

描述 / Descriptions

SOT-23 塑封封装 PNP 半导体三极管。Silicon PNP transistor in a SOT-23 Plastic Package.

特征 / Features

低饱和,大电流。

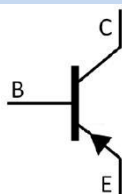
Low saturation voltage, large collector current.

用途 / Applications

一般放大和静音开关。

General purpose amplifier and muting switch application.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1 : Base PIN 2 : Emitter PIN 3 : Collector

放大及印章代码 / h_{FE} Classifications & Marking

| h_{FE} Classifications Symbol | A | B |
|------------------------------------|---------|----------|
| h_{FE} Range | 300~600 | 500~1000 |
| Marking | HGAA | HGAB |

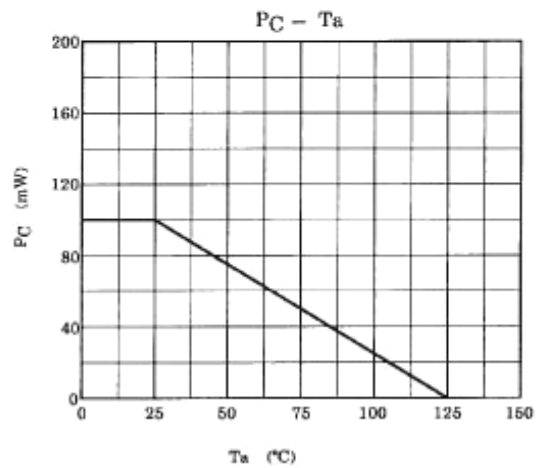
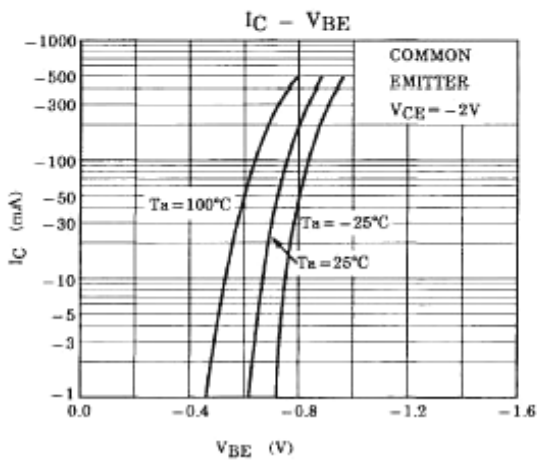
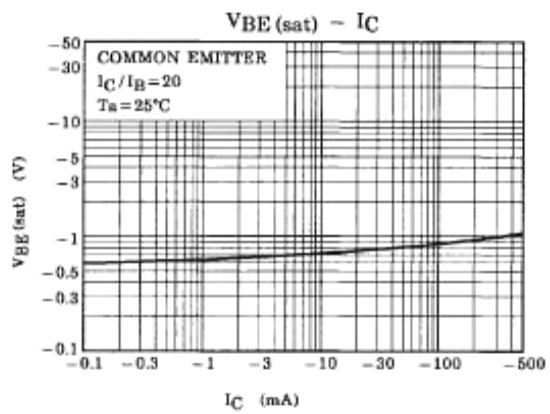
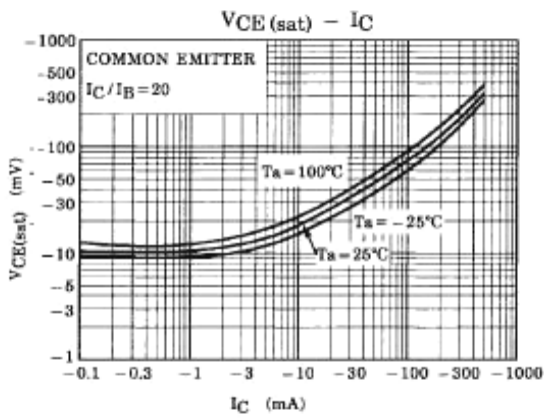
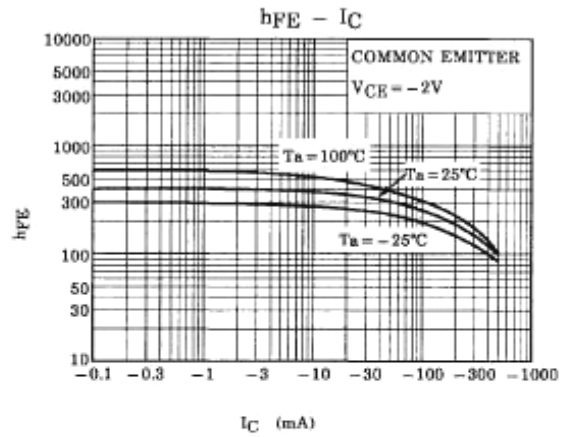
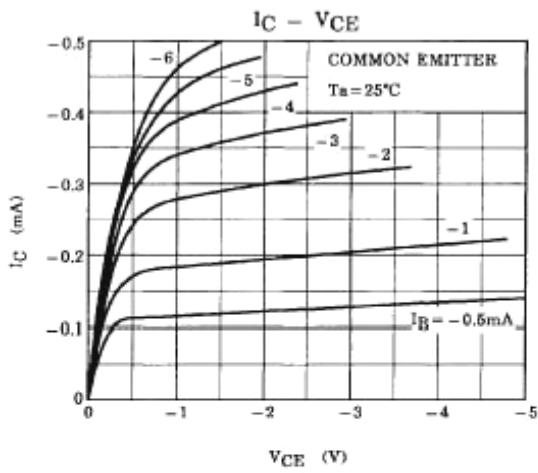
极限参数 / Absolute Maximum Ratings(Ta=25°C)

