

**SCHOTTKY BARRIER RECTIFIERS**

REVERSE VOLTAGE - **70 to 100** Volts  
FORWARD CURRENT - **10** Amperes

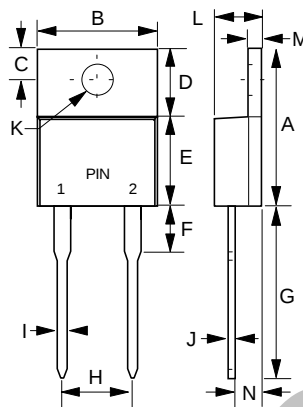
**FEATURES**

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low VF
- High surge capacity
- Plastic package has UL flammability classification 94V-0
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

**MECHANICAL DATA**

- Case : TO-220AC molded plastic
- Polarity : As marked on the body
- Weight : 0.08 ounces, 2.24 grams
- Mounting position : Any

**TO-220AC**



PIN 1 CASE  
PIN 2 CASE

| TO-220AC |                    |                    |
|----------|--------------------|--------------------|
| DIM.     | MIN.               | MAX.               |
| A        | 14.22              | 15.88              |
| B        | 9.65               | 10.67              |
| C        | 2.54               | 3.43               |
| D        | 5.84               | 6.86               |
| E        | 8.26               | 9.28               |
| F        | -                  | 6.35               |
| G        | 12.70              | 14.73              |
| H        | 4.83               | 5.33               |
| I        | 0.51               | 1.14               |
| J        | 0.30               | 0.64               |
| K        | 3.53 $\varnothing$ | 4.09 $\varnothing$ |
| L        | 3.56               | 4.83               |
| M        | 1.14               | 1.40               |
| N        | 2.03               | 2.92               |

All Dimensions in millimeter

**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, derate current by 20%

| CHARACTERISTICS                                                                                                                                                              | SYMBOL            | MBR1070              | MBR1080 | MBR1090 | MBR10100 | UNIT |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------|---------|---------|----------|------|
| Maximum Recurrent Peak Reverse Voltage                                                                                                                                       | V <sub>RRM</sub>  | 70                   | 80      | 90      | 100      | V    |
| Maximum RMS Voltage                                                                                                                                                          | V <sub>RMS</sub>  | 49                   | 56      | 63      | 70       | V    |
| Maximum DC Blocking Voltage                                                                                                                                                  | V <sub>DC</sub>   | 70                   | 80      | 90      | 100      | V    |
| Maximum Average Forward Rectified Current (See Fig.1) @T <sub>C</sub> =135°C                                                                                                 | I <sub>(AV)</sub> | 10                   |         |         |          | A    |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC METHOD)                                                                             | I <sub>FSM</sub>  | 150                  |         |         |          | A    |
| Voltage Rate of Change (Rated VR)                                                                                                                                            | dv/dt             | 10000                |         |         |          | V/us |
| Maximum Forward Voltage (Note 1)<br>I <sub>F</sub> =10A @ T <sub>J</sub> =25°C<br>I <sub>F</sub> =10A @ T <sub>J</sub> =125°C<br>I <sub>F</sub> =20A @ T <sub>J</sub> =125°C | V <sub>F</sub>    | 0.85<br>0.75<br>0.80 |         |         |          | V    |
| Maximum DC Reverse Current at Rated DC Blocking Voltage<br>@T <sub>J</sub> =25°C<br>@T <sub>J</sub> =125°C                                                                   | I <sub>R</sub>    | 0.1<br>100           |         |         |          | mA   |
| Typical Thermal Resistance (Note 2)                                                                                                                                          | R <sub>θJC</sub>  | 2.0                  |         |         |          | °C/W |
| Typical Junction Capacitance (Note 3)                                                                                                                                        | C <sub>J</sub>    | 1100                 |         |         |          | pF   |
| Operating Temperature Range                                                                                                                                                  | T <sub>J</sub>    | -55 to +150          |         |         |          | °C   |
| Storage Temperature Range                                                                                                                                                    | T <sub>STG</sub>  | -55 to +175          |         |         |          | °C   |

NOTES : 1.300us Pulse Width, 2% Duty Cycle.  
2.Thermal Resistance Junction to Case.  
3.Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

