

**描述 / Descriptions**

SOT-23 塑封封装 硅 NPN 数字三极管。Silicon NPN Digital transistor in a SOT-23 Plastic Package.

**特征 / Features**

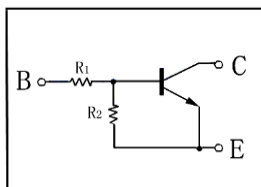
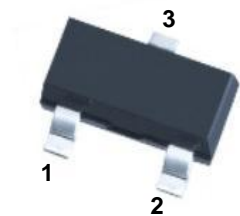
内装偏置电阻，简化线路设计，减少元件和制造流程。无卤产品。

With built-in bias resistors, simplify circuit design, reduce a quantity of parts and manufacturing process. HF product.

**用途 / Applications**

用于开关、反相电路、界面电路以及驱动电路中。

Switching, inverter circuit, interface circuit and driver circuit applications.

**内部等效电路 / Equivalent Circuit**

**引脚排列 / Pinning**


PIN 1 : Base

PIN 2 : Emitter

PIN 3 : Collector

**放大及印章代码 / h<sub>FE</sub> Classifications & Marking**

|         |     |
|---------|-----|
| Marking | H43 |
|---------|-----|

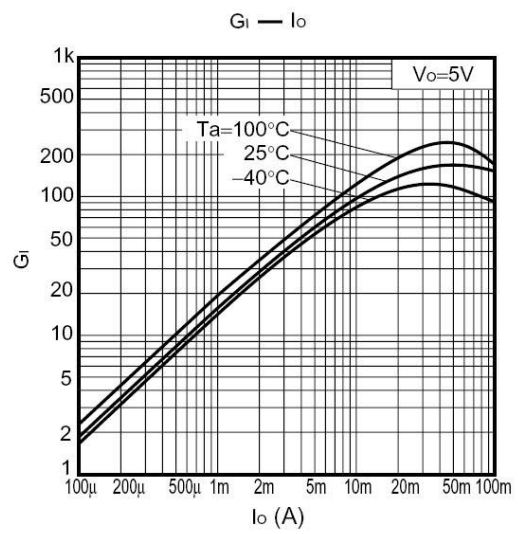
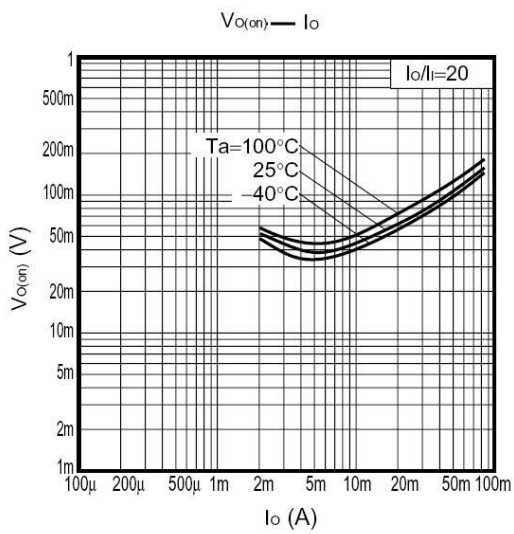
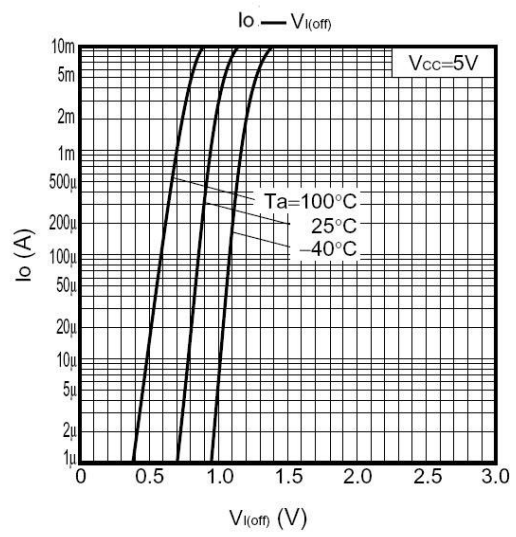
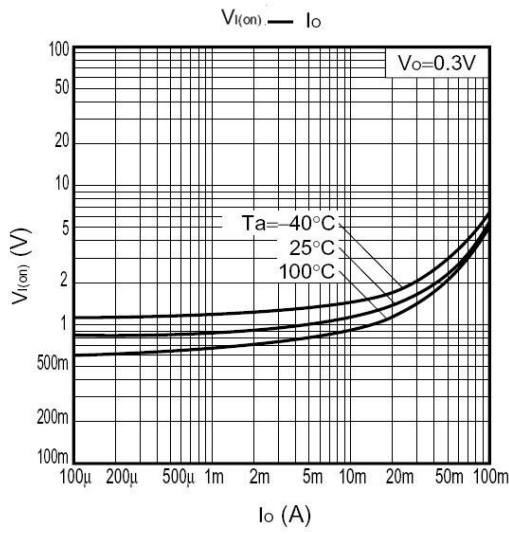
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

| 参数<br>Parameter           | 符号<br>Symbol        | 数值<br>Rating | 单位<br>Unit |
|---------------------------|---------------------|--------------|------------|
| Output Voltage            | V <sub>CC</sub>     | 50           | V          |
| Input Voltage             | V <sub>i</sub>      | 20           | V          |
|                           |                     | -7.0         | V          |
| Output Current            | I <sub>o</sub>      | 100          | mA         |
|                           | I <sub>C(MAX)</sub> | 100          | mA         |
| Power Dissipation         | P <sub>C</sub>      | 200          | mW         |
| Junction Temperature      | T <sub>j</sub>      | 150          | °C         |
| Storage Temperature Range | T <sub>stg</sub>    | -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 |
|------------------------|--------------------------------|--------------------------------------------------------|------------|------------|------------|------------|
| Input Voltage(OFF)     | V <sub>I(off)</sub>            | V <sub>CC</sub> =5.0V I <sub>o</sub> =100μA            |            |            | 0.3        | V          |
| Input Voltage(ON)      | V <sub>I(on)</sub>             | V <sub>O</sub> =0.3V I <sub>o</sub> =20mA              | 2.5        |            |            | V          |
| Output Voltage         | V <sub>O(on)</sub>             | I <sub>o</sub> =10mA I <sub>i</sub> =0.5mA             |            | 0.1        | 0.3        | V          |
| Input Current          | I <sub>i</sub>                 | V <sub>i</sub> =5.0V                                   |            |            | 1.8        | mA         |
| Output Cut-off Current | I <sub>O(off)</sub>            | V <sub>CC</sub> =50V V <sub>i</sub> =0V                |            |            | 0.5        | μA         |
| DC Current Gain        | G <sub>I</sub>                 | V <sub>O</sub> =5.0V I <sub>o</sub> =10mA              | 30         |            |            |            |
| Transition Frequency   | f <sub>T</sub>                 | V <sub>CE</sub> =10V I <sub>C</sub> =5.0mA<br>f=100MHz |            | 250        |            | MHz        |
| Resistance1            | R <sub>1</sub>                 |                                                        | 3.29       | 4.7        | 6.11       | KΩ         |
| Resistance Ratio       | R <sub>2</sub> /R <sub>1</sub> |                                                        | 1.7        | 2.1        | 2.6        |            |

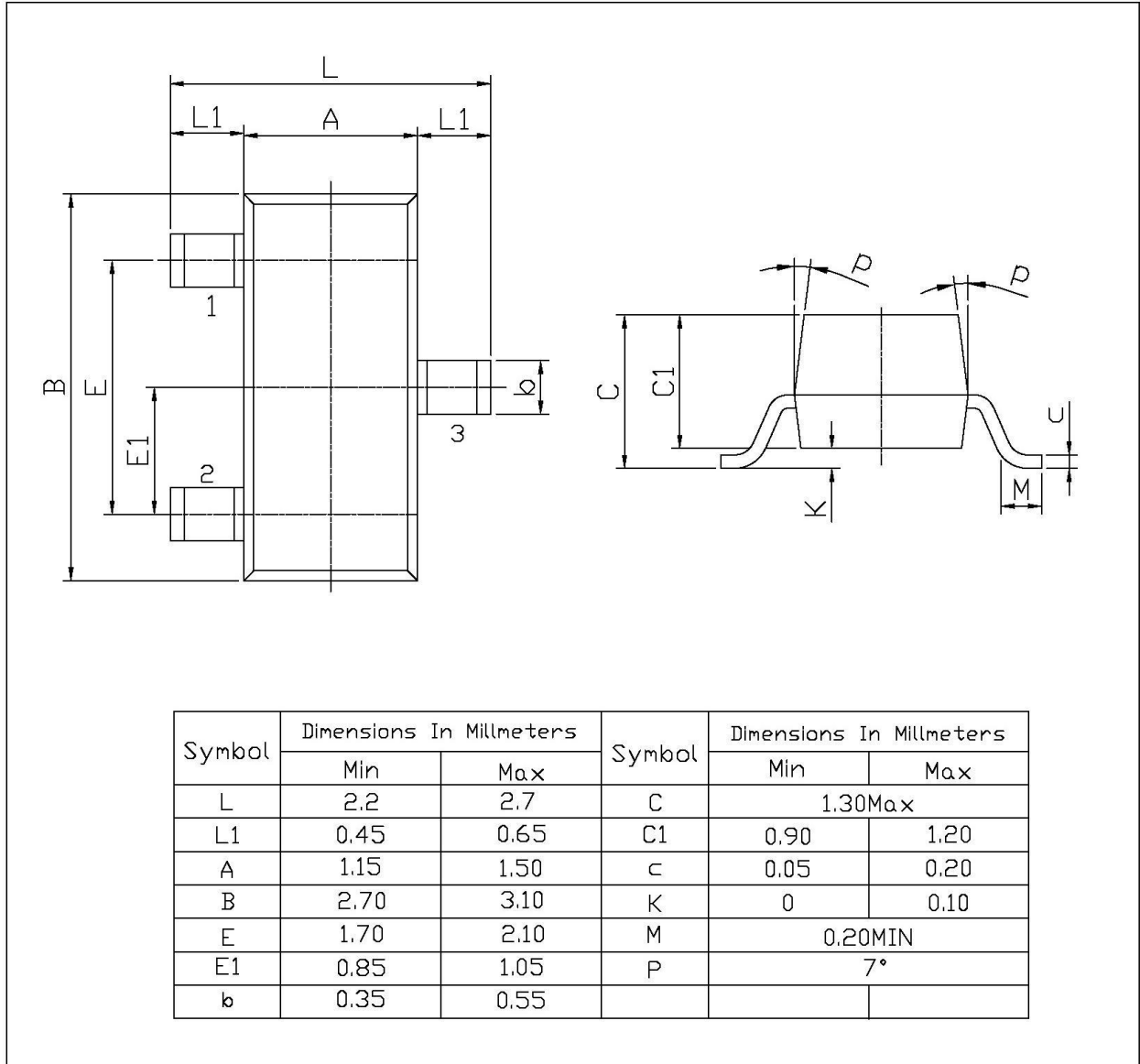
电参数曲线图 / Electrical Characteristic Curve



