



# 2SC5200B

## 用途

- 应用于功率放大器

## 产品特性

- 高集电极电压:  $V_{CE0}=250V$  (min)
- 与 2SA1943B 互补
- 推荐用于 100W 高保真音响频率放大器输出电路
- 环保 (RoHS) 产品

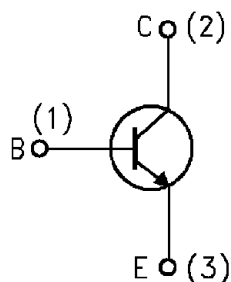
## APPLICATIONS

- Power Amplifier Applications

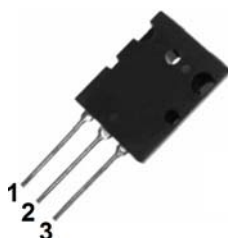
## FEATURES

- High collector voltage:  $V_{CE0}=250V$  (min)
- Complementary to 2SA1943 B
- Recommended for 100-W high-fidelity audio frequency amplifier output
- RoHS product

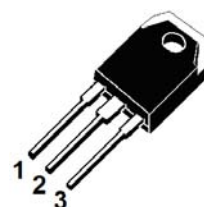
## 封装 Package



TO-3PLT



TO-3PB



- 1 基极 BASE    2 集电极 (热沉) COLLECTOR (HEAT SINK)  
3 发射极 EMITTER

## 订货信息 ORDER MESSAGE

| 订货型号<br>Order codes | 印记<br>Marking | 无卤素<br>Halogen<br>Free | 封装<br>Package | 包装<br>Packaging | 器件重量<br>Weight |
|---------------------|---------------|------------------------|---------------|-----------------|----------------|
| 2SC5200B-O-AB -N-B  | 2SC5200       | 否 NO                   | TO-3PB        | 条管 Tube         | 6.03g(typ)     |
| 2SC5200B -O-AL-N-B  | 2SC5200       | 否 NO                   | TO-3PLT       | 条管 Tube         | 9.53g(typ)     |
| 2SC5200B -O-AL-N-D  | 2SC5200       | 否 NO                   | TO-3PLT       | 泡沫盒 Foam Box    | 9.53g(typ)     |



**绝对最大额定值 ABSOLUTE RATINGS** (Tc=25℃ unless otherwise noted)

| 项 目<br>Parameter                                  | 符 号<br>Symbol    | 数 值<br>Value | 单 位<br>Unit |
|---|------------------|--------------|-------------|
| 集电极—基极直流电压<br>Collector- Base Voltage             | V <sub>CB0</sub> | 350          | V           |
| 集电极—发射极直流电压<br>Collector- Emitter Voltage         | V <sub>CEO</sub> | 250          | V           |
| 发射极—基极直流电压<br>Emitter-Base Voltage                | V <sub>EBO</sub> | 5            | V           |
| 最大集电极电流<br>Collector Current                      | I <sub>C</sub>   | 16           | A           |
| 最大基极电流<br>Base Current                            | I <sub>B</sub>   | 1.6          | A           |
| 最大集电极耗散功率 TO-3PB<br>Collector Dissipation(Tc=25℃) | P <sub>C</sub>   | 150          | W           |
| 最大集电极耗散功率 TO-3PL<br>Collector Dissipation(Tc=25℃) | P <sub>C</sub>   | 200          | W           |
| 最高结温<br>Junction Temperature                      | T <sub>j</sub>   | 150          | ℃           |
| 贮存温度<br>Storage Temperature                       | T <sub>stg</sub> | -65~150      | ℃           |

