



### FEATURES

- \* Low forward voltage drop
- \* High current capability
- \* High reliability
- \* High surge current capability
- \* Epitaxial construction

### MECHANICAL DATA

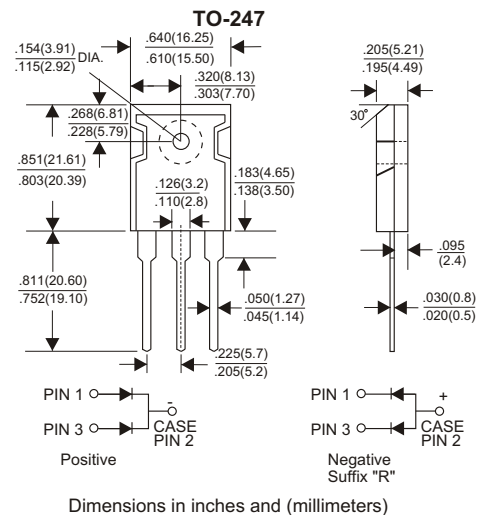
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: Lead solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity: As Marked
- \* Mounting position: Any
- \* Weight: 5.60 grams

### VOLTAGE RANGE

20 to 200 Volts

### CURRENT

60.0 Amperes



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.  
Single phase half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| TYPE NUMBER                                                                                           | MBR6020PT  | MBR6040PT | MBR6060PT | MBR6080PT | MBR60100PT | MBR60150PT | MBR60200PT | UNITS |
|-------------------------------------------------------------------------------------------------------|------------|-----------|-----------|-----------|------------|------------|------------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                                | 20         | 40        | 60        | 80        | 100        | 150        | 200        | V     |
| Maximum RMS Voltage                                                                                   | 14         | 28        | 42        | 56        | 70         | 105        | 140        | V     |
| Maximum DC Blocking Voltage                                                                           | 20         | 40        | 60        | 80        | 100        | 150        | 200        | V     |
| Maximum Average Forward Rectified Current<br>at Tc=125°C                                              | 60         |           |           |           |            |            |            | A     |
| Peak Forward Surge Current, 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | 400        |           |           |           |            |            |            | A     |
| Maximum Instantaneous Forward Voltage at 60A                                                          | 0.6        | 0.75      | 0.88      |           | 0.95       |            | V          |       |
| Maximum DC Reverse Current<br>Ta=25°C                                                                 | 0.1        |           | 0.02      |           |            |            | mA         |       |
| at Rated DC Blocking Voltage<br>Ta=100°C                                                              | 5          |           | 2         |           |            |            | mA         |       |
| Typical Junction Capacitance (Note1)                                                                  | 650        |           |           |           |            |            |            | pF    |
| Typical Thermal Resistance RθJC (Note 2)                                                              | 1.4        |           |           |           |            |            |            | °C/W  |
| Operating Temperature Range Tj                                                                        | -65 — +150 |           |           |           | -65 — +175 |            |            | °C    |
| Storage Temperature Range Tstg                                                                        | -65 — +150 |           |           |           |            |            |            | °C    |

#### NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal Resistance Junction to Case.

## RATING AND CHARACTERISTIC CURVES (MBR6020PT THRU MBR60200PT)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

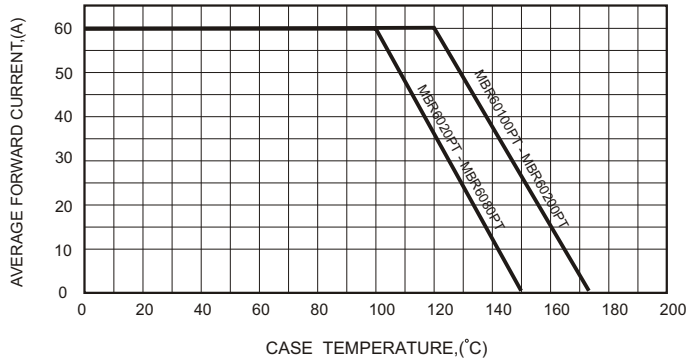


FIG.2-TYPICAL FORWARD CHARACTERISTICS

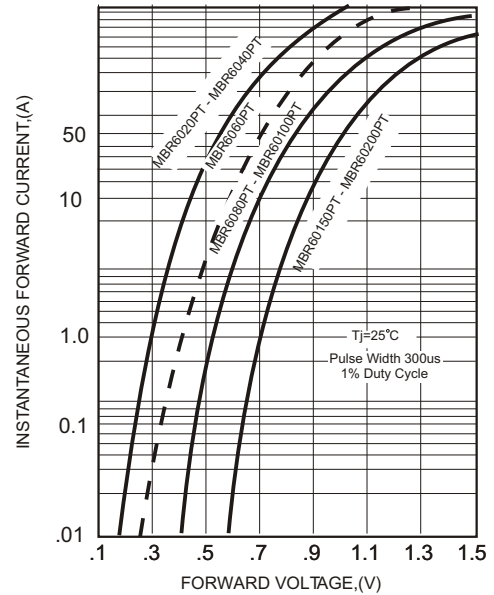


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

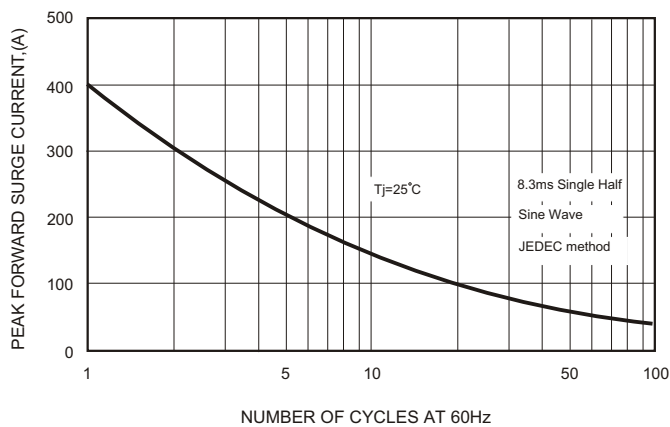


FIG.4-TYPICAL JUNCTION CAPACITANCE

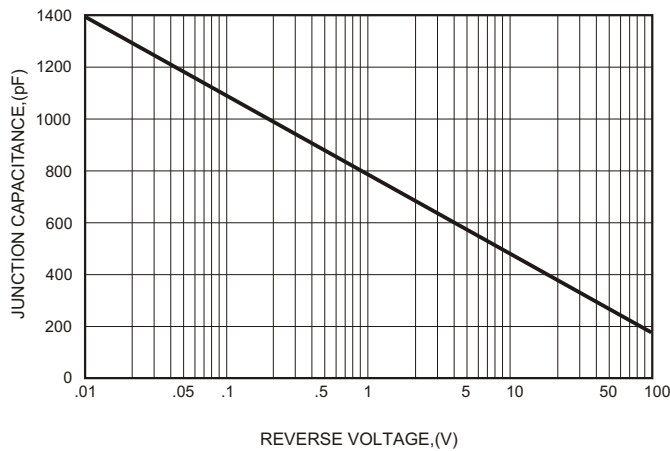


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

