



### FEATURES

- \* Low forward voltage drop
- \* High current capability
- \* High reliability
- \* High surge current capability
- \* Good for switching mode application

### MECHANICAL DATA

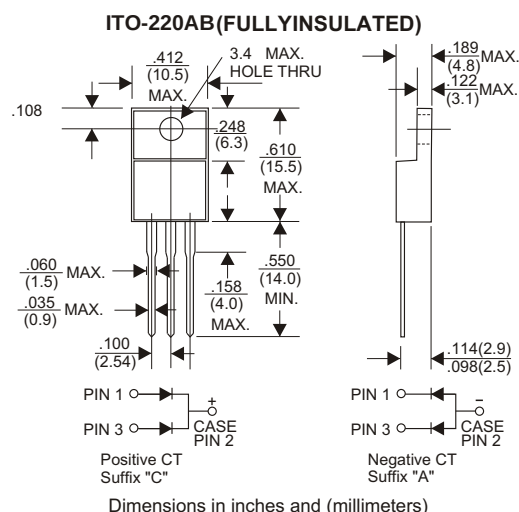
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: Lead solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity: As Marked
- \* Mounting position: Any

### VOLTAGE RANGE

20 to 200 Volts

### CURRENT

30.0 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                                                                                        | MBRF3020CT | MBRF3045CT | MBRF3060CT | MBRF3080CT | MBRF30100CT | MBRF30150CT | MBRF30200CT | UNITS |
|----------------------------------------------------------------------------------------------------|------------|------------|------------|------------|-------------|-------------|-------------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                             | 20         | 45         | 60         | 80         | 100         | 150         | 200         | V     |
| Maximum RMS Voltage                                                                                | 14         | 32         | 42         | 56         | 70          | 105         | 140         | V     |
| Maximum DC Blocking Voltage                                                                        | 20         | 45         | 60         | 80         | 100         | 150         | 200         | V     |
| Maximum Average Forward Rectified Current                                                          |            |            |            |            |             |             |             |       |
| at Tc=125°C                                                                                        | 30         |            |            |            |             |             |             | A     |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | 250        |            |            |            |             |             |             | A     |
| Maximum Instantaneous Forward Voltage at 30A                                                       | 0.55       |            | 0.7        | 0.85       |             | 0.92        |             | V     |
| Maximum DC Reverse Current Ta=25°C                                                                 | 0.2        |            |            |            |             |             |             | mA    |
| at Rated DC Blocking Voltage Ta=100°C                                                              | 50         |            |            |            |             |             |             | mA    |
| Typical Junction Capacitance (Note1)                                                               | 570        |            |            |            |             |             |             | pF    |
| Typical Thermal Resistance RθJC (Note 2)                                                           | 2.5        |            |            |            |             |             |             | °C/W  |
| Operating Temperature Range Tj                                                                     | -65 — +150 |            |            |            |             |             |             | °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 (MBRF3020CT THRU MBRF30200CT)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

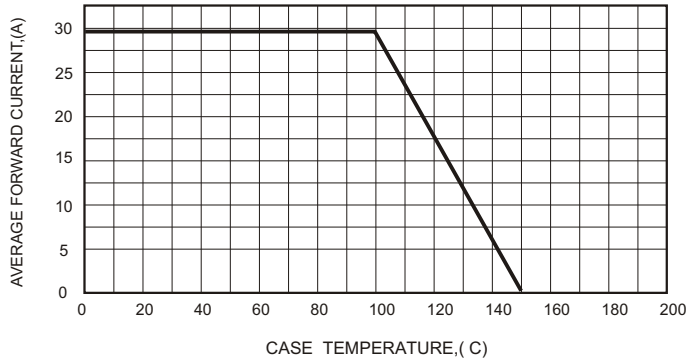


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

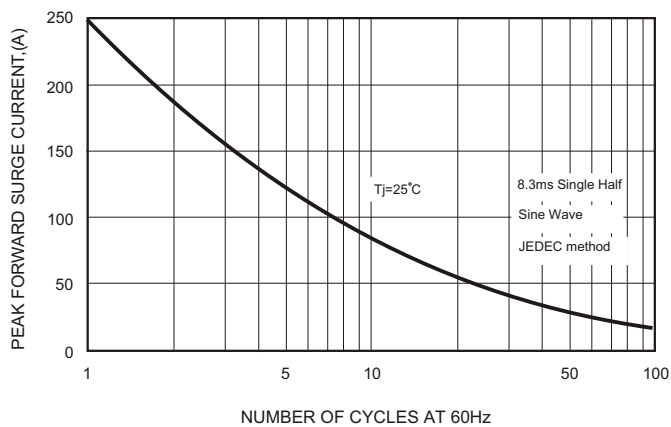


FIG.4-TYPICAL JUNCTION CAPACITANCE

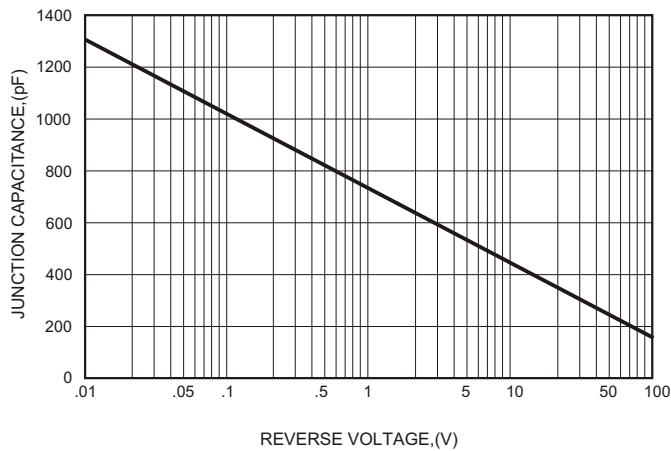


FIG.2-TYPICAL FORWARD CHARACTERISTICS

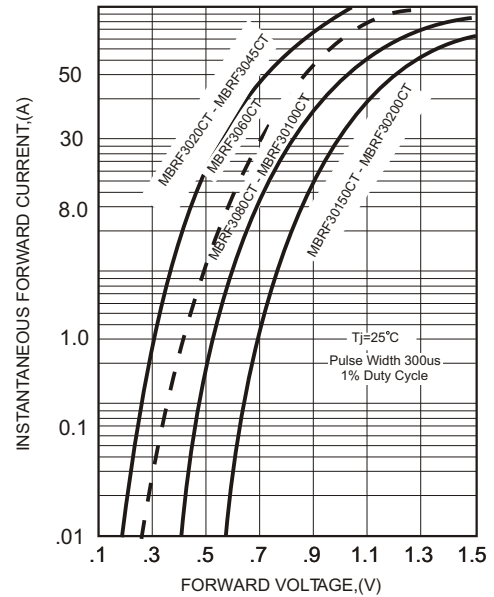


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

