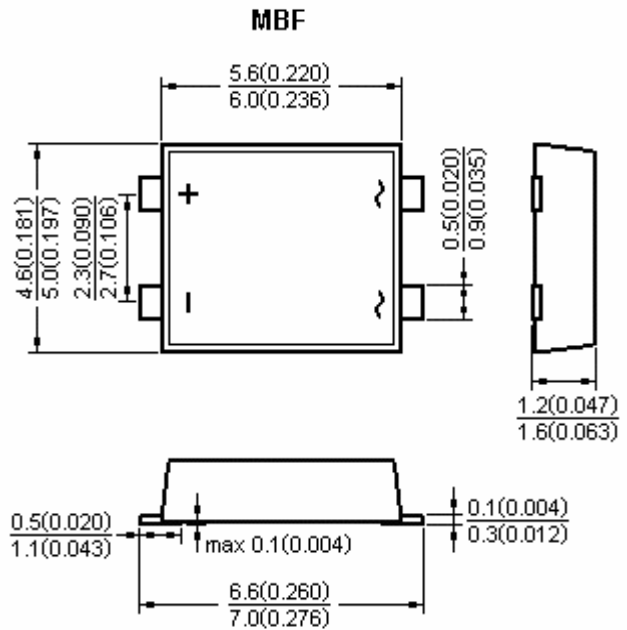


### Features

- Low profile package
- Ideal for automated placement
- Ultrafast reverse recovery time
- Low power losses, high efficiency
- Low forward voltage drop
- High surge capability
- High temperature soldering:  
260°C/10 seconds at terminals
- Component in accordance to  
RoHS 2002/95/1 and WEEE 2002/96/EC

### Mechanical Data

- **Case:** MBF molded plastic body over Schottky barrier chips
- **Terminals:** Solder plated, solderable per J-STD-002B and JESD22-B102D
- **Polarity:** Polarity symbols marked on body



Dimensions in millimeters and (inches)

### Maximum Ratings & Thermal Characteristics & Electrical Characteristics

( $T_A = 25\text{ °C}$  unless otherwise noted)

|                                                                                                                           | Symbol                               | KMB12F       | KMB14F | KMB16F | KMB18F | KMB110F | UNIT  |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------|--------|--------|--------|---------|-------|
| Maximum repetitive peak reverse voltage                                                                                   | V <sub>RRM</sub>                     | 20           | 40     | 60     | 80     | 100     | V     |
| Maximum RMS voltage                                                                                                       | V <sub>RMS</sub>                     | 14           | 28     | 42     | 56     | 70      | V     |
| Maximum DC blocking voltage                                                                                               | V <sub>DC</sub>                      | 20           | 40     | 60     | 80     | 100     | V     |
| Maximum average forward rectified current<br>0.2×0.2"(5.0×5.0mm)copper pad area                                           | I <sub>F(AV)</sub>                   | 1.0          |        |        |        |         | A     |
| Peak forward surge current 8.3 ms single half<br>sine-wave superimposed on rated load                                     | I <sub>FSM</sub>                     | 30           |        |        |        |         | A     |
| Maximum instantaneous forwad voltage at 1.0A                                                                              | V <sub>F</sub>                       | 0.50         | 0.55   | 0.70   | 0.85   |         | V     |
| Maximum DC reverse current           T <sub>A</sub> = 25 °C<br>at Rated DC blocking voltage        T <sub>A</sub> = 100°C | I <sub>R</sub>                       | 0.5<br>20    |        |        |        |         | mA    |
| Typical Junction Capacitance at 4.0V,1.0MHz                                                                               | C <sub>J</sub>                       | 250          |        |        | 125    |         | pF    |
| Typical Thermal resistance (Note1)                                                                                        | R <sub>θJA</sub><br>R <sub>θJL</sub> | 85<br>20     |        |        |        |         | °C/ W |
| Operating junction temperature range                                                                                      | T <sub>J</sub>                       | −55 to +125  |        |        |        |         | °C    |
| Storage temperature range                                                                                                 | T <sub>STG</sub>                     | − 55 to +150 |        |        |        |         | °C    |

Note: 1. Thermal resistance from junction to ambient and from junction to lead P.C.B. mounted on 0.2×0.2"(5.0×5.0mm)copper pad areas.