REV. 2-PRE, 13-Sep-2001, KTHA12

FIG.1 - FORWARD CURRENT DERATING CURVE

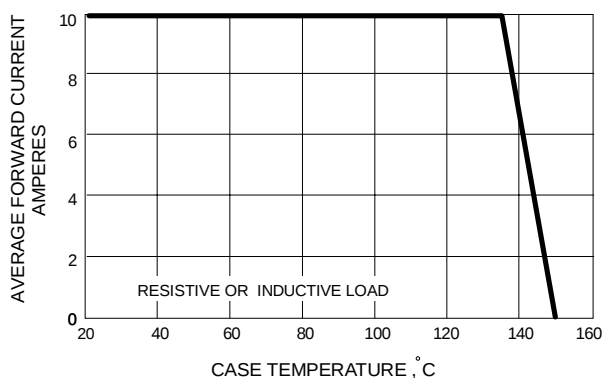


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

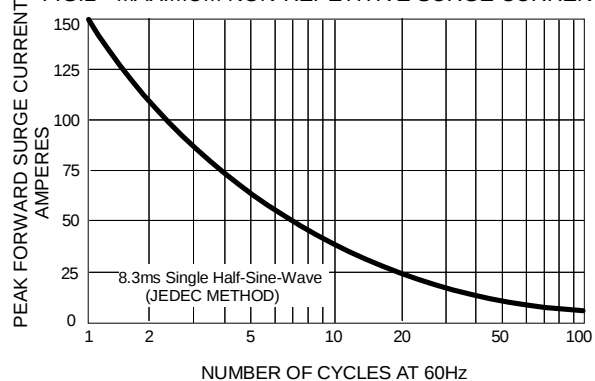


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

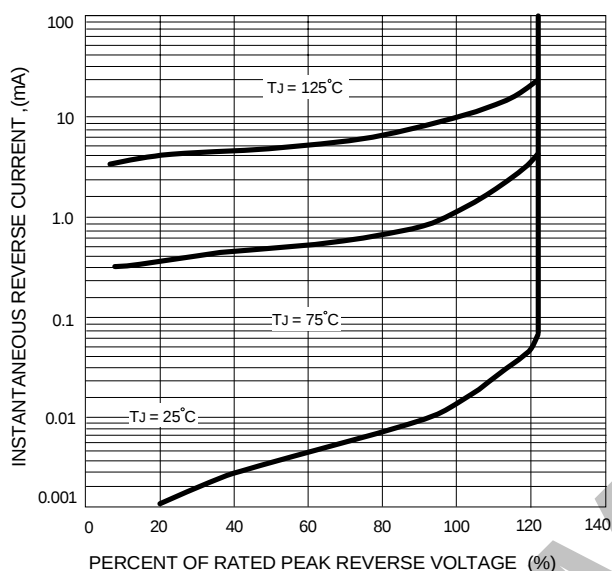


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

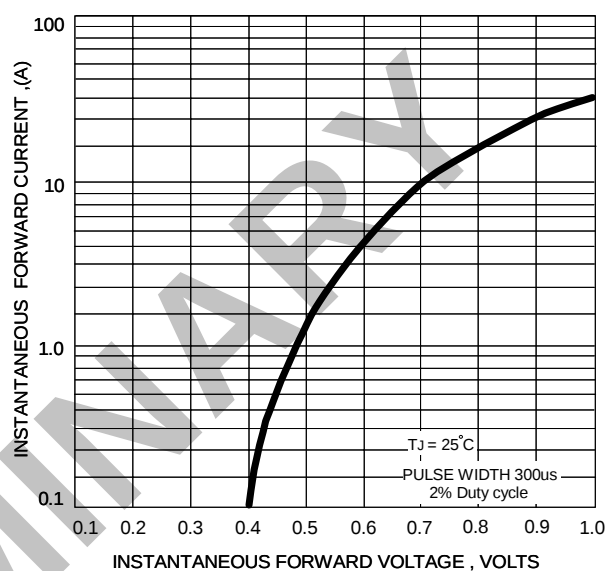


FIG.5 - TYPICAL JUNCTION CAPACITANCE