**电特性 ELECTRICAL CHARACTERISTIC**(Tc=25℃ unless otherwise noted)

| 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 <sub>CB0</sub>     | V <sub>CB</sub> =300V, I <sub>E</sub> =0        | -                 | -                 | 10.0              | μA         |
| I <sub>EBO</sub>     | V <sub>EB</sub> =5.0V, I <sub>C</sub> =0        | -                 | -                 | 5.0               | μA         |
| V <sub>(BR)CEO</sub> | I <sub>C</sub> =50mA, I <sub>B</sub> =0         | 250               | -                 | -                 | V          |
| hFE                  | V <sub>CE</sub> =5.0V, I <sub>C</sub> =0.5A     | 75                | -                 | 135               | -          |
|                      | V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0A     | 75                | -                 | 135               | -          |
|                      | V <sub>CE</sub> =5.0V, I <sub>C</sub> =3.0A     | 75                | -                 | 135               | -          |
| V <sub>CE(sat)</sub> | I <sub>C</sub> =5.0A, I <sub>B</sub> =0.5A      | -                 | -                 | 1.0               | V          |
| V <sub>BE(ON)</sub>  | V <sub>CE</sub> =5.0V, I <sub>C</sub> =5.0A     | -                 | -                 | 1.2               | V          |
| f <sub>T</sub>       | V <sub>CE</sub> =5.0V, I <sub>C</sub> =1.0A     | 10                | -                 | -                 | MHz        |
| C <sub>Ob</sub>      | V <sub>CE</sub> =10V, I <sub>E</sub> =0, f=1MHz | -                 | -                 | 400               | pF         |

**热特性 THERMAL CHARACTERISTIC**

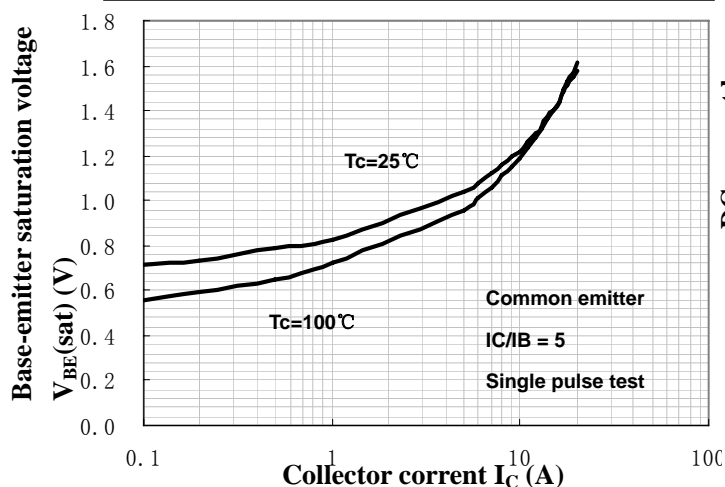
| 项 目<br>Parameter                                 | 符号<br>Symbo          | 最小值<br>min | 最大值<br>max | 单位<br>Unit |
|--|----------------------|------------|------------|------------|
| 结到管壳的热阻 Thermal Resistance Junction Case TO-3PB  | R <sub>th(j-c)</sub> | -          | 0.83       | ℃/W        |
| 结到管壳的热阻 Thermal Resistance Junction Case TO-3PLT | R <sub>th(j-c)</sub> | -          | 0.625      | ℃/W        |



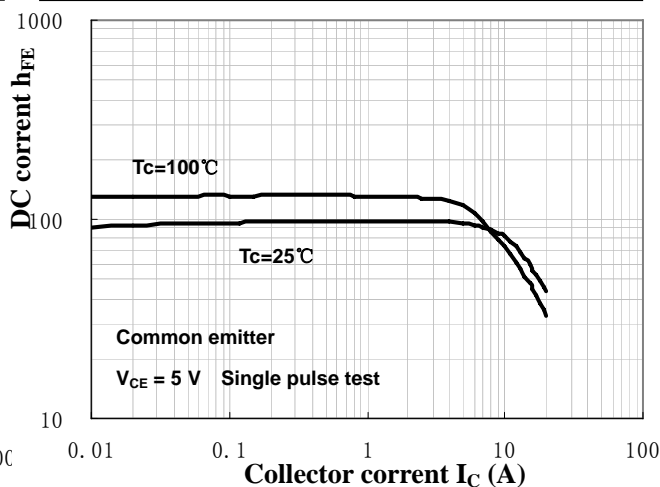


特征曲线 ELECTRICAL CHARACTERISTICS (curves)

