

# MBR10200CT

## 主要参数 MAIN CHARACTERISTICS

|              |                               |
|--------------|-------------------------------|
| $I_{F(AV)}$  | 10 (2×5) A                    |
| $V_{RRM}$    | 200 V                         |
| $T_j$        | 175 °C                        |
| $V_{F(max)}$ | 0.75V (@ $T_j=125^{\circ}C$ ) |

### 用途

- 高频开关电源
- 低压续流电路和保护电路

### APPLICATIONS

- High frequency switch power supply
- Free wheeling diodes, polarity protection applications

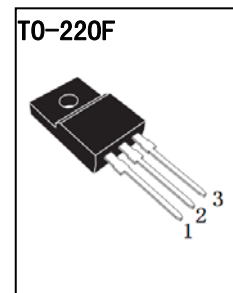
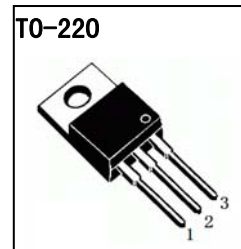
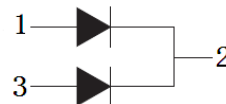
### 产品特性

- 共阴结构
- 低功耗，高效率
- 良好的高温特性
- 有过压保护环，高可靠性
- 环保（RoHS）产品

### FEATURES

- Common cathode structure
- Low power loss, high efficiency
- High Operating Junction Temperature
- Guard ring for overvoltage protection, High reliability
- RoHS product

## 封装 Package



## 产品中有毒有害物质或元素的名称及含量

| 部件名称<br>(含量要求) | 有害物质或元素                                                                                                               |           |           |                 |               |                 |
|----------------|-----------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------------|---------------|-----------------|
|                | 铅<br>(Pb)                                                                                                             | 汞<br>(Hg) | 镉<br>(Cd) | 六价铬<br>(Cr(VI)) | 多溴联苯<br>(PBB) | 多溴二苯醚<br>(PBDE) |
|                | ≤0.1%                                                                                                                 | ≤0.1%     | ≤0.01%    | ≤0.1%           | ≤0.1%         | ≤0.1%           |
| 引线框            | ○                                                                                                                     | ○         | ○         | ○               | ○             | ○               |
| 塑封树脂           | ○                                                                                                                     | ○         | ○         | ○               | ○             | ○               |
| 管 芯            | ○                                                                                                                     | ○         | ○         | ○               | ○             | ○               |
| 内引线            | ○                                                                                                                     | ○         | ○         | ○               | ○             | ○               |
| 焊 料            | ×                                                                                                                     | ○         | ○         | ○               | ○             | ○               |
| 说 明            | ○：表示该元素的含量在 SJ/T11363-2006 标准的限量要求以下。<br>×：表示该元素的含量超出 SJ/T11363-2006 标准的限量要求。<br>目前产品的焊料中含有铅（Pb）成分，但属于欧盟 RoHS 指令豁免范围。 |           |           |                 |               |                 |

**绝对最大额定值 ABSOLUTE RATINGS** ( $T_c=25^{\circ}\text{C}$ )

| 项 目<br>Parameter                                                                                                                |                                        |                    | 符 号<br>Symbol | 数 值<br>Value | 单 位<br>Unit        |
|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------|---------------|--------------|--------------------|
| 最大反向重复峰值电压<br>Repetitive peak reverse voltage                                                                                   |                                        |                    | $V_{RRM}$     | 200          | V                  |
| 最大直流阻断电压<br>Maximum DC blocking voltage                                                                                         |                                        |                    | $V_{DC}$      | 200          | V                  |
| 正向平均整流电流<br>Average forward current                                                                                             | $T_c=150^{\circ}\text{C}$<br>(TO-220)  | 整个器件<br>per device | $I_{F(AV)}$   | 10           | A                  |
|                                                                                                                                 | $T_c=125^{\circ}\text{C}$<br>(TO-220F) | 单 侧<br>per diode   |               | 5            |                    |
| 正向峰值浪涌电流<br>Surge non repetitive forward current<br>(额定负载 8.3ms 半正弦波—按 JEDEC 方法)<br>8.3 ms single half-sine-wave (JEDEC Method) |                                        |                    | $I_{FSM}$     | 130          | A                  |
| 最高结温<br>Maximum junction temperature                                                                                            |                                        |                    | $T_j$         | 175          | $^{\circ}\text{C}$ |
| 储存温度<br>Storage temperature range                                                                                               |                                        |                    | $T_{STG}$     | -40~+150     | $^{\circ}\text{C}$ |

