

**描述 / Descriptions**

TO-220F 塑料封装 超快恢复二极管。

Ultrafast Recovery Diode in a TO-220F Plastic Package.

**特征 / Features**

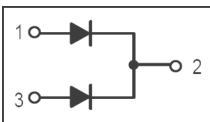
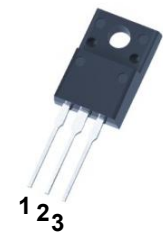
采用硅外延工艺生产的超快恢复二极管，具有较低的反向漏电流和高可靠性。

Silicon epitaxial process to produce ultrafast recovery diode with low reverse leakage current and high reliability.

**用途 / Applications**

用于高频、高压、大电流整流二极管，续流二极管。

For high frequency, high voltage, high current rectifier diode, freewheeling diode.

**内部等效电路 / Equivalent Circuit****引脚排列 / Pinning**

PIN1 : Anode      PIN 2 : Cathode      PIN 3 : Anode

**放大及印章代码 /  $h_{FE}$  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     | $V_{RRM}$       | 200           | V          |
| RMS Voltage                         | $V_{RMS}$       | 140           | V          |
| DC Blocking Voltage                 | $V_{DC}$        | 200           | V          |
| Average Forward Current             | $I_F$           | $2 \times 10$ | A          |
| Non Repetitive Peak Surge Current   | $I_{FSM}$       | 120           | A          |
| Thermal Resistance Junction to Case | $R_{\theta JC}$ | 3.3           | °C/W       |
| Operating Junction Temperature      | $T_J$           | 150           | °C         |
| Storage Temperature Range           | $T_{stg}$       | -55~150       | °C         |

