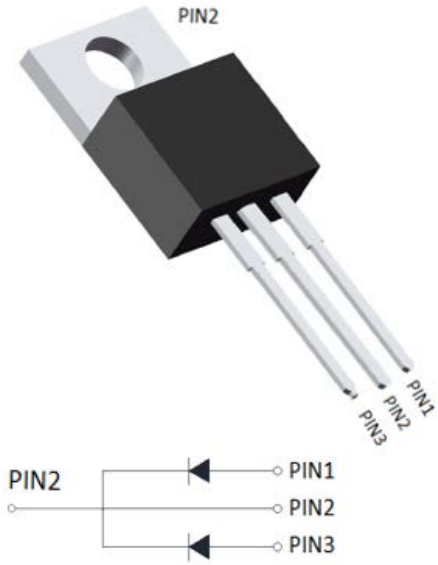


## Schottky Diodes



### Features

- High frequency operation
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

### Typical Applications

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

### Mechanical Data

- **Package:** TO-220AB  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

### ■Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER  | SYMBOL           | UNIT             | MBR1580CT  | MBR1590CT | MBR15100CT | MBR15120CT | MBR15150CT | MBR15200CT |
|--|------------------|------------------|------------|-----------|------------|------------|------------|------------|
| Device marking code  |                  |                  | MBR1580CT  | MBR1590CT | MBR15100CT | MBR15120CT | MBR15150CT | MBR15200CT |
| Repetitive Peak Reverse Voltage  | VRRM             | V                | 80         | 90        | 100        | 120        | 150        | 200        |
| Average Rectified Output Current @60Hz sine wave, R-load, T <sub>a</sub> =25°C           | I <sub>O</sub>   | A                | 15         |           |            |            |            |            |
| Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>a</sub> =25°C | IFSM             | A                | 150        |           |            |            |            |            |
| Current Squared Time @1ms≤t<8.3ms T <sub>j</sub> =25°C,                                  | I <sup>2</sup> t | A <sup>2</sup> s | 94         |           |            |            |            |            |
| Storage Temperature  | T <sub>stg</sub> | °C               | -55 ~ +150 |           |            |            |            |            |
| Junction Temperature   | T <sub>j</sub>   | °C               | -55 ~ +150 |           |            |            |            |            |

### ■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER   | SYMBOL            | UNIT | TEST CONDITIONS  | MBR1580CT | MBR1590CT | MBR15100CT | MBR15120CT | MBR15150CT | MBR15200CT |
|---|-------------------|------|--|-----------|-----------|------------|------------|------------|------------|
| Maximum instantaneous forward voltage drop per diode              | VFM               | V    | IFM=7.5A   | 0.85      |           |            | 0.9        | 0.95       |            |
| Maximum DC reverse current at rated DC blocking voltage per diode | I <sub>RRM1</sub> | mA   | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>a</sub> =25°C  | 0.1       |           |            |            |            |            |
|   | I <sub>RRM2</sub> |      | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>a</sub> =100°C | 20        |           |            |            |            |            |



# MBR1580CT THRU MBR15200CT

## ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER          |                           | SYMBOL            | UNIT | MBR1580CT | MBR1590CT | MBR15100CT | MBR15120CT | MBR15150CT | MBR15200CT |
|--------------------|---------------------------|-------------------|------|-----------|-----------|------------|------------|------------|------------|
| Thermal Resistance | Between junction and case | R <sub>θJ-C</sub> | °C/W | 2.0       |           |            |            |            |            |

## ■ Ordering Information (Example)

| PREFERED P/N              | UNIT WEIGHT(g)  | MINIIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------------------|-----------------|-----------------------|-------------------------|----------------------------|---------------|
| MBR1580CT THRU MBR15200CT | Approximate 1.9 | 50                    | 1000                    | 5000                       | Tube          |

## ■ Characteristics (Typical)

FIG1: I<sub>o</sub> -T<sub>c</sub> Curve

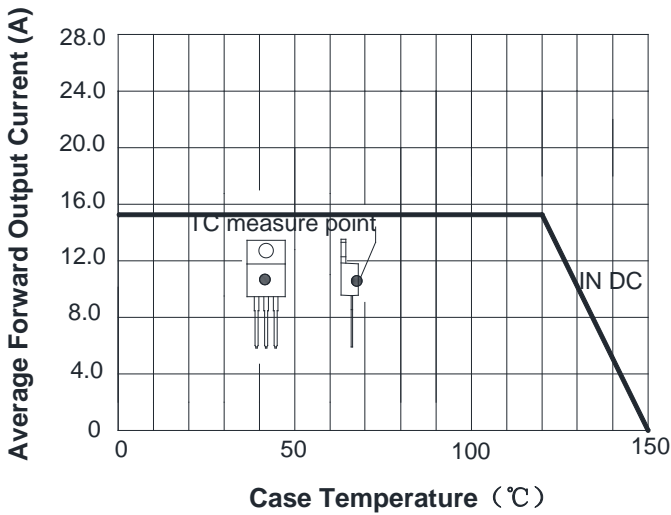


FIG2: Surge Forward Current Capability

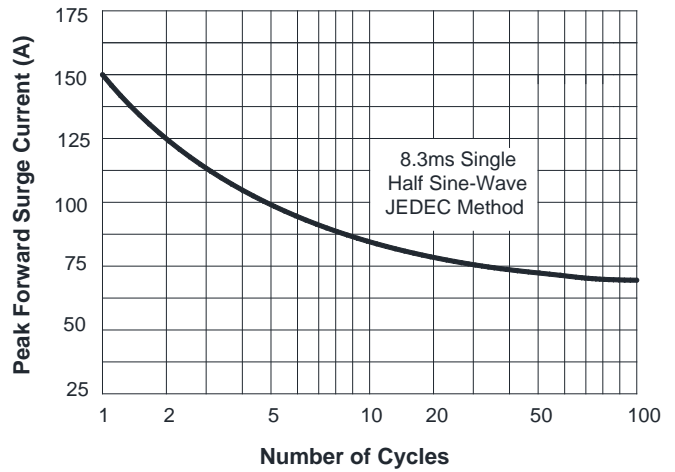


FIG3: Forward Voltage

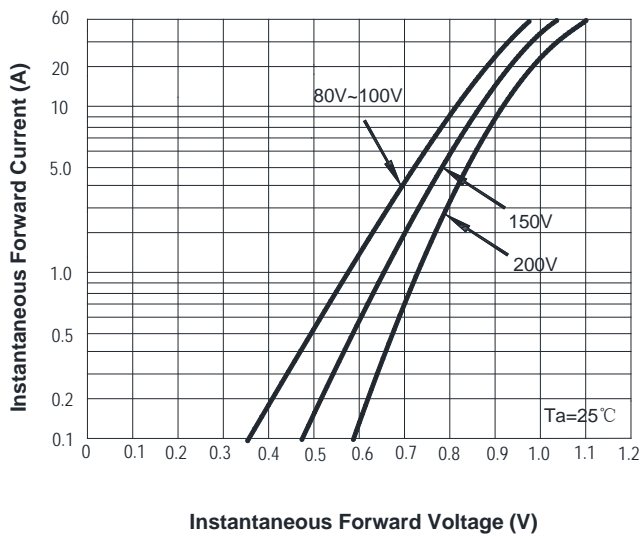
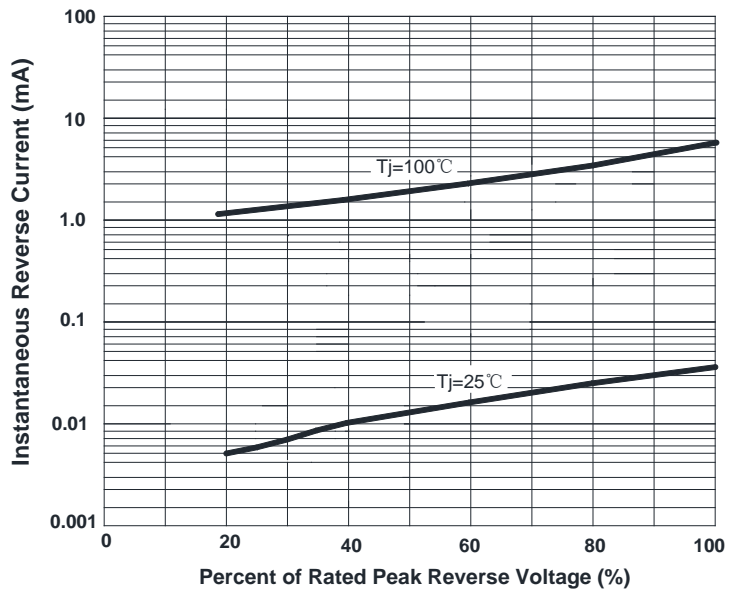


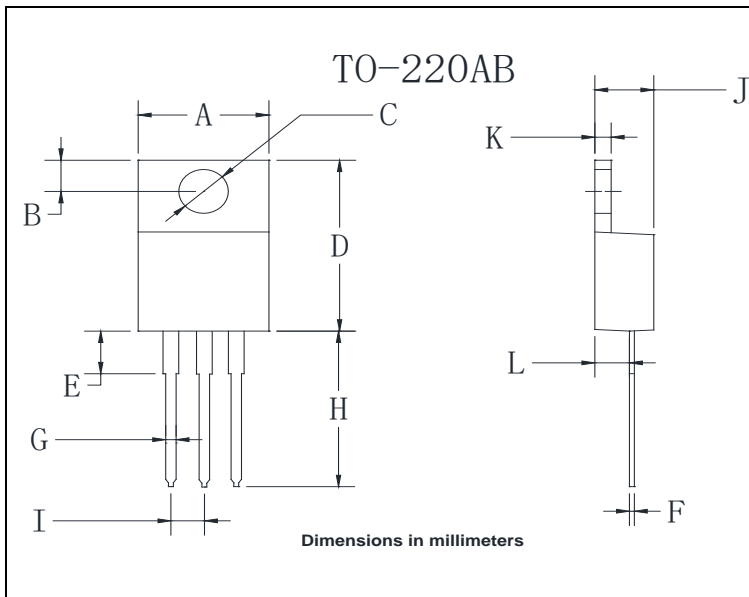
FIG.4: Typical Reverse Characteristics





# MBR1580CT THRU MBR15200CT

## ■Outline Dimensions



| TO-220AB |       |       |
|----------|-------|-------|
| Dim      | Min   | Max   |
| A        | 9.5   | 10.9  |
| B        | 2.22  | 3.27  |
| C        | 3.34  | 4.31  |
| D        | 14.5  | 15.5  |
| E        | 3.16  | 4.46  |
| F        | 0.28  | 0.64  |
| G        | 0.68  | 0.94  |
| H        | 13.06 | 14.62 |
| I        | 2.01  | 3.07  |
| J        | 4.04  | 5.1   |
| K        | 1.14  | 1.4   |
| L        | 2.14  | 3.19  |

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