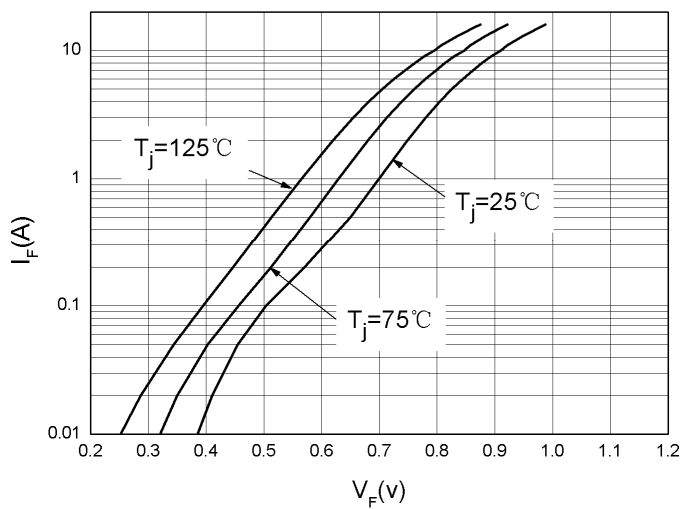
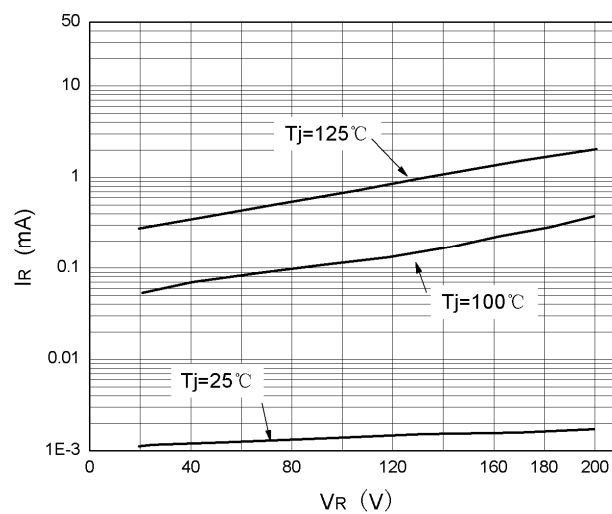
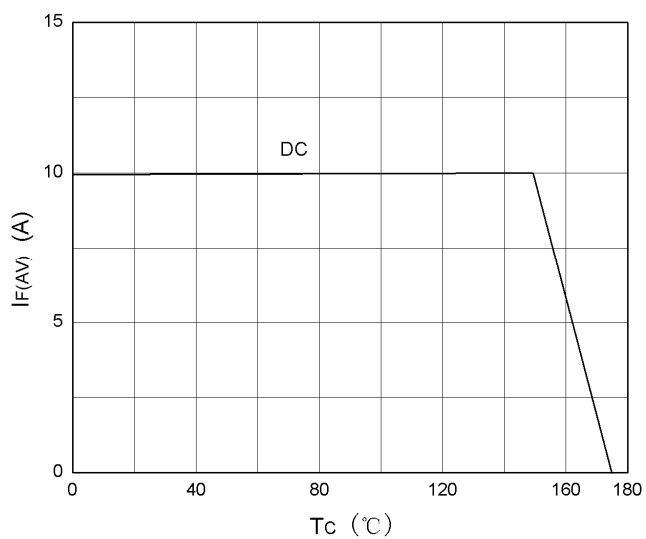
**电特性 ELECTRICAL CHARACTERISTICS**

| 项 目<br>Parameter | 测试条件<br>Tests conditions  |                  | 最小值<br>Value(min) | 典型值<br>Value(typ) | 最大值<br>Value(max) | 单位<br>Unit    |
|------------------|---------------------------|------------------|-------------------|-------------------|-------------------|---------------|
| $I_R$            | $T_j=25^{\circ}\text{C}$  | $V_R=V_{RRM}$    |                   |                   | 10                | $\mu\text{A}$ |
|                  | $T_j=125^{\circ}\text{C}$ |                  |                   |                   | 5                 | mA            |
| $V_F$            | $T_j=25^{\circ}\text{C}$  | $I_F=5\text{A}$  |                   | 0.85              | 0.93              | V             |
|                  | $T_j=125^{\circ}\text{C}$ |                  |                   | 0.71              | 0.75              | V             |
|                  | $T_j=25^{\circ}\text{C}$  | $I_F=10\text{A}$ |                   | 1.0               | 1.05              | V             |
|                  | $T_j=125^{\circ}\text{C}$ |                  |                   | 0.92              | 0.98              | V             |

**热特性 THERMAL CHARACTERISTICS**

| 项 目<br>Parameter                                       |         | 符 号<br>Symbol | 最小值<br>Value(min) | 最大值<br>Value(max) | 单 位<br>Unit          |
|--------------------------------------------------------|---------|---------------|-------------------|-------------------|----------------------|
| 结到管壳的热阻<br>Thermal resistance from<br>junction to case | TO-220  | $R_{th(j-c)}$ |                   | 2.4               | $^{\circ}\text{C/W}$ |
|                                                        | TO-220F |               |                   | 3.0               |                      |

## 特征曲线 ELECTRICAL CHARACTERISTICS (curves)

 $I_F$  vs  $V_F$  $I_R$  vs  $V_R$  $I_{F(AV)}$  vs  $T_c$  $C_T$  vs  $V_R$ 