

MBR6040PT-MBR60200PT  
60A SCHOTTKY BARRIER RECTIFIER



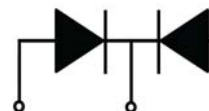
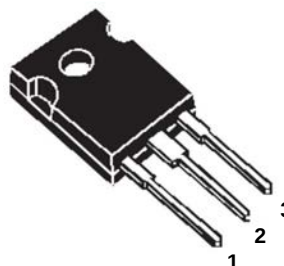
## MBR6040PT-MBR60200PT

### Features:

- ☐ Low power loss. high efficiency.  
High surge capacity
- ☐ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- ☐ Metal silicon junction, majority carrier conduction.
- ☐ High current Capability. low forward voltage drop.
- ☐ Guard ring for over voltage protection.



TO-247S



1. Anode 2. Cathode 3. Anode

### Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

| Parameter                                                                                        | Symbol             | MBR 6040 PT    | MBR 6045 PT | MBR 6050 PT | MBR 6060 PT | MBR 6080 PT | MBR 6090 PT | MBR 60100 PT | MBR 60150 PT | MBR 60200 PT | Unit |
|--------------------------------------------------------------------------------------------------|--------------------|----------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|------|
| 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          |      |
| Maximum DC Blocking Voltage                                                                      | V <sub>R(DC)</sub> | 40             | 45          | 50          | 60          | 80          | 90          | 100          | 150          | 200          |      |
| Maximum Average Forward Current                                                                  | I <sub>F(AV)</sub> | 60             |             |             |             |             |             |              |              |              | A    |
| Peak Forward Surge Current:8.3ms single half sine-wave superimposed on rated load (JEDEC method) | I <sub>FSM</sub>   | 350            |             |             |             |             |             |              |              |              |      |
| Maximum Forward Voltage at 30A per leg                                                           | V <sub>F</sub>     | 0.65           |             | 0.72        |             | 0.82        |             |              | 0.92         |              | V    |
| Maximum DC Reverse Current at Rated DC Blocking Voltage                                          | Tj=25℃             | I <sub>R</sub> | 0.1         |             |             |             |             |              | 0.05         |              | mA   |
|                                                                                                  | Tj=125℃            |                | 20          |             |             |             |             |              |              |              |      |
| Maximum Operating Junction Temperature                                                           | T <sub>j</sub>     | 150            |             |             |             | 175         |             |              |              |              | ℃    |
| Storage Temperature                                                                              | T <sub>stg</sub>   | -55~+150       |             |             |             | -65~+175    |             |              |              |              |      |
| Typical Thermal Resistance                                                                       | R <sub>θJC</sub>   | 1.3            |             |             |             |             |             |              |              |              | ℃/W  |