Characteristic Curves ( $T_A=25^\circ\text{C}$  unless otherwise noted)

Fig.1 Forward Current Derating Curve

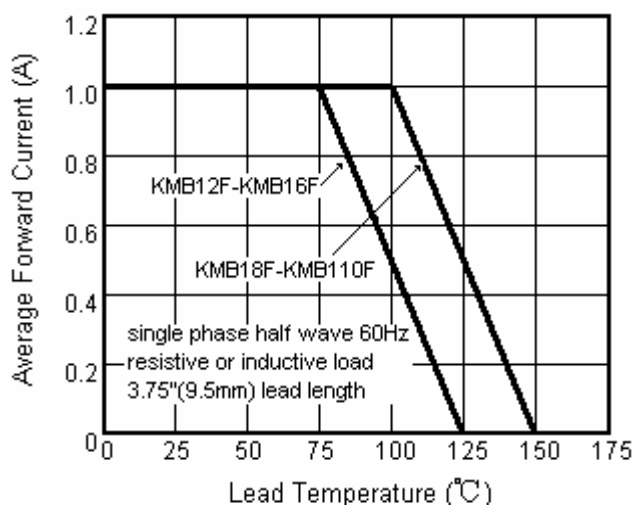


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

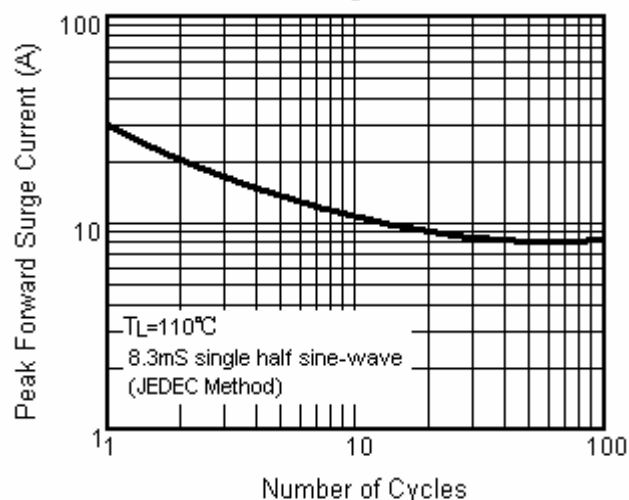


Fig.3 Typical Instantaneous Forward Characteristics

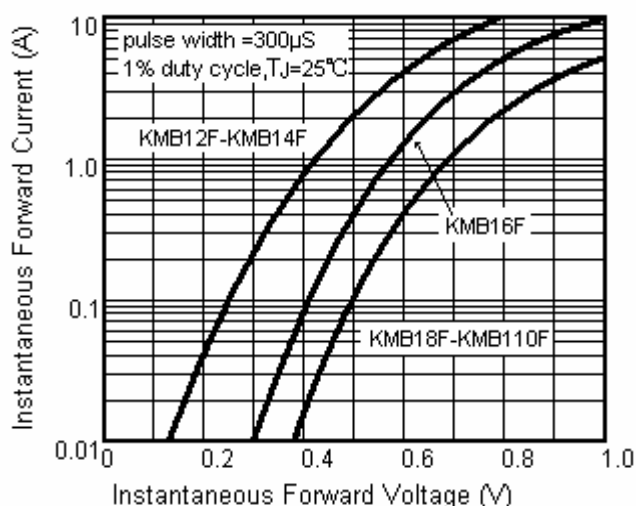


Fig.4A Typical Reverse Characteristics

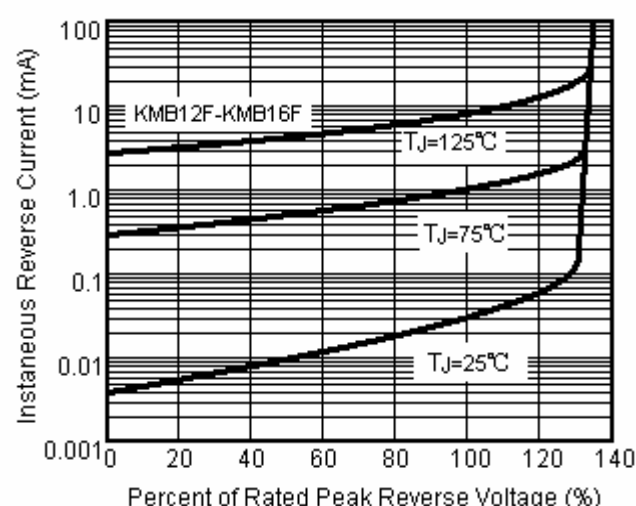


Fig.5 Typical Junction Capacitance

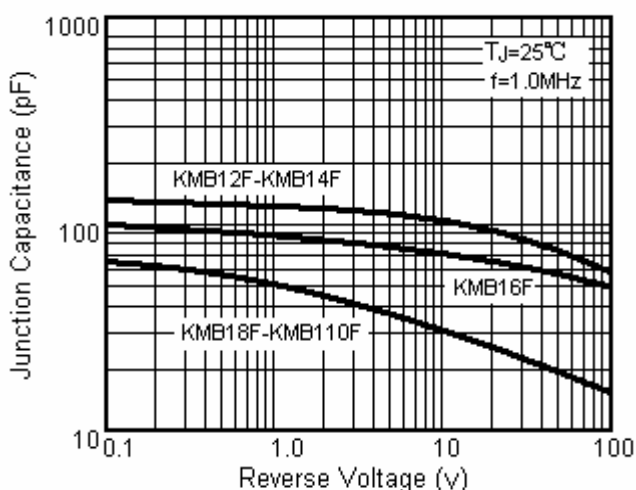


Fig.4B Typical Reverse Characteristics

