

# MBR1040~MBR10200

## 10 AMPERES SCHOTTKY BARRIER RECTIFIERS

**VOLTAGE** 40 to 200 Volts **CURRENT** 10 Amperes

### FEATURES

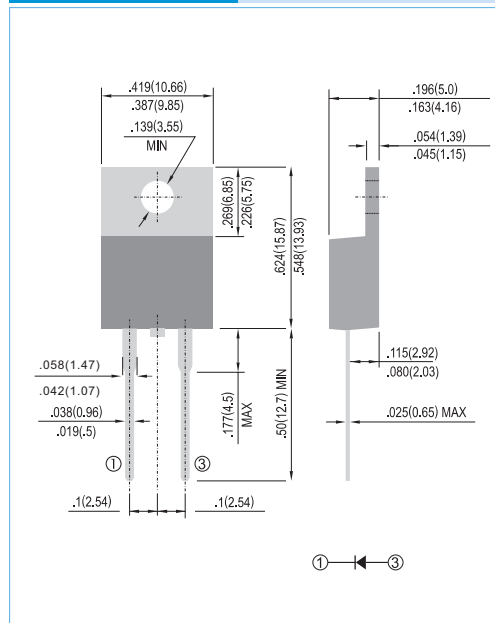
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O. Flame Retardant Epoxy Molding Compound.
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency.
- High current capability
- Guardring for overvoltage protection
- For use in low voltage,high frequency inverters free wheeling , and polarity protection applications.
- In compliance with EU RoHS 2002/95/EC directives

### MECHANICALDATA

- Case: TO-220AC molded plastic
- Terminals: solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Mounting Position: Any
- Weight: 0.055 ounces, 1.5615 grams.

TO-220AC

Unit: inch ( mm )



## 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, derate current by 20%

| PARAMETER                                                                                           | SYMBOL                           | MBR1040      | MBR1045      | MBR1050 | MBR1060 | MBR1080 | MBR1090 | MBR10100 | MBR10150 | MBR10200 | UNITS  |
|-----------------------------------------------------------------------------------------------------|----------------------------------|--------------|--------------|---------|---------|---------|---------|----------|----------|----------|--------|
| Maximum Recurrent Peak Reverse Voltage                                                              | V <sub>RRM</sub>                 | 40           | 45           | 50      | 60      | 80      | 90      | 100      | 150      | 200      | V      |
| Maximum RMS Voltage                                                                                 | V <sub>RMS</sub>                 | 28           | 31.5         | 35      | 42      | 56      | 63      | 70       | 105      | 140      | V      |
| Maximum DC Blocking Voltage                                                                         | V <sub>DC</sub>                  | 40           | 45           | 50      | 60      | 80      | 90      | 100      | 150      | 200      | V      |
| Maximum Average Forward Current (See fig.1)                                                         | I <sub>F(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      |
| Maximum Forward Voltage at 10A, per leg                                                             | V <sub>F</sub>                   | 0.7          |              | 0.75    |         | 0.8     |         |          | 0.9      |          | V      |
| Maximum DC Reverse Current T <sub>j</sub> =25 °C at Rated DC Blocking Voltage T <sub>j</sub> =125°C | I <sub>R</sub>                   | 0.05<br>20   |              |         |         |         |         |          |          |          | mA     |
| Typical Thermal Resistance                                                                          | R <sub>BJC</sub>                 | 3.0          |              |         |         |         |         |          |          |          | °C / W |
| Operating and Storage Junction Temperature Range                                                    | T <sub>J</sub> ,T <sub>STG</sub> | -55 to + 150 | -65 to + 175 |         |         |         |         |          |          |          | °C     |

Notes :

Both Bonding and Chip structure are available.

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## RATING AND CHARACTERISTIC CURVES

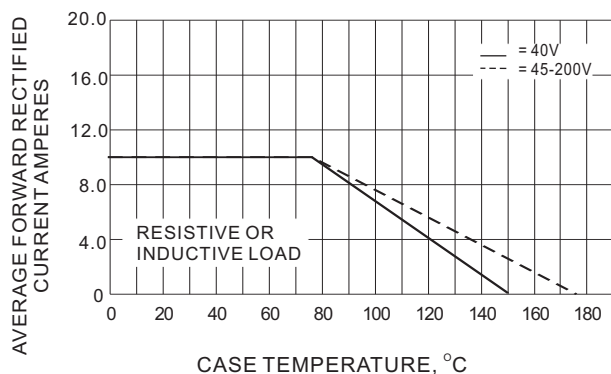


Fig.1- FORWARD CURRENT DERATING CURVE

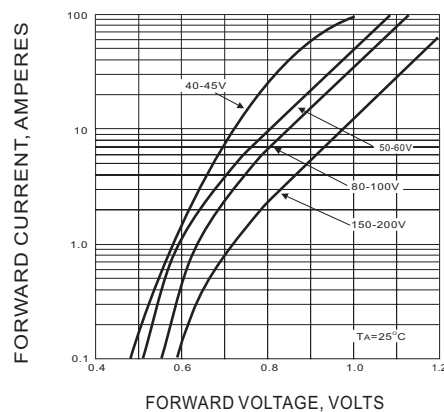


Fig.2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

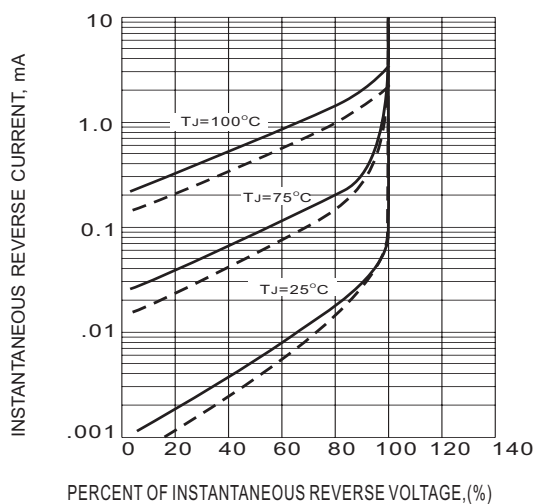


Fig.3- TYPICAL REVERSE CHARACTERISTICS

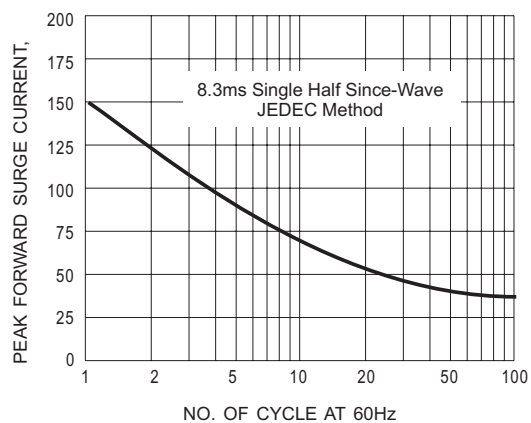


Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS