

# MBR3020CT THRU MBR30200CT

AXIAL SCHOTTKY BARRIER RECTIFIER

## TO-220CB Axial Schottky Barrier Rectifier

### Features

- Low forward voltage drop
- High forward surge current capability
- High reliability
- High current capability

Reverse Voltage  
20-200 V  
Forward Current  
30 Ampere

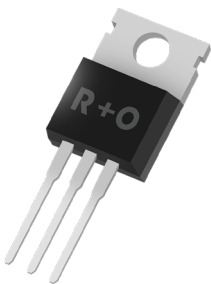
### Applications

For use in low voltage high frequency inverters, free wheeling,DC/DC converters, and polarity protection applications.

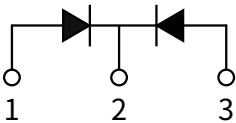
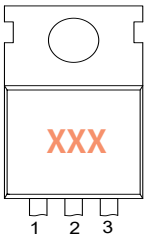
### Mechanical Data

- Case: TO-220CB  
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026

TO-220CB



### Function Diagram



### Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER                                                                            | SYMBOL          | UNIT  | MBR 3020CT | MBR 3045CT | MBR 3060CT | MBR 3080CT | MBR 30100CT | MBR 30150CT | MBR 30200CT |
|--------------------------------------------------------------------------------------|-----------------|-------|------------|------------|------------|------------|-------------|-------------|-------------|
| Device marking code                                                                  |                 |       | MBR 3020CT | MBR 3045CT | MBR 3060CT | MBR 3080CT | MBR 30100CT | MBR 30150CT | MBR 30200CT |
| Maximum Repetitive Peak Reverse Voltage                                              | $V_{RRM}$       | V     | 20         | 45         | 60         | 80         | 100         | 150         | 200         |
| Maximum RMS Voltage                                                                  | $V_{RMS}$       | V     | 14         | 32         | 42         | 56         | 70          | 105         | 140         |
| Maximum DC blocking Voltage                                                          | $V_{DC}$        | V     | 20         | 45         | 60         | 80         | 100         | 150         | 200         |
| Maximum Average Forward Rectified Current @60Hz sinewave, Resistance load,TL (Fig.1) | $I_{F(AV)}$     | A     | 30         |            |            |            |             |             |             |
| Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave                   | $I_{FSM}$       | A     | 250        |            |            |            |             |             |             |
| Storage temperature                                                                  | $T_{stg}$       | °C    | -55 ~ +150 |            |            |            |             |             |             |
| Junction temperature                                                                 | $T_j$           | °C    | -55 ~ +150 |            |            |            |             |             |             |
| Typical Thermal Resistance                                                           | $R_{\theta JC}$ | °C /W | 2.5        |            |            |            |             |             |             |
|                                                                                      | $R_{\theta JA}$ | °C /W | 65         |            |            |            |             |             |             |

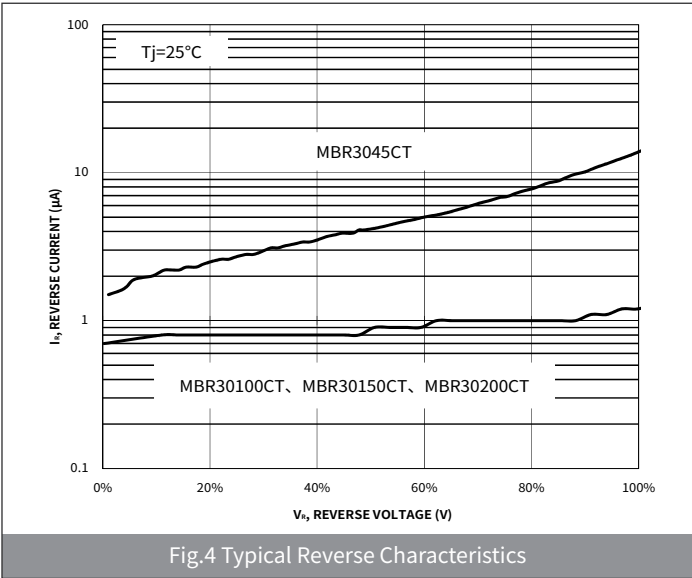
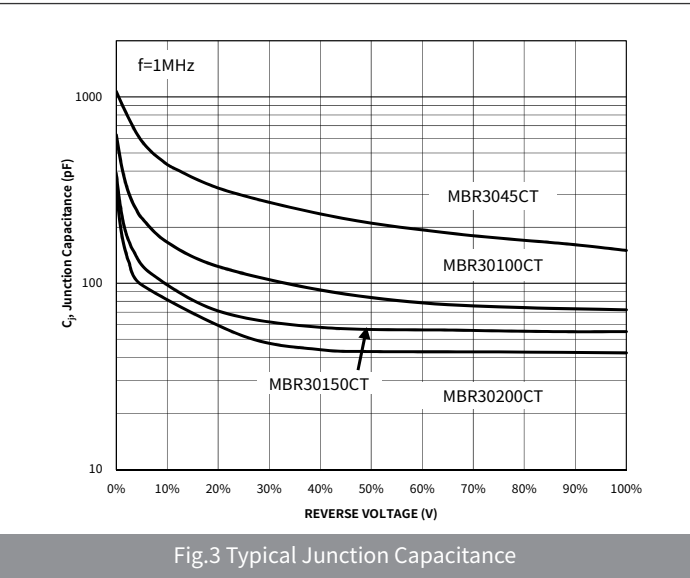
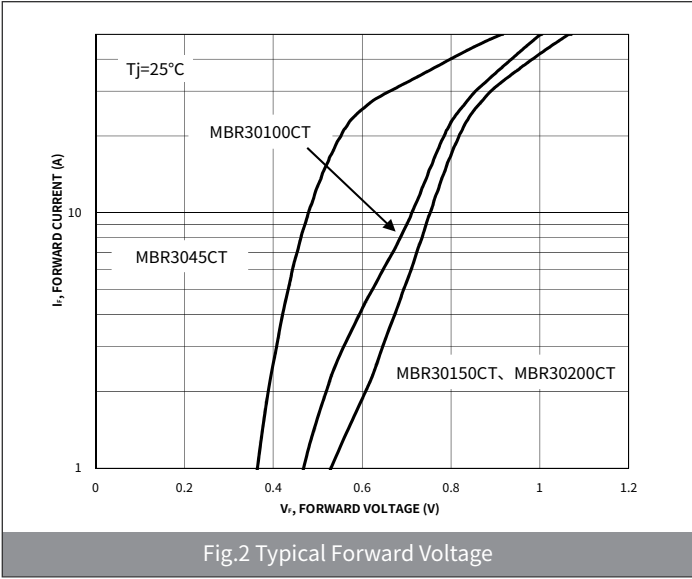
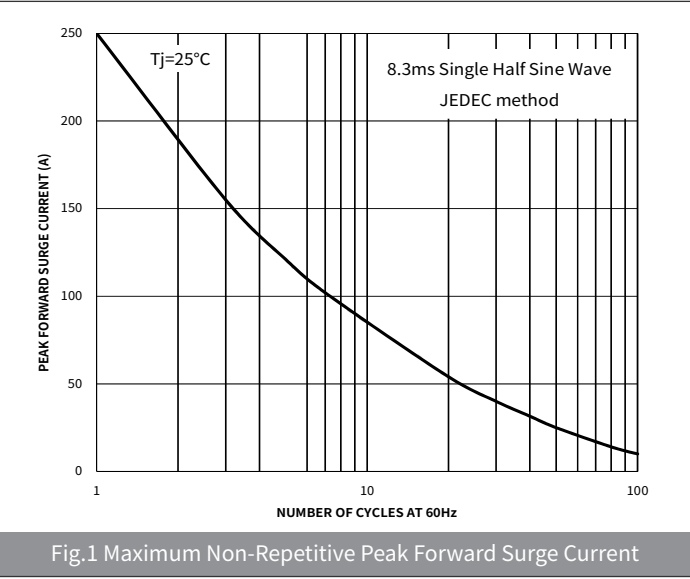
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AXIAL SCHOTTKY BARRIER RECTIFIER

● **Electrical Characteristics** (Ta=25°C Unless otherwise noted)

| PARAMETER                                               | TEST CONDITIONS                | SYMBOL   | UNIT | MBR 3020CT | MBR 3045CT | MBR 3060CT | MBR 3080CT | MBR 30100CT | MBR 30150CT | MBR 30200CT |
|---------------------------------------------------------|--------------------------------|----------|------|------------|------------|------------|------------|-------------|-------------|-------------|
| Maximum instantaneous forward voltage                   | $I_F=15A$                      | $V_F$    | V    | 0.65       | 0.75       | 0.85       | 0.92       |             |             |             |
| Maximum DC reverse current at rated DC blocking voltage | $V_R=V_{DC}, T_A=25^{\circ}C$  | $I_{R1}$ | mA   | 0.1        |            |            | 0.02       |             |             |             |
|                                                         | $V_R=V_{DC}, T_A=125^{\circ}C$ | $I_{R2}$ |      | 5.0        |            |            | 2.0        |             |             |             |

● **Ratings And Characteristics Curves** (Ta=25°C Unless otherwise specified)



# MBR3020CT THRU MBR30200CT

AXIAL SCHOTTKY BARRIER RECTIFIER

## ● Ordering Information

| PACKAGE  | UNIT WEIGHT(g) | TUBE(pcs) | BOX(pcs) |
|----------|----------------|-----------|----------|
| TO-220CB | 2.04           | 50        | 1000     |

## ● Package Outline Dimensions (TO-220CB)

| Symbol | Dimensions  |       |          |       |
|--------|-------------|-------|----------|-------|
|        | Millimeters |       | Inches   |       |
|        | Min.        | Max.  | Min.     | Max.  |
| A      | 4.60        | 4.80  | 0.181    | 0.189 |
| A1     | 1.25        | 1.35  | 0.049    | 0.053 |
| A2     | 2.30        | 2.50  | 0.091    | 0.098 |
| b      | 0.75        | 0.85  | 0.030    | 0.033 |
| b1     | 1.25        | 1.42  | 0.049    | 0.056 |
| c      | 0.45        | 0.55  | 0.018    | 0.022 |
| D      | 14.60       | 15.20 | 0.575    | 0.598 |
| D1     | 8.56        | 8.76  | 0.337    | 0.345 |
| E      | 10.05       | 10.25 | 0.396    | 0.404 |
| E1     | 7.78        | 7.98  | 0.306    | 0.314 |
| E2     | 9.58        | 9.78  | 0.377    | 0.385 |
| E3     | 7.05        | 7.25  | 0.278    | 0.285 |
| e      | 2.45        | 2.65  | 0.096    | 0.104 |
| e1     | 5.08REF     |       | 0.200REF |       |
| H      | 6.14        | 6.34  | 0.242    | 0.250 |
| H1     | 2.20        | 2.40  | 0.087    | 0.094 |
| H2     | 9.04        | 1.14  | 0.356    | 0.045 |
| L      | 13.50       | 14.10 | 0.531    | 0.555 |
| L1     | 2.45        | 2.65  | 0.096    | 0.104 |
| ΦP     | 3.63        | 3.75  | 0.143    | 0.148 |
| Q      | 2.70        | 2.90  | 0.106    | 0.114 |
| θ1     | 2°          | 7°    | 2°       | 7°    |