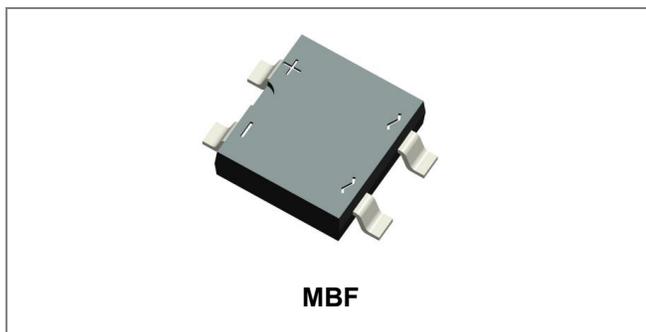


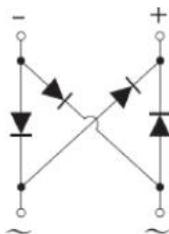
## KMB12F THRU KMB120F SINGLE PHASE 1.0 AMP SURFACE MOUNT SCHOTTKY BRIDGE RECTIFIER



### Features

- Schottky Barrier Chip
- Low Power Loss, High Efficiency
- Ideally Suited for Automatic Assembly
- Surge Overload Rating to 30A Peak
- Plastic Case Material has UL Flammability Classification 94V-0
- This is a Pb – 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
- Marking: Type Number
- Lead Free: For RoHS / Lead Free Version

### Maximum Ratings: @T<sub>A</sub>=25°C unless otherwise specified

| Type Number  | Symbol                              | KMB 12F | KMB 13F | KMB 14F | KMB 145F | KMB 15F | KMB 16F | KMB 18F | KMB 110F | KMB 115F | KMB 120F | Unit             |
|--|-------------------------------------|---------|---------|---------|----------|---------|---------|---------|----------|----------|----------|------------------|
| Peak Repetitive Reverse Voltage<br>DC Blocking Voltage   | V <sub>RRM</sub><br>V <sub>DC</sub> | 20      | 30      | 40      | 45       | 50      | 60      | 80      | 100      | 150      | 200      | V                |
| RMS Voltage  | V <sub>RMS</sub>                    | 14      | 21      | 28      | 31       | 35      | 42      | 56      | 70       | 105      | 140      | V                |
| Average Rectified Output Current<br>(Note1)@T <sub>A</sub> =90°C   | I <sub>o</sub>                      | 1.0     |         |         |          |         |         |         |          |          |          | A                |
| Non-Repetitive Peak Forward<br>Surge Current 8.3ms Single half<br>sine-wave superimposed on rated<br>load (JEDEC Method) | I <sub>FSM</sub>                    | 30      |         |         |          |         |         |         |          |          |          | A                |
| I <sup>2</sup> t Rating for fusing (t < 8.3ms)   | I <sup>2</sup> t                    | 5       |         |         |          |         |         |         |          |          |          | A <sup>2</sup> s |

**Electrical Characteristics @ $T_A=25^{\circ}\text{C}$  unless otherwise specified**

| Type Number  | Symbol   | KMB 12F | KMB 13F | KMB 14F | KMB 145F | KMB 15F | KMB 16F | KMB 18F | KMB 110F | KMB 115F | KMB 120F | Unit |
|--|----------|---------|---------|---------|----------|---------|---------|---------|----------|----------|----------|------|
| Forward Voltage (per element)<br>@ $I_F = 1\text{A}$   | $V_F$    | 0.55    |         |         | 0.70     |         |         | 0.85    |          | 0.90     |          | V    |
| Peak Reverse Current @ $T_A = 25^{\circ}\text{C}$<br>At Rated DC Blocking Voltage<br>@ $T_A = 100^{\circ}\text{C}$ | $I_{RM}$ | 0.1     |         |         |          |         |         | 0.05    |          |          |          | mA   |
|  |          | 10      |         |         |          |         |         | 5       |          |          |          |      |
| Typical Junction Capacitance<br>(per leg) (Note 2)   | $C_J$    | 28      |         |         |          |         |         |         |          |          |          | pF   |

