

# MBRD10150CT

Rev.F May.-2016

## 描述 / Descriptions

TO-252 塑封封装 肖特基二极管。  
Schottky Diode in a TO-252 Plastic Package.

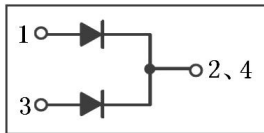
## 特征 / Features

损耗低，效率高。  
Low power loss, high efficiency.

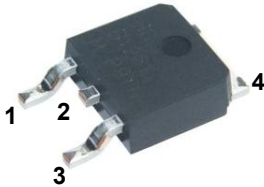
## 用途 / Applications

用于高频、低压、大电流整流二极管，续流二极管，保护二极管。  
For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

## 内部等效电路 / Equivalent Circuit



## 引脚排列 / Pinning



PIN1 : Anode

PIN 2,4 : Cathode

PIN 3 : Anode

## 放大及印章代码 / h<sub>FE</sub> Classifications & Marking

见印章说明。 See Marking Instructions.

**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

| 参数<br>Parameter  | 符号<br>Symbol                       | 数值<br>Rating | 单位<br>Unit |
|--|------------------------------------|--------------|------------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_{RM}$ | 150          | V          |
| RMS Reverse Voltage  | $V_{R(RMS)}$                       | 105          | V          |
| Average Rectified Forward Current  | $I_{F(AV)}$                        | 2×5          | A          |
| Non Repetitive Peak Surge Current  | $I_{FSM}$                          | 100          | A          |
| Thermal resistance, junction to case   | $R_{\theta Jc}$                    | 6.25         | °C/W       |
| Junction Temperature Range   | $T_{j MAX}$                        | 150          | °C         |
| Storage Temperature Range  | $T_{stg}$                          | -65~150      | °C         |

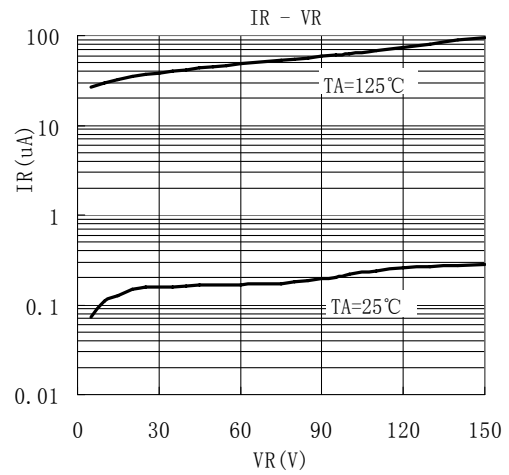
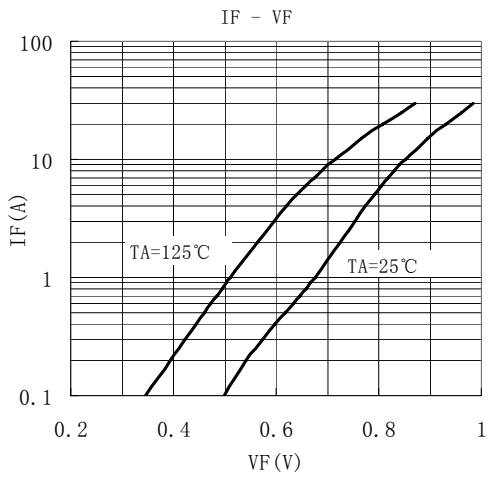
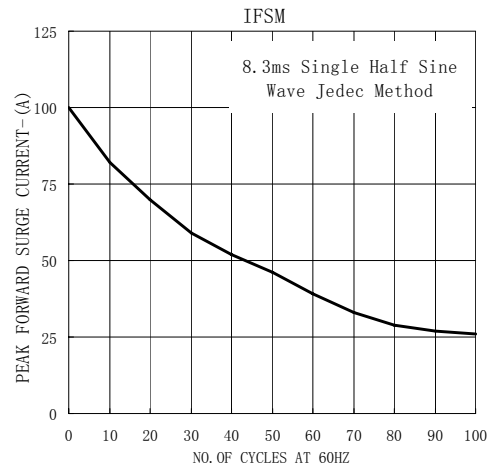
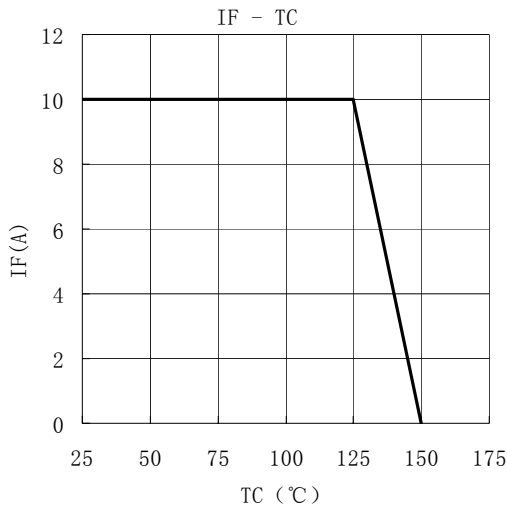
**电性能参数 / Electrical Characteristics(Ta=25°C)**

| 参数<br>Parameter               | 符号<br>Symbol      | 测试条件<br>Test Conditions      | 最小值<br>Min | 典型值<br>Typ | 最大值<br>Max | 单位<br>Unit |
|-------------------------------|-------------------|------------------------------|------------|------------|------------|------------|
| Reverse Voltage               | $V_{BR}$          | $I_R=0.3mA$                  | 150        |            |            | V          |
| Forward Voltage               | $V_F$             | $I_F=5A$ $T_J=25^\circ C$    |            |            | 0.85       | V          |
|                               |                   | $I_F=5A$ $T_J=125^\circ C$   |            |            | 0.70       | V          |
|                               |                   | $I_F=10A$ $T_J=25^\circ C$   |            |            | 0.95       | V          |
|                               |                   | $I_F=10A$ $T_J=125^\circ C$  |            |            | 0.75       | V          |
| Instantaneous Reverse Current | $I_R$<br>(Note 1) | $V_R=150V$ $T_J=25^\circ C$  |            |            | 10         | uA         |
|                               |                   | $V_R=120V$ $T_J=125^\circ C$ |            |            | 1.0        | mA         |
|                               |                   | $V_R=150V$ $T_J=125^\circ C$ |            |            | 5.0        | mA         |

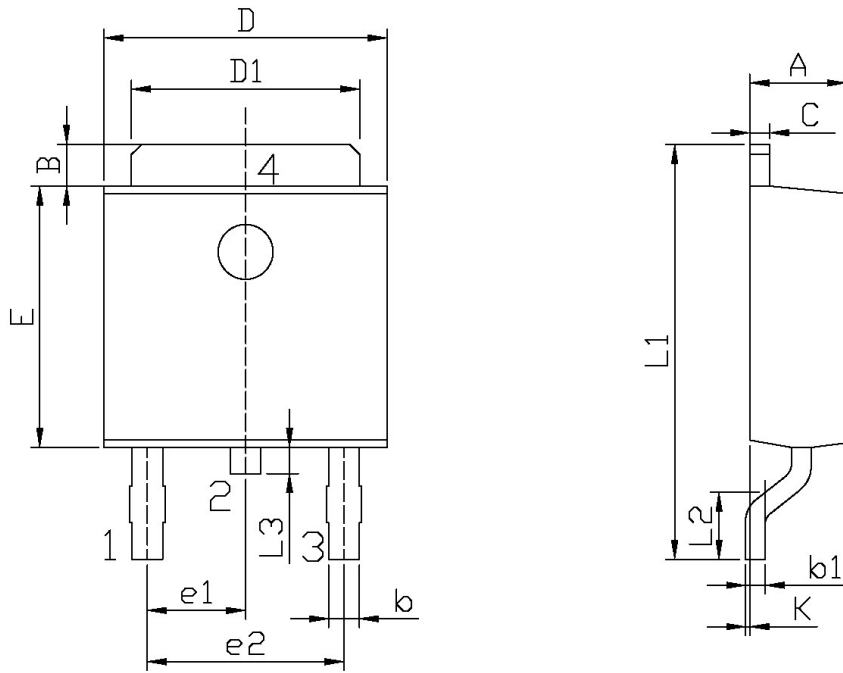
注/Notes:

1. 使用极短的测试时间,以尽量减少自热效应。/Short duration pulse test used to minimize self-heating effect.
2. 除非特别注明,数值为一个芯片的参数。/ Unless otherwise noted, values for the parameters of a single chip.

**电参数曲线图 / Electrical Characteristic Curve**



外形尺寸图 / Package Dimensions

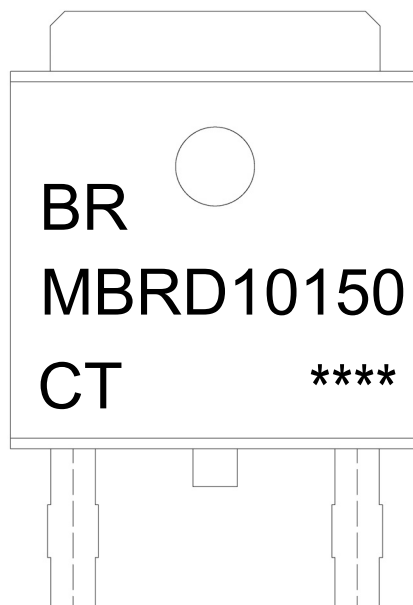


单位: mm

| Symbol | Dimensions In Millimeters |      | Symbol | Dimensions In Millimeters |      |
|--------|---------------------------|------|--------|---------------------------|------|
|        | Min                       | Max  |        | Min                       | Max  |
| A      | 2.20                      | 2.40 | E      | 5.95                      | 6.25 |
| B      | 0.95                      | 1.25 | e1     | 2.24                      | 2.34 |
| b      | 0.50                      | 0.70 | e2     | 4.43                      | 4.73 |
| b1     | 0.45                      | 0.55 | L1     | 9.45                      | 9.95 |
| C      | 0.45                      | 0.55 | L2     | 1.25                      | 1.75 |
| D      | 6.45                      | 6.75 | L3     | 0.60                      | 0.90 |
| D1     | 5.10                      | 5.50 | K      | 0.00                      | 0.10 |

TO-252

## 印章说明 / Marking Instructions



说明：

BR： 为公司代码

MBRD10150： 为产品型号

CT： 为内部结构

\*\*\*\*： 为生产批号代码，随生产批号变化。

Note:

BR: Company Code

MBRD10150 : Product Type.

CT: Internal Structure

\*\*\*\*: Lot No. Code, code change with Lot No.

**回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)**



说明：

- 1、预热温度 25~150°C，时间 60~90sec;
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2~10°C/sec.

Note:

- 1.Preheating:25~150°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

**耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions**

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

**包装规格 / Packaging SPEC.**

卷盘包装 / REEL

| Package Type<br>封装形式 | Units 包装数量         |                         |                        |                              |                        | Dimension 包装尺寸 (unit: mm <sup>3</sup> ) |             |             |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|---|-------------|-------------|
|                      | Units/Reel<br>只/卷盘 | Reels/Inner Box<br>卷盘/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>只/箱 | Reel                                    | Inner Box 盒 | Outer Box 箱 |
| TO-252               | 2,500              | 2                       | 5,000                  | 5                            | 25,000                 | 13" × 16                                | 360×360×50  | 385×257×392 |

套管包装 / TUBE

| Package Type<br>封装形式 | Units 包装数量         |                         |                        |                              |                        | Dimension 包装尺寸 (unit: mm <sup>3</sup> ) |             |             |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|---|-------------|-------------|
|                      | Units/Tube<br>只/套管 | Tubes/Inner Box<br>套管/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>只/箱 | Tube 套管                                 | Inner Box 盒 | Outer Box 箱 |
| TO-251/252           | 75                 | 48                      | 3,600                  | 5                            | 18,000                 | 526×20.5×5.25                           | 555×164×50  | 575×290×180 |

**使用说明 / Notices**