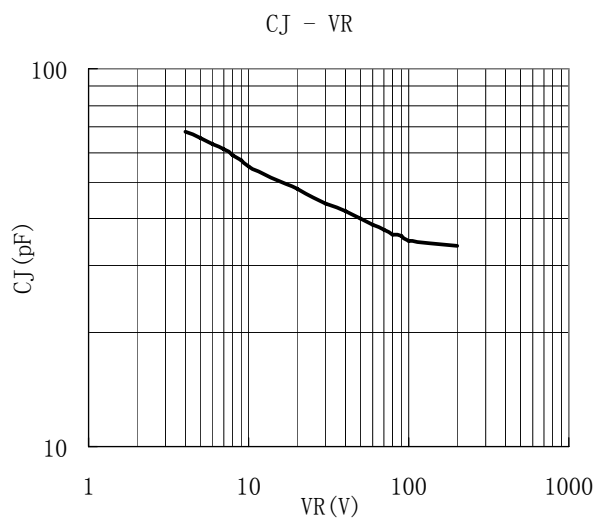
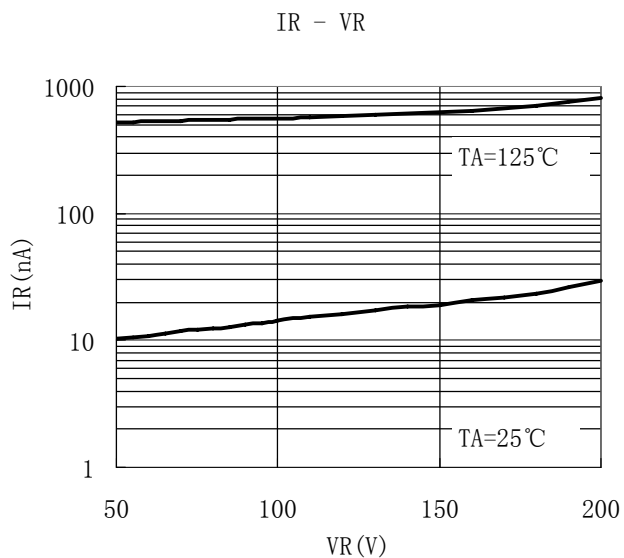
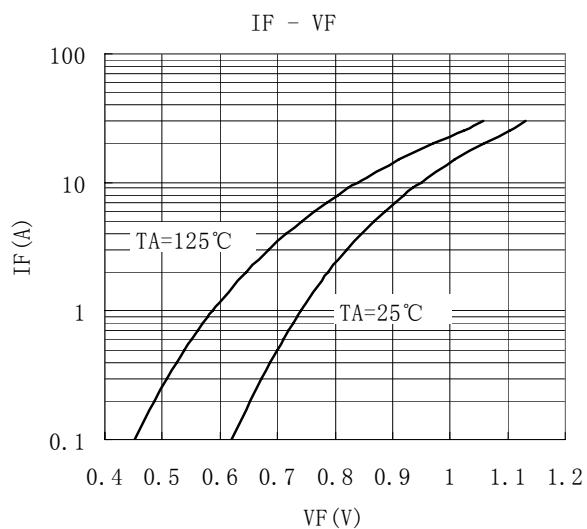
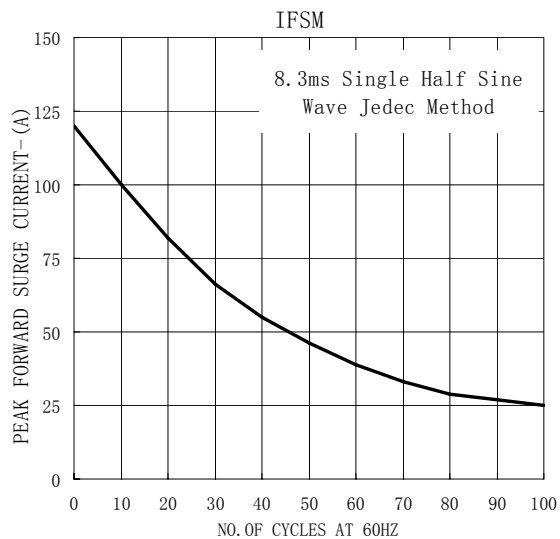
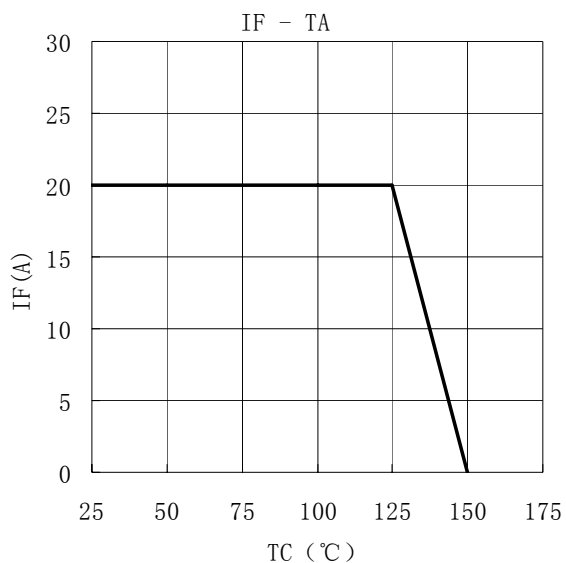
**电性能参数 / Electrical Characteristics(Ta=25°C)**

| 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 |
|-------------------------------|-------------------|-----------------------------------------|------------|------------|------------|------------|
| Forward Voltage               | $V_F$             | $I_F=2A$ $T_c=25^\circ C$               |            | 0.79       |            | V          |
|                               |                   | $I_F=2A$ $T_c=125^\circ C$              |            | 0.65       |            | V          |
|                               |                   | $I_F=10A$ $T_c=25^\circ C$              |            | 0.95       | 1.0        | V          |
|                               |                   | $I_F=10A$ $T_c=125^\circ C$             |            | 0.84       | 0.9        | V          |
| Instantaneous Reverse Current | $I_R$<br>(Note 1) | $V_R=200V$ $T_a=25^\circ C$             |            |            | 10         | $\mu A$    |
|                               |                   | $V_R=200V$ $T_a=125^\circ C$            |            |            | 150        | $\mu A$    |
| Reverse Recovery Time         | $t_{rr}$          | $I_R=1.0A$ $I_{RR}=0.25A$<br>$I_F=0.5A$ |            |            | 35         | ns         |

## 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

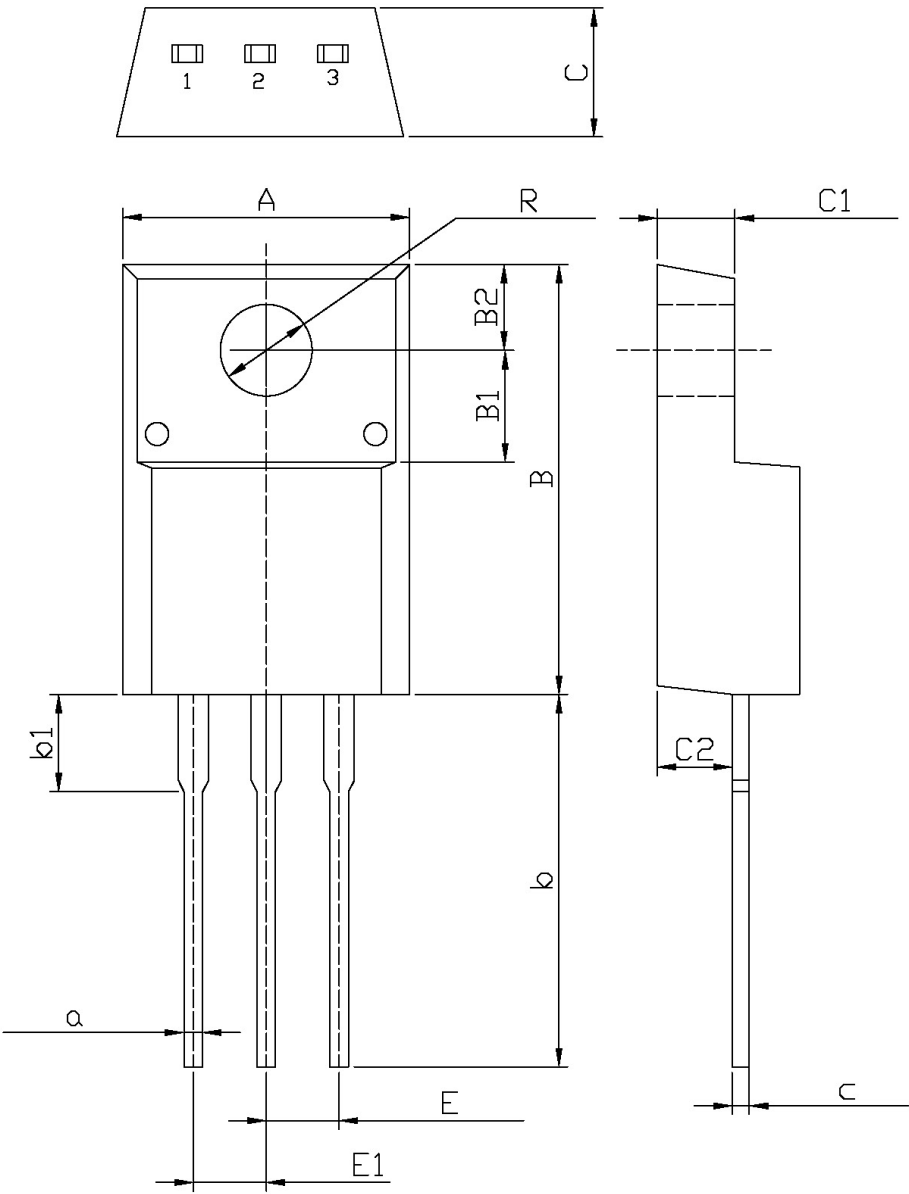
## 电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