\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

**Thermal-Mechanical Specifications:**

| Type Number                                      | Symbol          | KMB 12F     | KMB 13F | KMB 14F | KMB 145F | KMB 15F | KMB 16F | KMB 18F | KMB 110F | KMB 115F | KMB 120F | Unit                 |
|--|-----------------|-------------|---------|---------|----------|---------|---------|---------|----------|----------|----------|----------------------|
| Typical Thermal Resistance (per leg)<br>(Note 3) | $R_{\theta JA}$ | 75          |         |         |          |         |         |         |          |          |          | $^{\circ}\text{C/W}$ |
| Operating junction temperature range             | $T_J$           | -55 to +150 |         |         |          |         |         |         |          |          |          | $^{\circ}\text{C}$   |
| Storage Temperature Range                        | $T_{STG}$       | -55 to +150 |         |         |          |         |         |         |          |          |          | $^{\circ}\text{C}$   |
| Case Style                                       |                 | MB-F        |         |         |          |         |         |         |          |          |          |                      |

Note: 1. Mounted on glass epoxy PC board with 1.3mm<sup>2</sup> solder pad.  
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.  
3. Thermal Resistance From Junction to Ambient

**Ratings and Characteristics Curves**

FIG. 1- FORWARD CURRENT DERATING CURVE

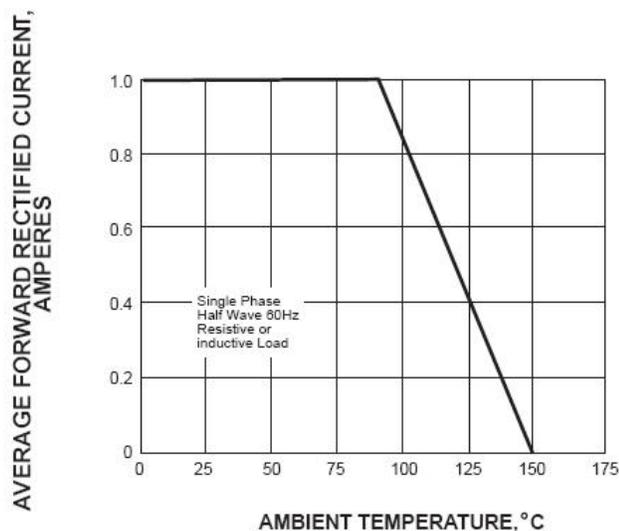
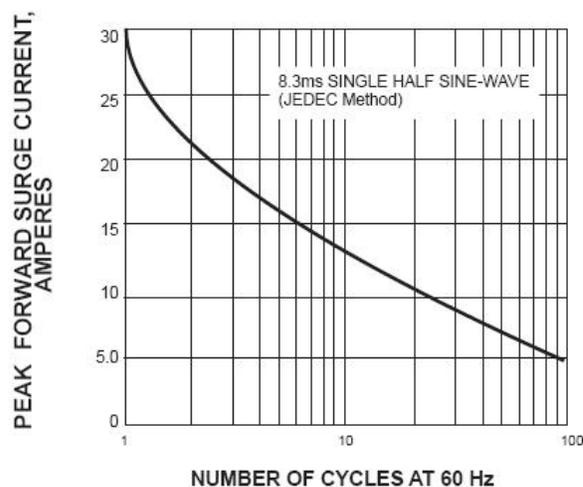
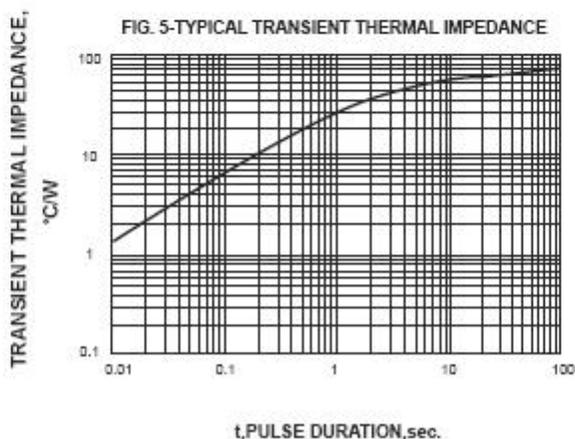
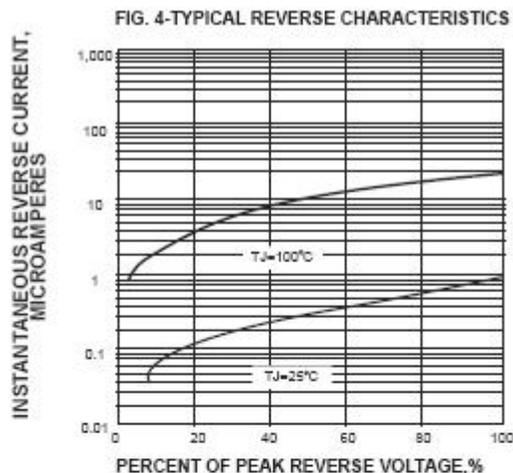
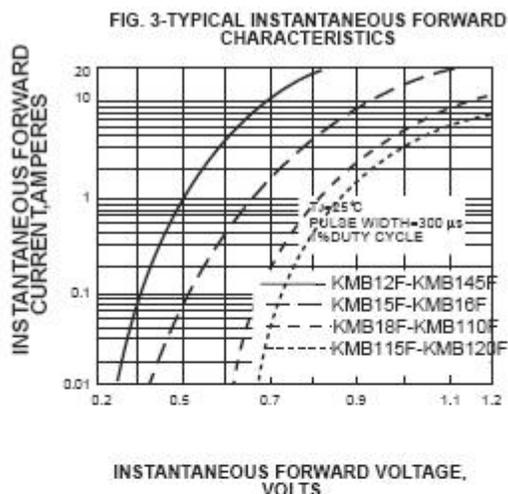