| 参数 Parameter | 符号 Symbol | 数值 Rating | 单位 Unit |
|------------------------------|--------------|--------------|------------|
| Collector to Base Voltage | V_{CBO} | -15 | V |
| Collector to Emitter Voltage | V_{CEO} | -12 | V |
| Emitter to Base Voltage | V_{EBO} | -5.0 | V |
| Collector Current | I_C | -400 | mA |
| Base Current | I_B | -50 | mA |
| Collector Power Dissipation | P_C | 100 | mW |
| 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 Parameter | 符号 Symbol | 测试条件 Test Conditions | 最小值 Min | 典型值 Typ | 最大值 Max | 单位 Unit |
|---|------------------|--|------------------------|------------|------------|------------|
| Collector Cut-Off Current | I_{CBO} | $V_{CB}=-15V$ $I_E=0$ | | | -0.1 | μA |
| Emitter Base Cut-Off Current | I_{EBO} | $V_{EB}=-5.0V$ $I_C=0$ | | | -0.1 | μA |
| DC Current Gain | h_{FE} | $V_{CE}=-2.0V$ $I_C=-10mA$ | 300 | | 1000 | |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)(1)}$ | $I_C=-10mA$ $I_B=-0.5mA$ | | -0.015 | -0.03 | V |
| | $V_{CE(sat)(2)}$ | $I_C=-200mA$ $I_B=-10mA$ | | -0.11 | -0.25 | V |
| Base to Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=-200mA$ $I_B=-10mA$ | | -0.87 | -1.2 | V |
| Transition Frequency | f_T | $V_{CE}=-2.0V$ $I_E=-10mA$ | 80 | 130 | | MHz |
| Collector Output Capacitance | C_{ob} | $V_{CB}=-10V$ $I_E=0$ $f=1.0MHz$ | | 4.2 | | pF |
| Collector-Emitter On Resistance | R_{on} | $I_B=-1.0mA$ $V_{in}=-1.0V$ $V_{rms}f=1KHz$ | | 0.9 | | Ω |
| Switching time | Turn-On Time | t_{on} | $I_{B1}=-I_{B2}=5.0mA$ | 40 | | ns |
| | Storage Time | T_{stg} | | 280 | | |
| | Fall Time | t_f | | 45 | | |

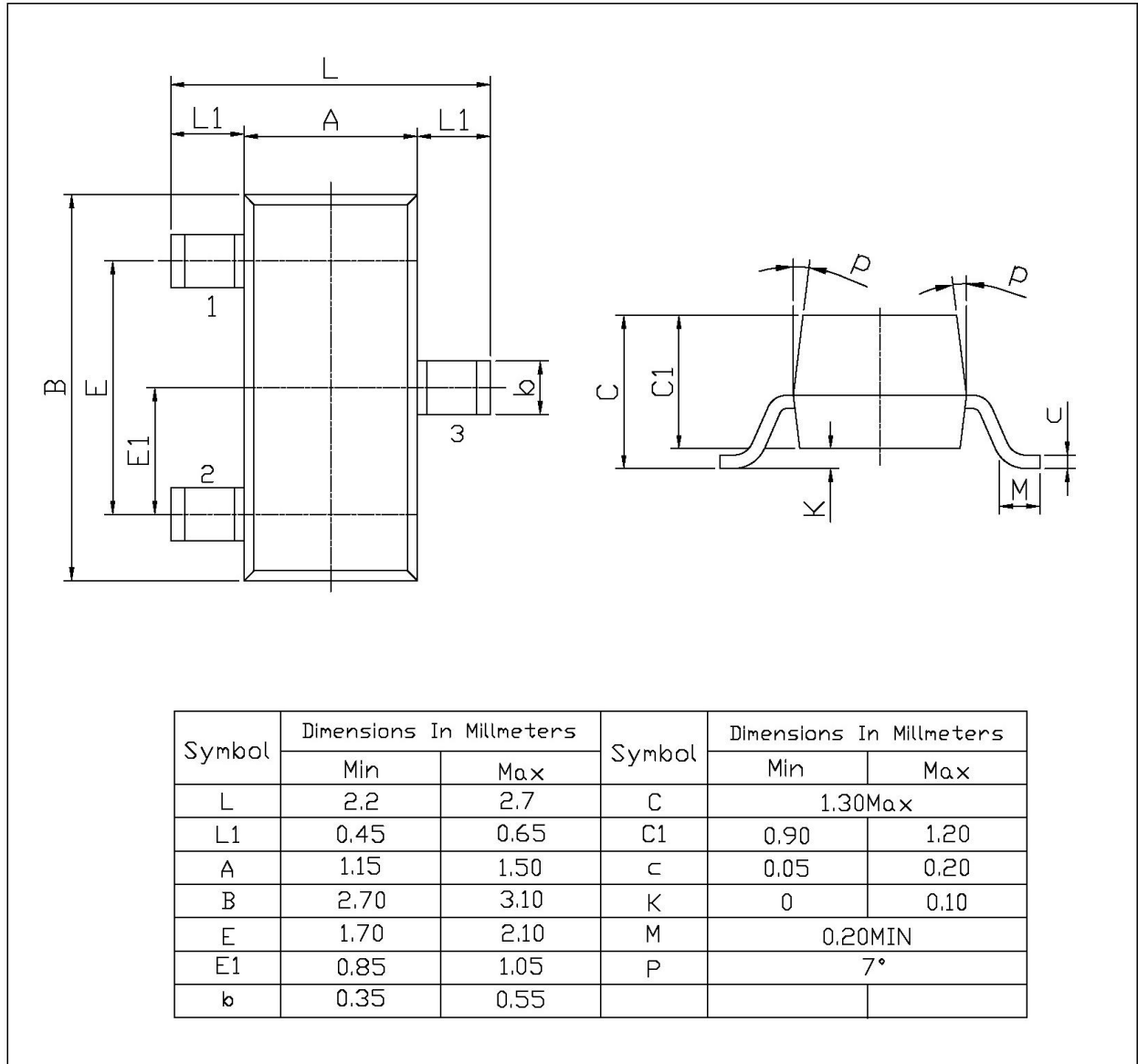
电参数曲线图 / Electrical Characteristic Curve



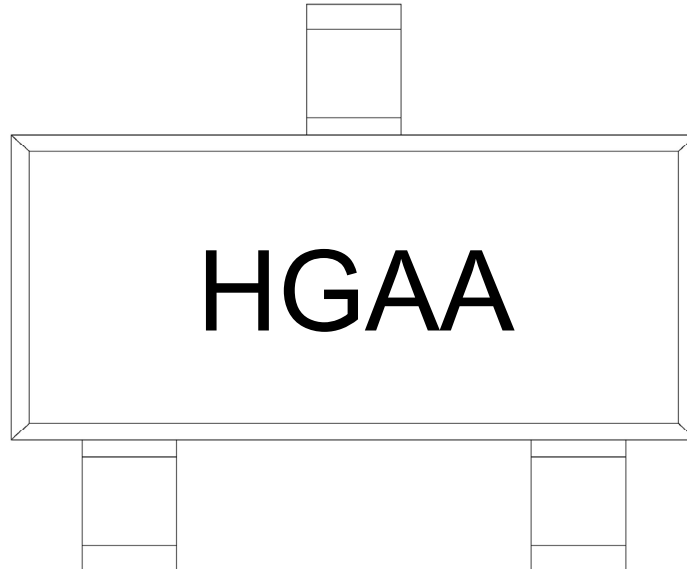
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

H： 为公司代码

GA： 为型号代码

A： 为 h_{FE} 档次代码

Note:

H: Company Code.

GA: Product Type Code

A: h_{FE} Classifications Symbol Code

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 封装形式 | Units 包装数量 | | | | | Dimension 包装尺寸 (unit: mm ³) | | |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|---|-------------|-------------|
| | Units/Reel 只/卷盘 | Reels/Inner Box 卷盘/盒 | Units/Inner Box 只/盒 | Inner Boxes/Outer Box 盒/箱 | Units/Outer Box 只/箱 | Reel | Inner Box 盒 | Outer Box 箱 |
| SOT-23 | 3,000 | 10 | 30,000 | 6 | 180,000 | 7" x8 | 180×120×180 | 390×385×205 |

使用说明 / Notices