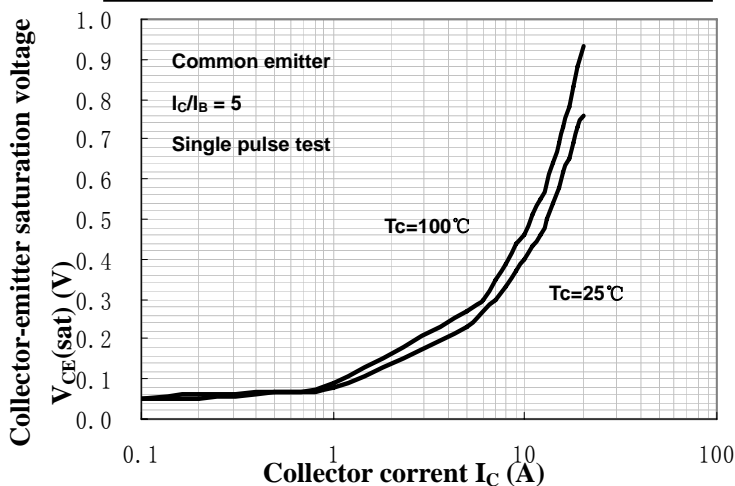
Base-Emitter Voltage



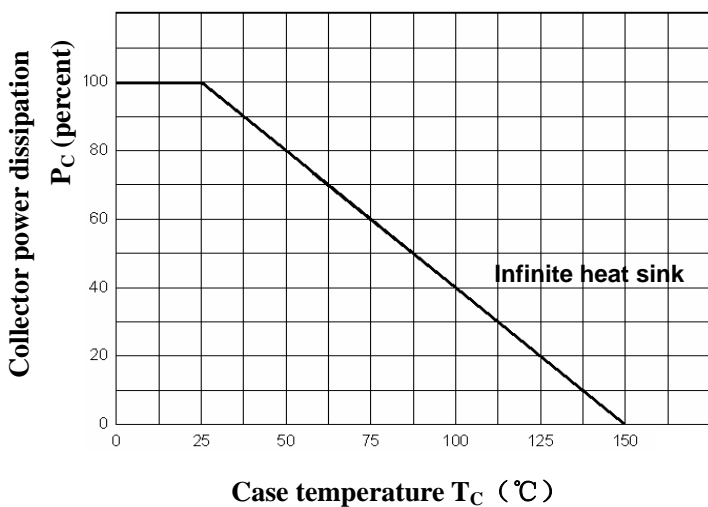
DC Current Gain



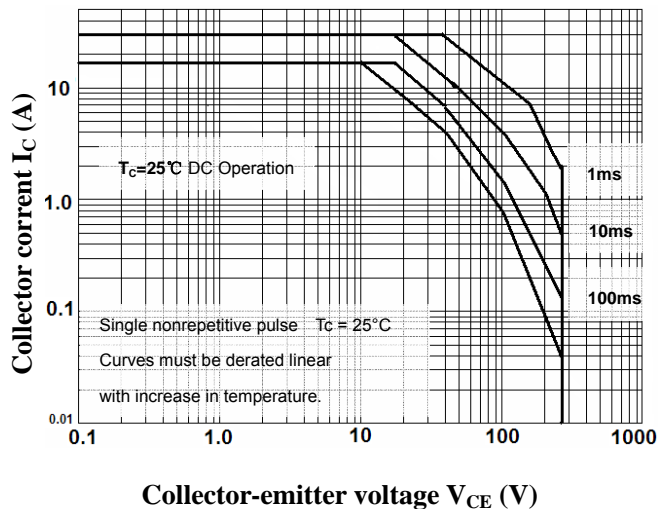
Saturation Voltage



Power Derating

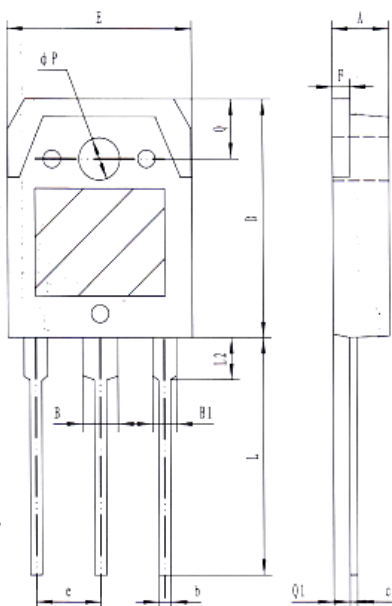


Safe Operating Area



**TO-3PB**

单位 Unit : mm

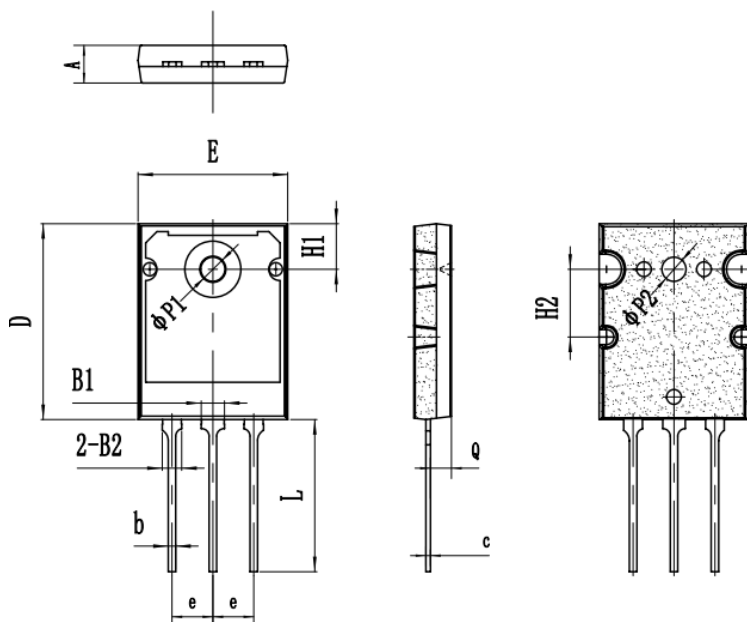


| 符号 | 尺寸 (mm)     |
|----|-------------|
| A  | 4.60-5.00   |
| B  | 2.90-3.20   |
| B1 | 1.90-2.20   |
| b  | 0.90-1.10   |
| c  | 0.50-0.70   |
| D  | 19.40-20.40 |
| E  | 15.40-15.80 |
| e  | 5.45(TYP)   |
| F  | 1.40-1.60   |
| L  | 19.50-20.50 |
| L2 | 3.30-3.70   |
| P  | 3.10-3.50   |
| Q  | 4.90-5.10   |
| Q1 | 1.30-1.50   |

## 外形尺寸 PACKAGE MECHANICAL DATA

**TO-3PLT**

单位 Unit : mm



| 符号 | 尺寸 (mm)   |
|----|-----------|
| A  | 4.70-5.30 |
| B1 | 2.80-3.20 |
| B2 | 2.30-2.70 |
| b  | 0.80-1.25 |
| c  | 0.59-0.61 |
| D  | 25.5-26.5 |
| E  | 19.5-20.5 |
| e  | 5.45(typ) |
| H1 | 6.00-6.10 |
| H2 | 8.95-9.05 |
| L  | 20.0-20.4 |
| Q  | 2.75-2.85 |
| P1 | 3.45-3.55 |
| P2 | 3.20-3.30 |



**注意事项**

1. 吉林华微电子股份有限公司的产品销售分为直销和销售代理，无论哪种方式，订货时请与公司核实。
2. 购买时请认清公司商标，如有疑问请与公司本部联系。
3. 在电路设计时请不要超过器件的绝对最大额定值，否则会影响整机的可靠性。
4. 本说明书如有版本变更不另外告知

**NOTE**

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2. We strongly recommend customers check carefully on the trademark when buying our product, if there is any question, please don't be hesitate to contact us.
3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
4. Jilin Sino-microelectronics co., Ltd reserves the right to make changes in this specification sheet and is subject to change without prior notice.

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**附录（Appendix）：修订记录（Revision History）**

| 日期<br>Date | 旧版本<br>Last Rev. | 新版本<br>New Rev. | 修订内容<br>Description of Changes |
|------------|------------------|-----------------|--------------------------------|
| 2014-9-12  |                  | 201409A         |                                |
| 2014-10-24 | 201409A          | 201410B         | 加入 TO-3PL 封装                   |

