

# MBR1040FCT~MBR10200FCT

## 10 AMPERES SCHOTTKY BARRIER RECTIFIERS

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

### FEATURES

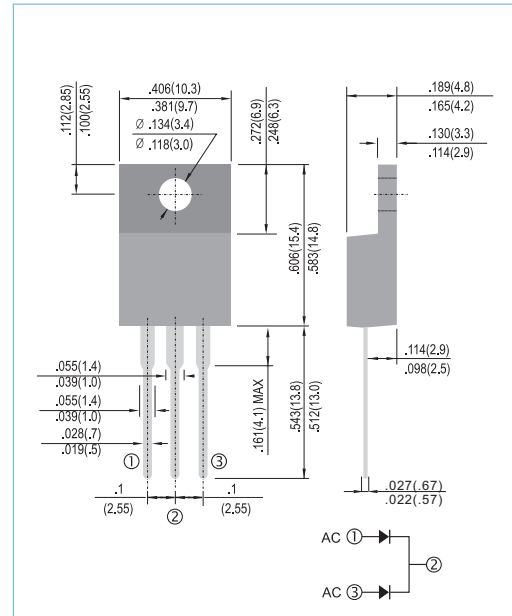
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O. Flame Retardant Epoxy Molding Compound.
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency.
- High current capability
- Guardring for overvoltage protection
- For use in low voltage,high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

### MECHANICAL DATA

- Case: ITO-220AB 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.

ITO-220AB

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                           | MBR1040FCT   | MBR1045FCT   | MBR1050FCT | MBR1060FCT | MBR1080FCT | MBR1090FCT | MBR10100FCT | MBR10150FCT | MBR10200FCT | 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 5A, 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>θJC</sub>                 | 2            |              |            |            |            |            |             |             |             | °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

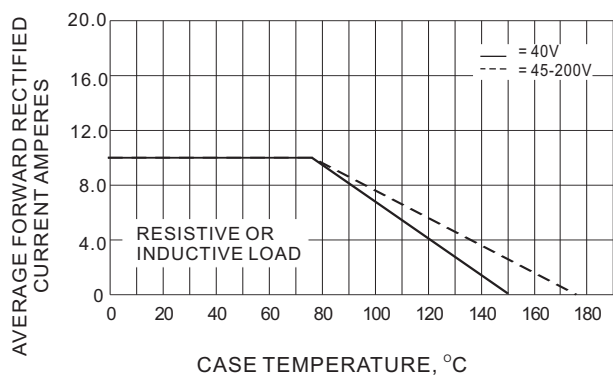


Fig.1- FORWARD CURRENT DERATING CURVE

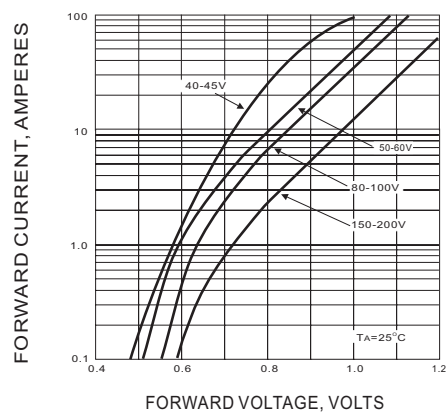


Fig.2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

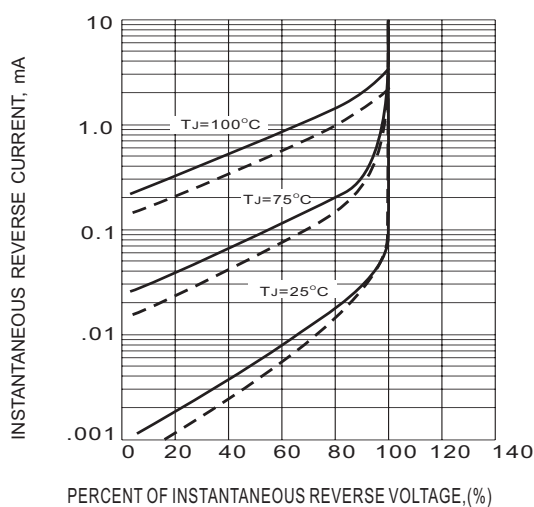


Fig.3- TYPICAL REVERSE CHARACTERISTICS

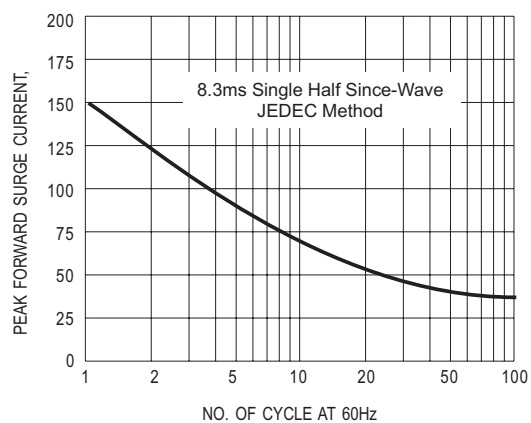


Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS