



## MBR5150

DIODE

### SCHOTTKY BARRIER RECTIFIER

#### DESCRIPTION

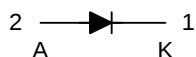
The UTC **MBR5150** is a schottky barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop, high current capability and high efficiency, etc.

The UTC **MBR5150** is suitable for free wheeling, high frequency inverters, low voltage and polarity protection applications.

#### FEATURES

- \* Low forward voltage drop
- \* High efficiency
- \* Low power loss
- \* High surge capability

#### SYMBOL

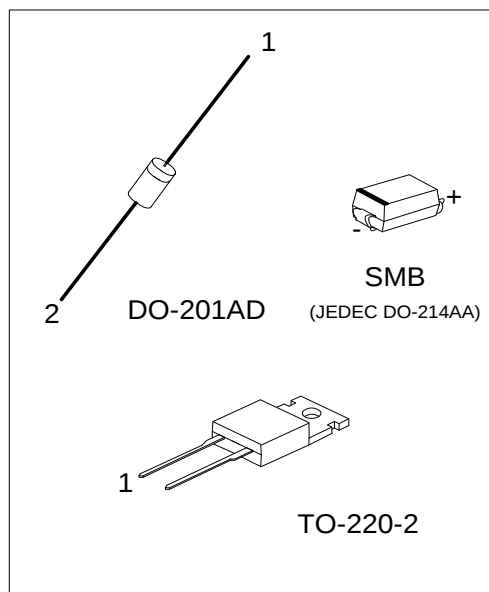


#### ORDERING INFORMATION

| Ordering Number |                 | Package  | Pin Assignment |   | Packing   |
|-----------------|-----------------|----------|----------------|---|-----------|
| Lead Free       | Halogen Free    |          | 1              | 2 |           |
| MBR5150L-TA2-T  | MBR5150G-TA2-T  | TO-220-2 | K              | A | Tube      |
| MBR5150L-SMB-R  | MBR5150G-SMB-R  | SMB      | K              | A | Tape Reel |
| MBR5150L-Z21D-B | MBR5150G-Z21D-B | DO-201AD | K              | A | Tape Box  |

Note: Pin Assignment: A: Anode K: Common Cathode

|                |                  |                                                 |
|----------------|------------------|-------------------------------------------------|
| MBR5150G-TA2-R | (1)Packing Type  | (1) T: Tube, R: Tape Reel, B: Tape Box          |
|                | (2)Package Type  | (2) TA2: TO-220-2, SMB: SMB, Z21D: DO-201AD     |
|                | (3)Green Package | (3) G: Halogen Free and Lead Free, L: Lead Free |



## ■ MARKING

| PACKAGE  | MARKING                                                                                                                                 |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------|
| TO-220-2 | <p>UTC<br/>MBR5150<br/>□□□□□</p> <p>Lot Code →</p> <p>→ L: Lead Free<br/>→ G: Halogen Free<br/>→ Date Code</p> <p>1</p>                 |
| SMB      | <p>UTC<br/>R5150<br/>□□□</p> <p>Cathode Band for uni-directional Only →</p> <p>→ Date Code<br/>→ L: Lead Free<br/>→ G: Halogen Free</p> |
| DO-201AD | <p>MBR5150<br/>L: Lead Free<br/>G: Halogen Free<br/>□□□</p> <p>Cathode Band for uni-directional Only →</p> <p>→ Date Code</p>           |

## ■ ABSOLUTE MAXIMUM RATINGS

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.

| PARAMETER                                                                                            | SYMBOL      | RATINGS    | UNIT |
|------------------------------------------------------------------------------------------------------|-------------|------------|------|
| DC Blocking Voltage                                                                                  | $V_{DC}$    | 150        | V    |
| RMS Voltage                                                                                          | $V_{RMS}$   | 105        | V    |
| Recurrent Peak Reverse Voltage                                                                       | $V_{RRM}$   | 150        | V    |
| Average Rectified Output Current                                                                     | $I_{F(AV)}$ | 5.0        | A    |
| Non-Repetitive Peak Forward Surge Current: 8.3ms<br>Single Half Sine-Wave Superimposed on Rated Load | $I_{FSM}$   | 150        | A    |
| Operating Junction Temperature                                                                       | $T_J$       | -65 ~ +150 | °C   |
| Storage Temperature                                                                                  | $T_{STG}$   | -65 ~ +150 | °C   |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.  
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

## ■ THERMAL DATA

| PARAMETER           |          | SYMBOL        | RATINGS   | UNIT |
|---------------------|----------|---------------|-----------|------|
| Junction to Ambient | TO-220-2 | $\theta_{JA}$ | 60        | °C/W |
|                     | SMB      |               | 70 (Note) | °C/W |
|                     | DO-201AD |               | 50        | °C/W |
| Junction to Case    | TO-220-2 | $\theta_{JC}$ | 4.5       | °C/W |
|                     | SMB      |               | 20 (Note) | °C/W |
|                     | DO-201AD |               | 12        | °C/W |

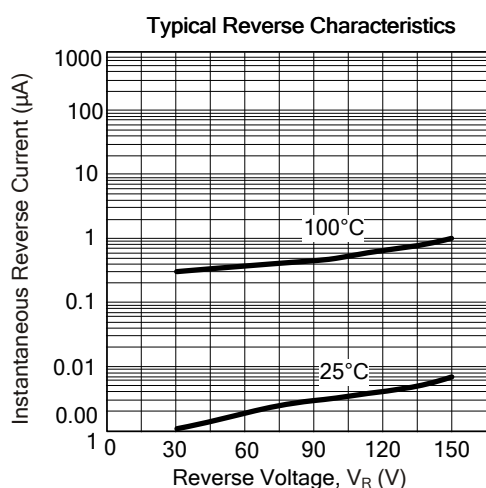
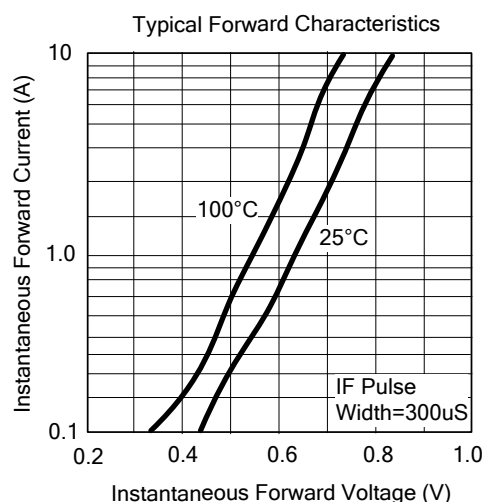
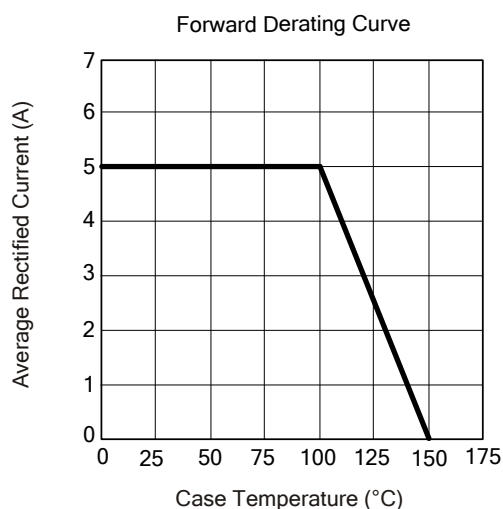
Note: Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

## ■ ELECTRICAL CHARACTERISTICS

| PARAMETER                                            | SYMBOL | TEST CONDITIONS                | MIN | TYP | MAX | UNIT    |
|------------------------------------------------------|--------|--------------------------------|-----|-----|-----|---------|
| Forward Voltage Drop (Note)                          | $V_F$  | $I_F=5.0A$ $T_J=25^\circ C$    |     |     | 0.9 | V       |
|                                                      |        | $I_F=5.0A$ , $T_J=100^\circ C$ |     |     | 0.7 | V       |
| Peak Reverse Current at Rated DC<br>Blocking Voltage | $I_R$  | $T_J=25^\circ C$               |     |     | 50  | $\mu A$ |
|                                                      |        | $T_J=100^\circ C$              |     |     | 10  | mA      |

Note: Pulse Test: Pulse width  $\leq 300\mu s$ , Duty cycle  $\leq 1\%$ .

## ■ TYPICAL CHARACTERISTICS



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