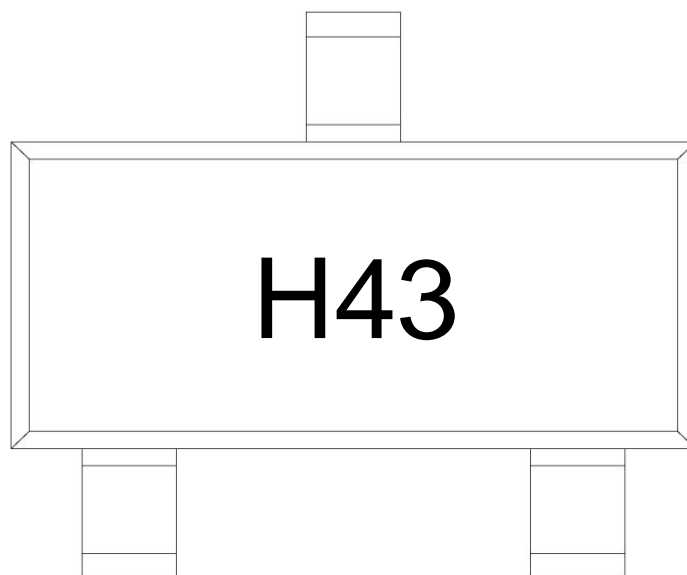
外形尺寸图 / Package Dimensions

SOT-23

单位: mm



印章说明 / Marking Instructions



说明：

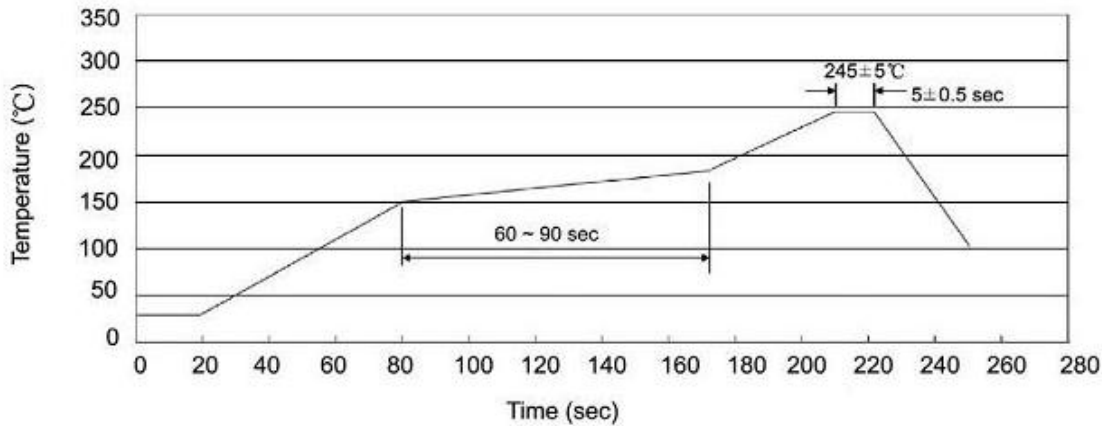
H： 为公司代码

43： 为型号代码

Note:

H： Company Code

43： Product Type 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 150~180°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:150~180°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<br>封装形式 | Units 包装数量         |                         |                        |                              |                        | Dimension 包装尺寸 (unit: mm <sup>3</sup> ) |             |             |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|-----------------------------------------|-------------|-------------|
|                      | Units/Reel<br>只/卷盘 | Reels/Inner Box<br>卷盘/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>只/箱 | Reel                                    | Inner Box 盒 | Outer Box 箱 |
| SOT-23               | 3,000              | 10                      | 30,000                 | 6                            | 180,000                | 7" ×8                                   | 180×120×180 | 390×385×205 |

**使用说明 / Notices**