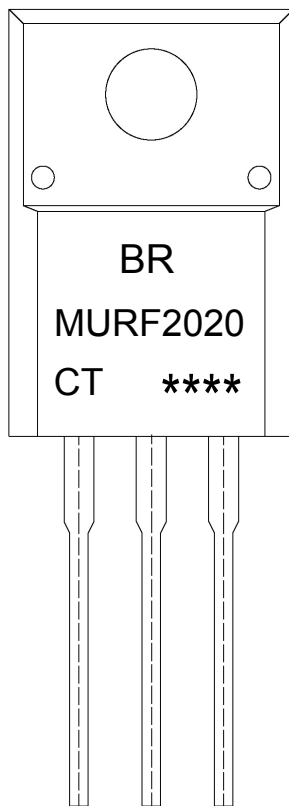
T□-220F

单位：mm



| Symbol | Dimensions In Millimeters |      | Symbol | Dimensions In Millimeters |      |
|--------|---------------------------|------|--------|---------------------------|------|
|        | Min                       | Max  |        | Min                       | Max  |
| C      | 4.3                       | 4.7  | b1     | 2.9                       | 3.9  |
| A      | 9.7                       | 10.3 | a      | 0.55                      | 0.75 |
| B      | 14.7                      | 15.3 | E      | 2.29                      | 2.79 |
| B1     | 3.8                       | 4.0  | E1     | 2.29                      | 2.79 |
| B2     | 2.9                       | 3.1  | C1     | 2.5                       | 2.9  |
| R      | 3.0                       | 3.4  | C2     | 2.5                       | 2.7  |
| b      | 12.5                      | 13.5 | c      | 0.5                       | 0.7  |

## 印章说明 / Marking Instructions



说明：

BR： 为公司代码

MURF2020： 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:

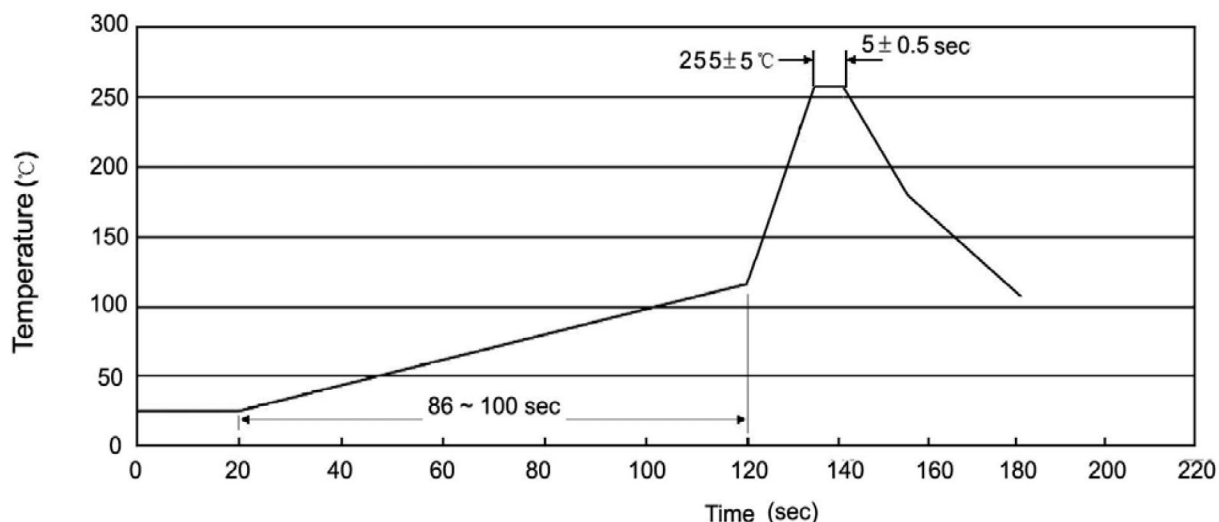
BR: Company Code

MURF2020: Product Type.

CT: Internal Structure

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

## 波峰焊温度曲线图(无铅) / Temperature Profile for Dip Soldering(Pb-Free)



说明：

- 1、预热温度 25 ~ 150°C，时间 60 ~ 90sec;
- 2、峰值温度 255±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.:255±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：270±5°C

时间：10±1 sec.

Temp.:270±5°C

Time:10±1 sec

## 包装规格 / Packaging SPEC.

散件包装 / BULK

| Package Type<br>封装形式 | Units 包装数量       |                       |                        |                              |                        | Dimension 包装尺寸 (unit: mm <sup>3</sup> ) |             |             |
|----------------------|------------------|-----------------------|------------------------|------------------------------|------------------------|-----------------------------------------|-------------|-------------|
|                      | Units/Bag<br>只/袋 | Bags/Inner Box<br>袋/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>只/箱 | Bag 袋                                   | Inner Box 盒 | Outer Box 箱 |
| TO-220/F             | 200              | 10                    | 2,000                  | 5                            | 10,000                 | 135×190                                 | 237×172×102 | 560×245×195 |

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-220/F             | 50                 | 20                      | 1,000                  | 5                            | 5,000                  | 532×31.4×5.5                            | 555×164×50  | 575×290×180 |

## 使用说明 / Notices