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



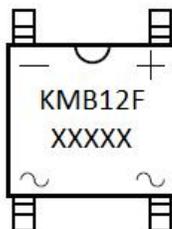


### Ordering Information

| Device                    | Package          | Plating | Shipping       |
|---------------------------|------------------|---------|----------------|
| KMB12F<br>THRU<br>KMB120F | MBF<br>(Pb-Free) | 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

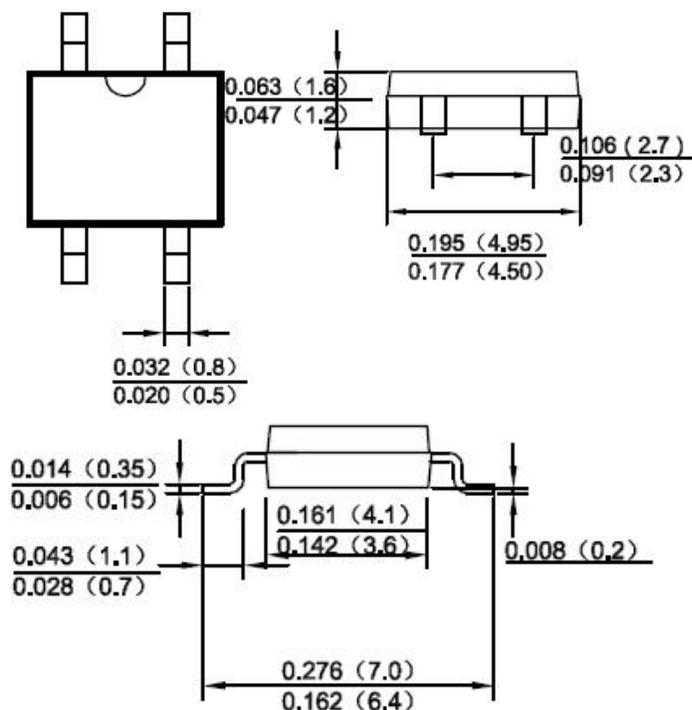


Where XXXXX is YYWWL

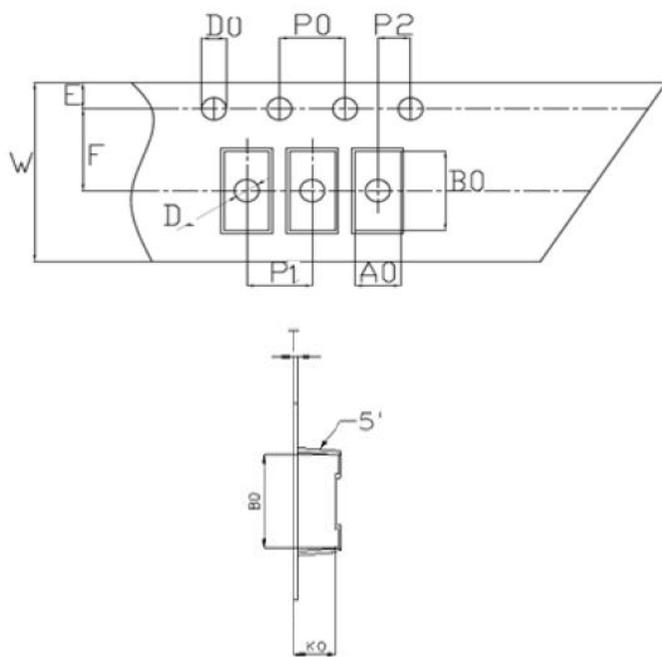
KMB12F = Type Number  
YY = Year  
WW = Week  
L = Lot Number

**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 |



**KMB12F  
THRU  
KMB120F**

**Technical Data  
Data Sheet N1777, Rev. A**



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