PANJIT SEMI CONDUCTOR

# MBR1040~MBR10200

## 10 AMPERES SCHOTTKY BARRIER RECTIFIERS

**VOLTAGE** 40 to 200 Volt **CURRENT** 10 Ampere

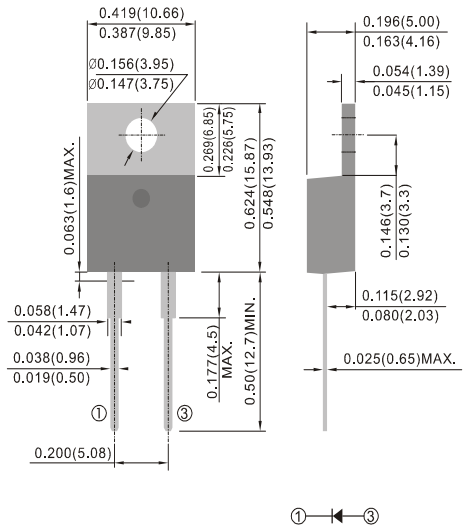
### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O. Flame Retardant Epoxy Molding Compound.
- Low power loss, high efficiency.
- High current capability
- For use in low voltage, high frequency inverters free wheeling, and polarlity protection applications.
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

- Case: TO-220AC molded plastic
- Terminals: solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Weight: 0.067 ounces, 1.89 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 | $V_{RRM}$ | 40 | 45 | 50 | 60 | 80 | 90 | 100 | 150 | 200 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 28 | 31.5 | 35 | 42 | 56 | 63 | 70 | 105 | 140 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 40 | 45 | 50 | 60 | 80 | 90 | 100 | 150 | 200 | V |
| Maximum Average Forward Current | $I_{F(AV)}$ | 10 | | | | | | | | | A |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load | $I_{FSM}$ | 150 | | | | | | | | | A |
| Maximum Forward Voltage at 10A, per leg | $V_F$ | 0.7 | | 0.75 | | 0.8 | | | 0.9 | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J$=25°C / $T_J$=125°C | $I_R$ | 0.05 / 20 | | | | | | | | | mA |
| Typical Thermal Resistance | $R_{\theta JC}$ | 3 | | | | | | | | | °C / W |
| Operating and Storage Junction Temperature Range | $T_J$, $T_{STG}$ | -55 to + 150 | -65 to + 175 | | | | | | | | °C |

Notes : Both Bonding and Chip structure are available.

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## RATING AND CHARACTERISTIC CURVES