## Typical Characteristics

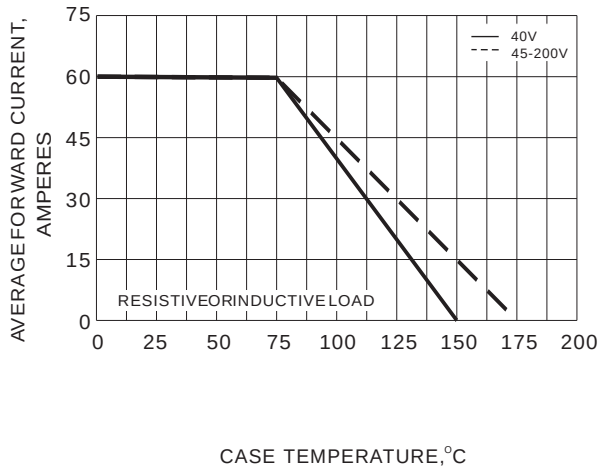


Fig.1 FORWARD CURRENT DERATING CURVE

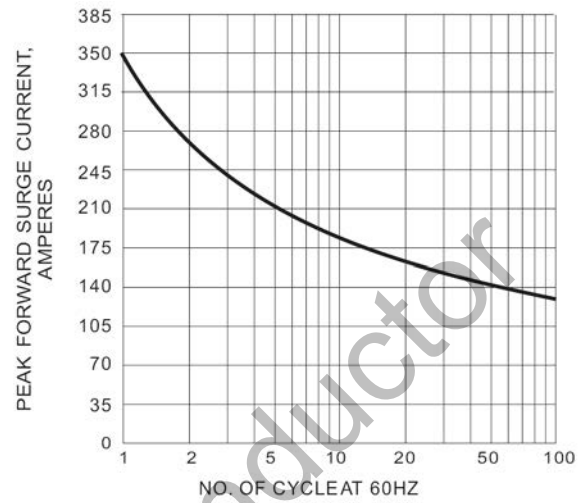


Fig.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

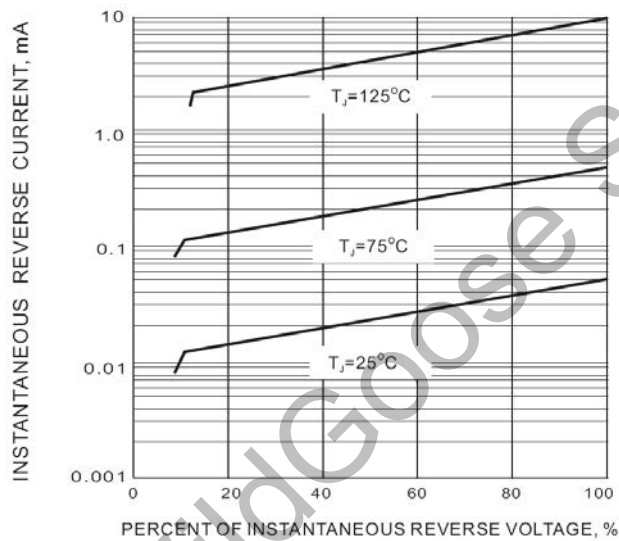


Fig.3. TYPICAL REVERSE CHARACTERISTIC

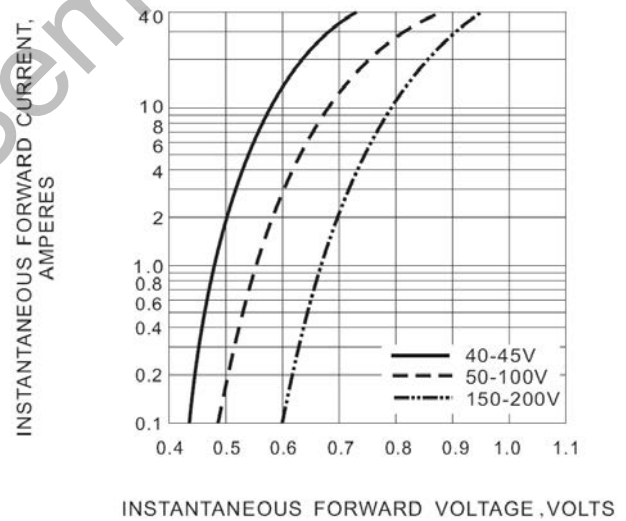
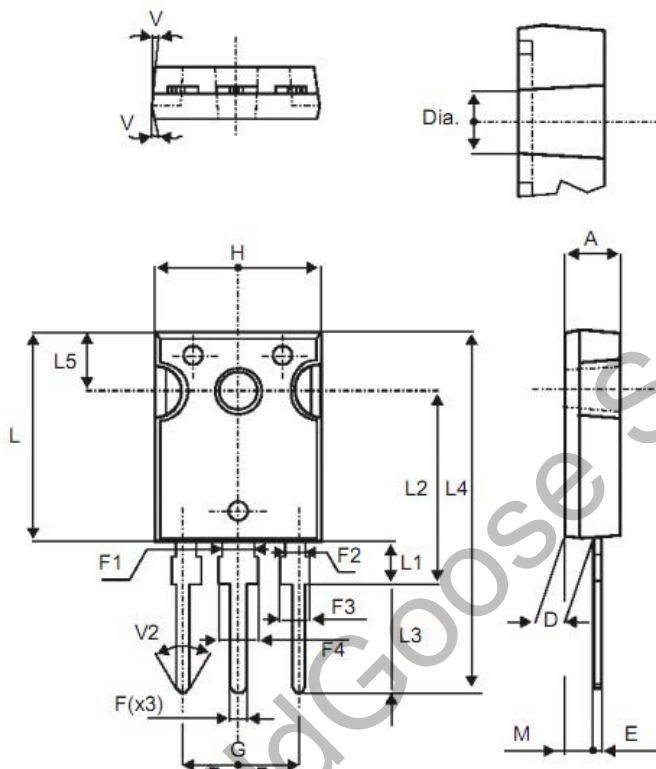


Fig.4. TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

**Package Dimension**

**TO-247S**



| REF. | DIMENSIONS  |       |       |        |       |       |
|------|-------------|-------|-------|--------|-------|-------|
|      | Millimeters |       |       | Inches |       |       |
|      | Min.        | Typ.  | Max.  | Min.   | Typ.  | Max.  |
| A    | 4.85        |       | 5.15  | 0.191  |       | 0.203 |
| D    | 2.20        |       | 2.60  | 0.086  |       | 0.102 |
| E    | 0.40        |       | 0.80  | 0.015  |       | 0.031 |
| F    | 1.00        |       | 1.40  | 0.039  |       | 0.055 |
| F1   |             | 3.00  |       |        | 0.118 |       |
| F2   |             | 2.00  |       |        | 0.078 |       |
| F3   | 2.00        |       | 2.40  | 0.078  |       | 0.094 |
| F4   | 3.00        |       | 3.40  | 0.118  |       | 0.133 |
| G    |             | 10.90 |       |        | 0.429 |       |
| H    | 15.45       |       | 15.75 | 0.608  |       | 0.620 |
| L    | 19.85       |       | 20.15 | 0.781  |       | 0.793 |
| L1   | 3.70        |       | 4.30  | 0.145  |       | 0.169 |
| L2   |             | 18.50 |       |        | 0.728 |       |
| L3   | 14.20       |       | 14.80 | 0.559  |       | 0.582 |
| L4   |             | 34.60 |       |        | 1.362 |       |
| L5   |             | 5.50  |       |        | 0.216 |       |
| M    | 2.00        |       | 3.00  | 0.078  |       | 0.118 |
| V    |             | 5°    |       |        | 5°    |       |
| V2   |             | 60°   |       |        | 60°   |       |
| Dia. | 3.55        |       | 3.65  | 0.139  |       | 0.143 |