

**/ Descriptions**

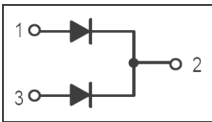
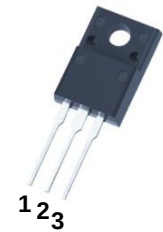
Ultrafast Recovery Diode in a TO-220F Plastic Package.

**/ Features**

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

**/ Applications**

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

**/ Equivalent Circuit****/ Pinning**

PIN1 Anode      PIN 2 Cathode      PIN 3 Anode

**/ h<sub>FE</sub> Classifications & Marking**

See Marking Instructions

## / Absolute Maximum Ratings(Ta=25 )

| Parameter                           | Symbol          | Rating        | 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   |

## / Electrical Characteristics(Ta=25 )

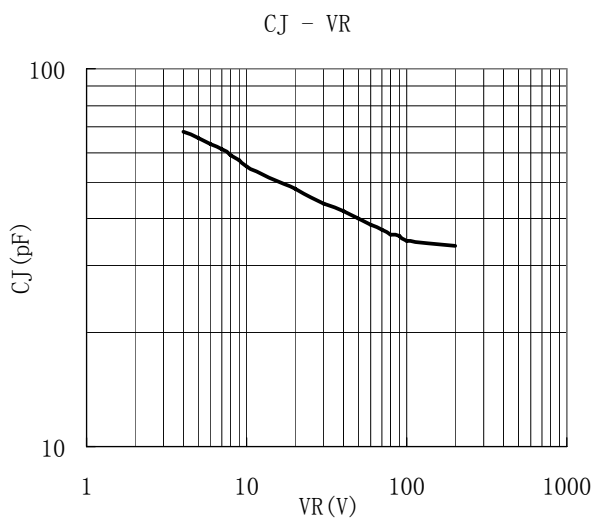
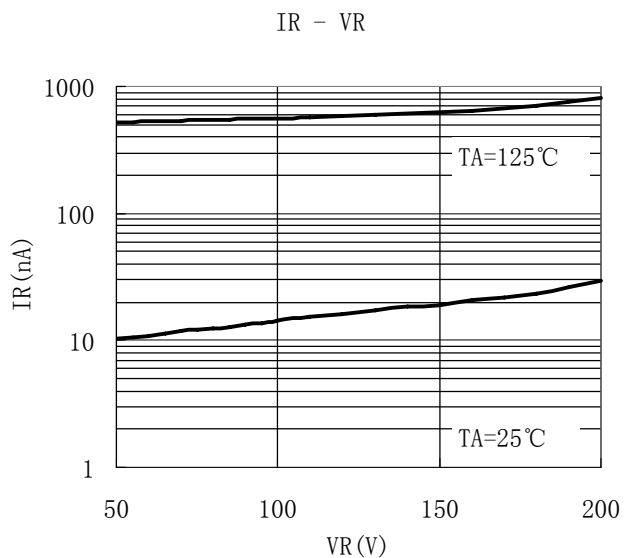
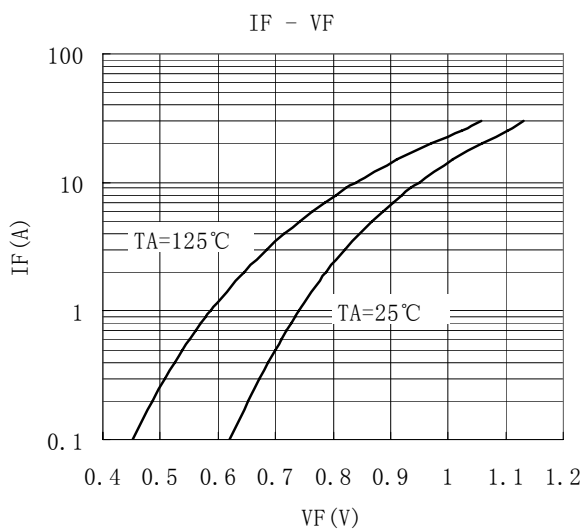
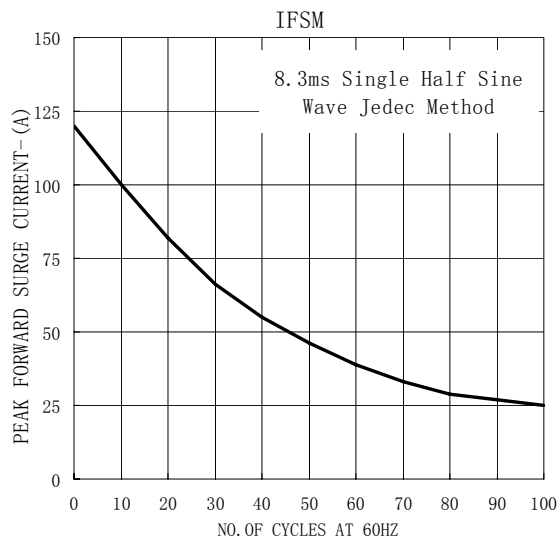
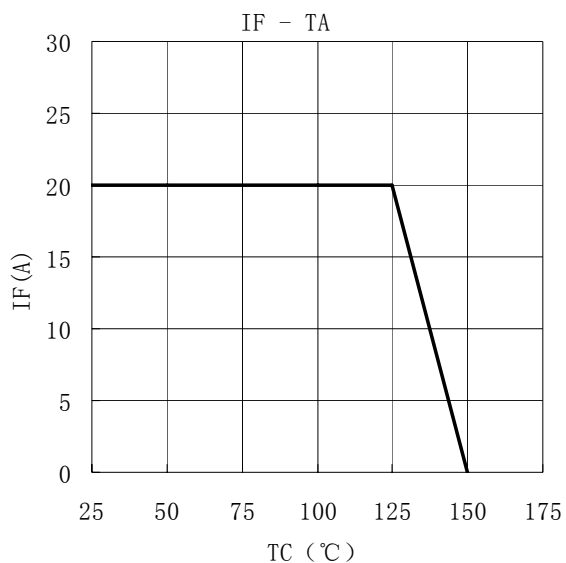
| Parameter                     | Symbol            | Test Conditions                         | Min | Typ  | Max | Unit    |
|-------------------------------|-------------------|-----------------------------------------|-----|------|-----|---------|
| Forward Voltage               | $V_F$             | $I_F=2A$ $T_c=25^\circ C$               |     | 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      |

/Notes:

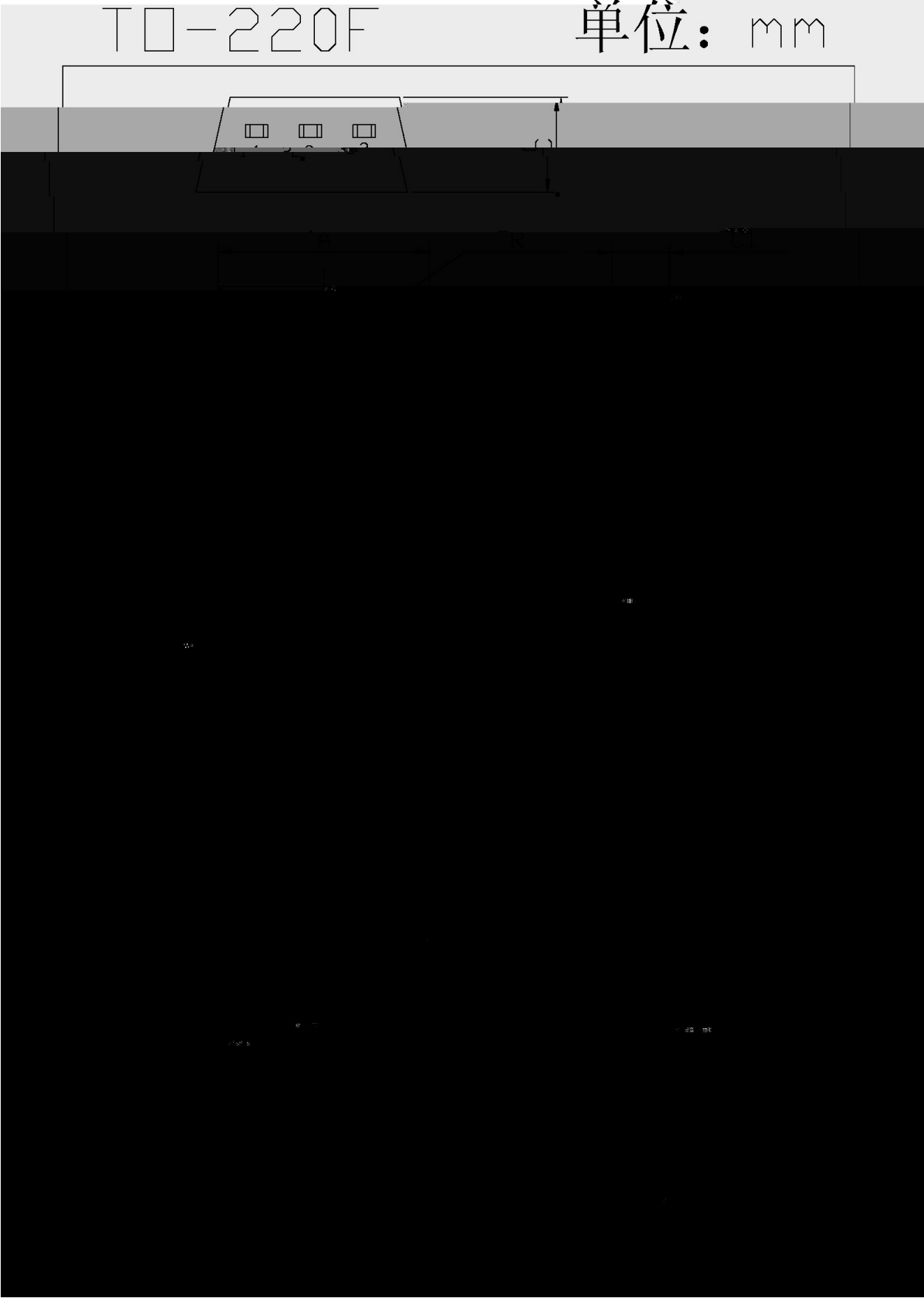
effect. /Short duration pulse test used to minimize self-heating