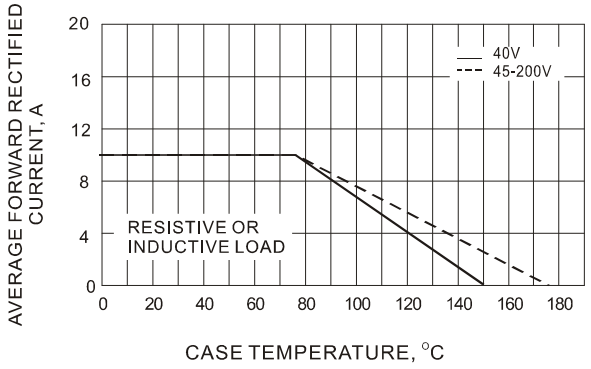


Fig.1 FORWARD CURRENT DERATING CURVE

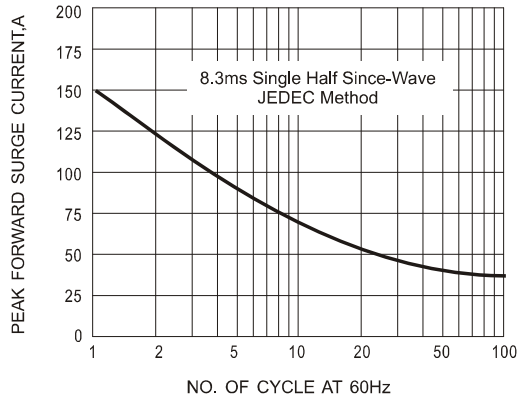


Fig.2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

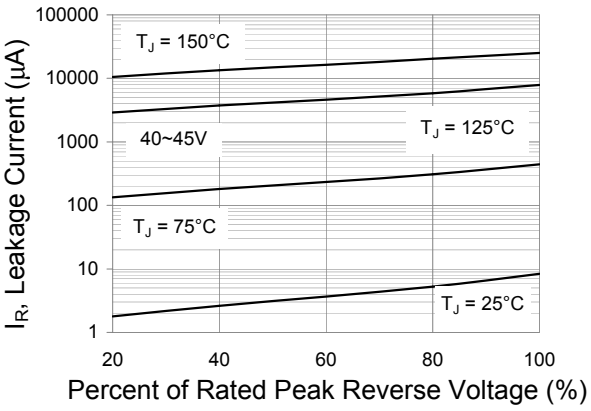


Fig.3 TYPICAL REVERSE CHARACTERISTICS

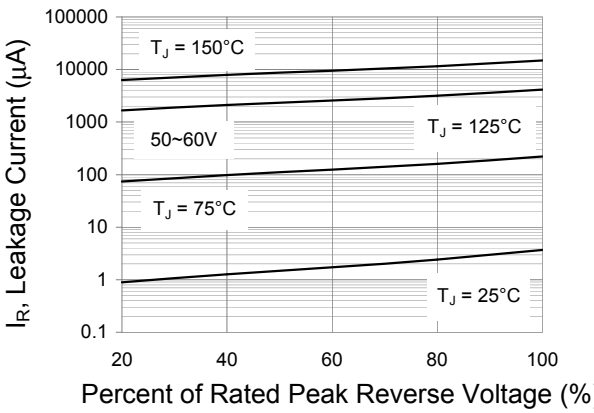


Fig.4 TYPICAL REVERSE CHARACTERISTICS

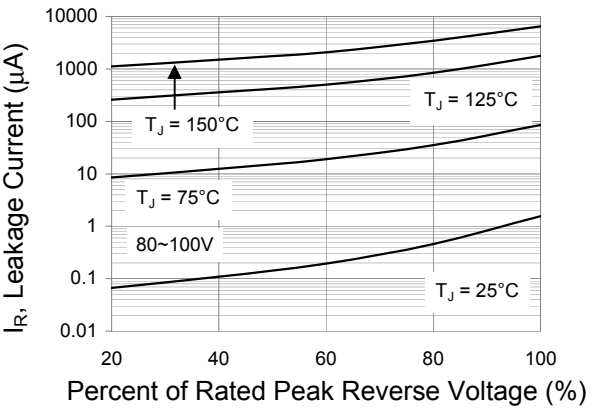


Fig.5 TYPICAL REVERSE CHARACTERISTICS

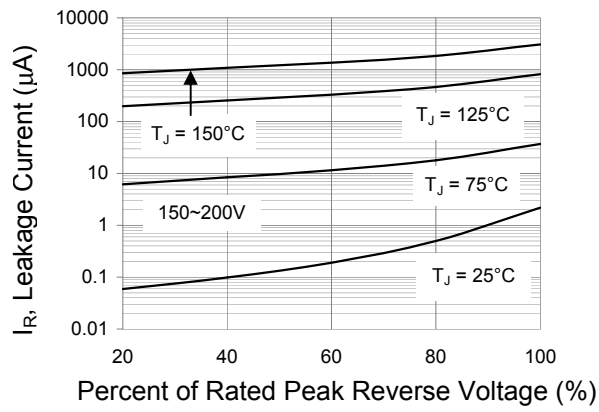


Fig.6 TYPICAL REVERSE CHARACTERISTICS

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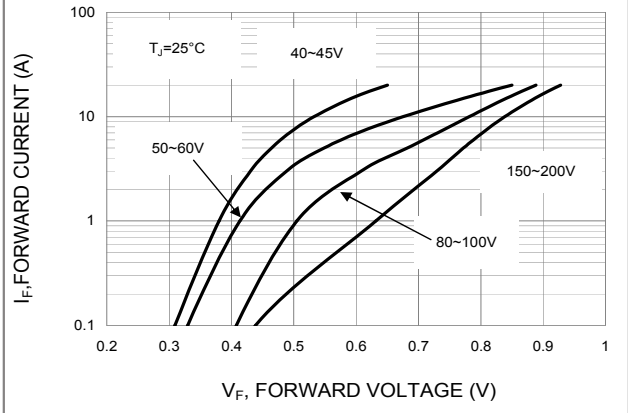


Fig.7 TYPICAL FORWARD CHARACTERISTIC

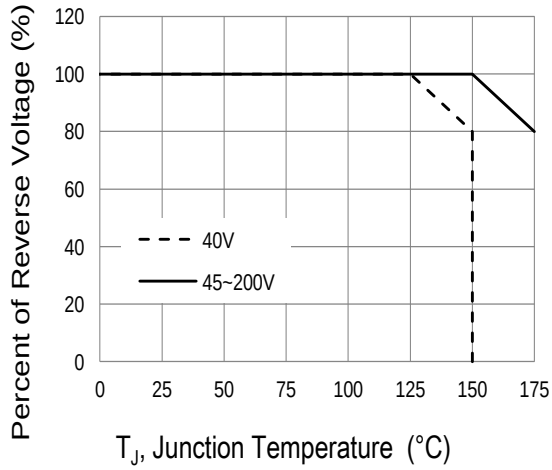


Fig.8 Operating Temperature Derating Curve

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