2. . / Unless otherwise noted, values for the parameters of a single chip

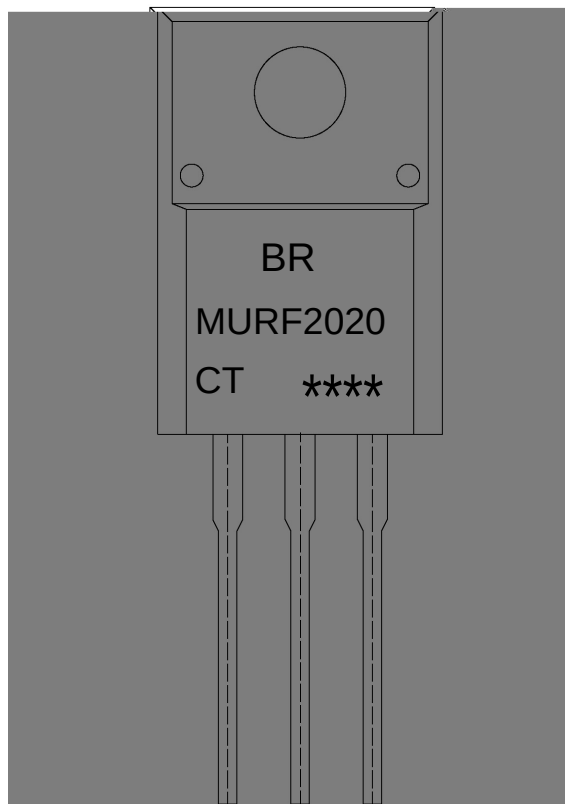
# / Electrical Characteristic Curve



/ Package Dimensions



## / Marking Instructions



Note:

BR:

Company Code

MURF2020:

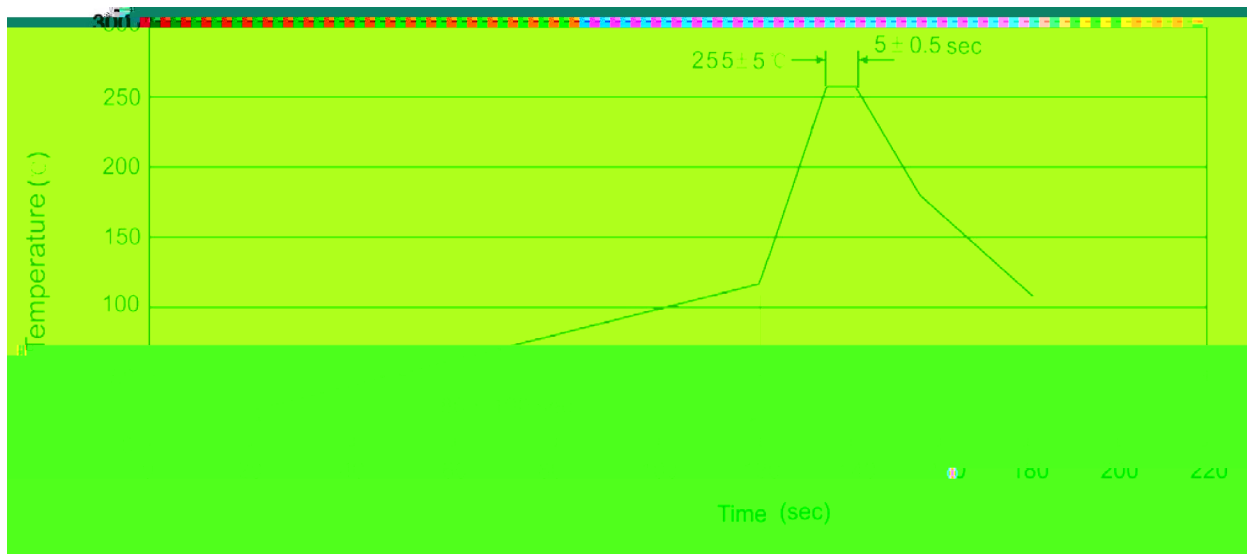
Product Type.

CT:

Internal Structure

\*\*\*\*:

Lot No. Code, code change with Lot No.


**( ) / Temperature Profile for Dip Soldering(Pb-Free)**

**Note:**

- |   |     |     |    |         |                                         |
|---|-----|-----|----|---------|-----------------------------------------|
| 1 | 25  | 150 | 60 | 90sec;  | 1.Preheating:25~150 , Time:60~90sec.    |
| 2 | 255 | 5   | 5  | 0.5sec; | 2.Peak Temp.:255 5 , Duration:5 0.5sec. |
| 3 |     | 2   | 10 | /sec.   | 3. Cooling Speed: 2~10 /sec.            |

**/ Resistance to Soldering Heat Test Conditions**

270 5                      10 1 sec.                      Temp.:270±5℃                      Time:10±1 sec

**/ Packaging SPEC.**
**/ 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 |

**/ 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 |

**/ Notices**