

**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**

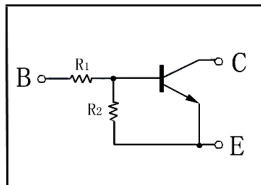
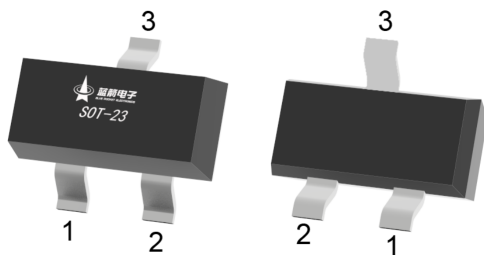
内装偏置电阻，简化线路设计，减少元件和制造流程，无卤产品。

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 / hFE Classifications & Marking**

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

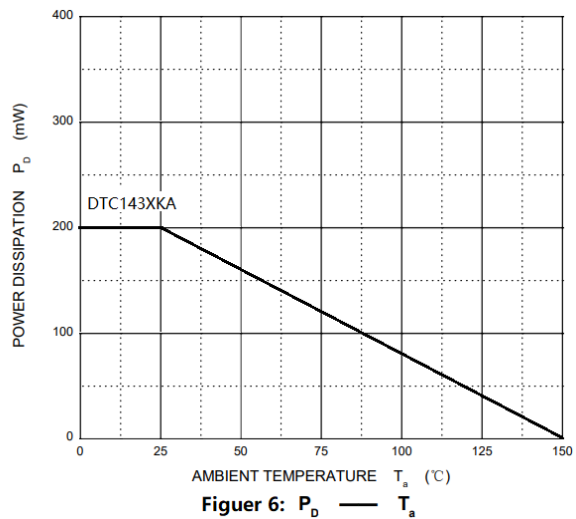
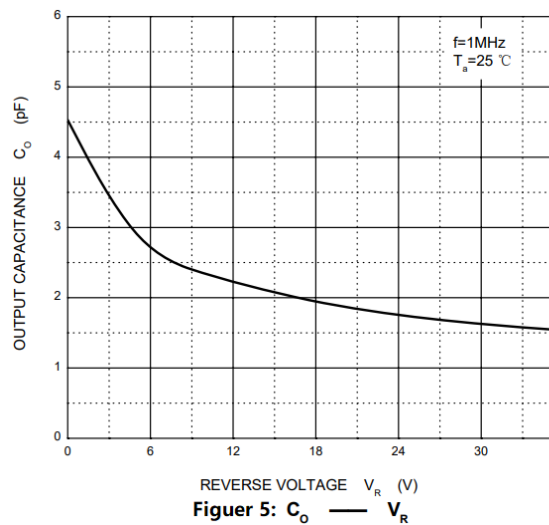
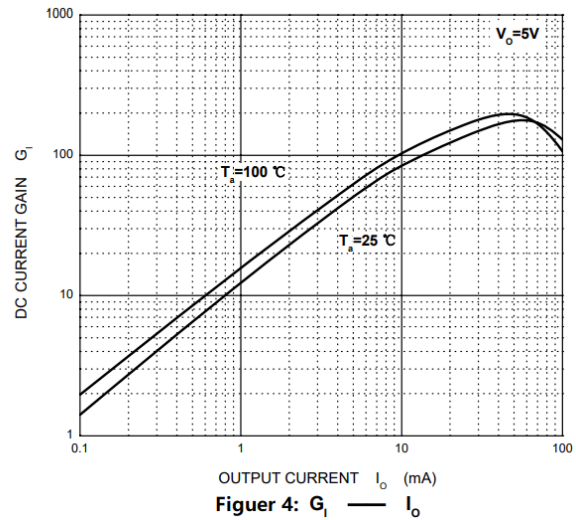
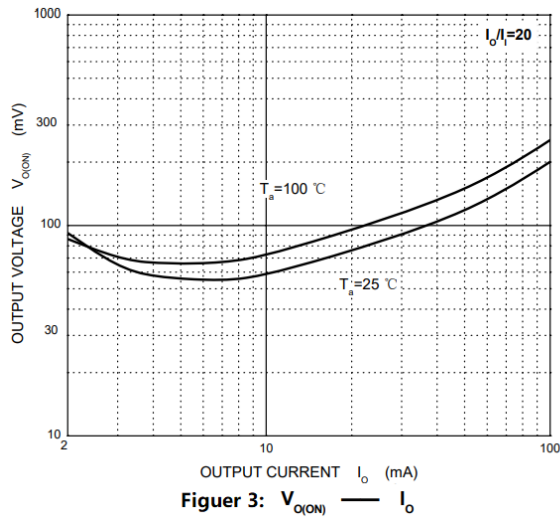
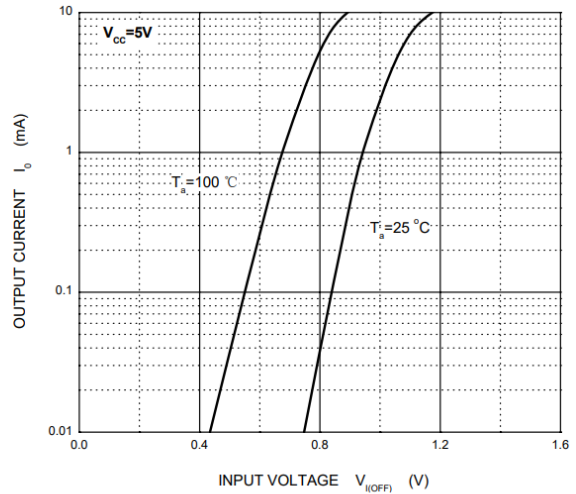
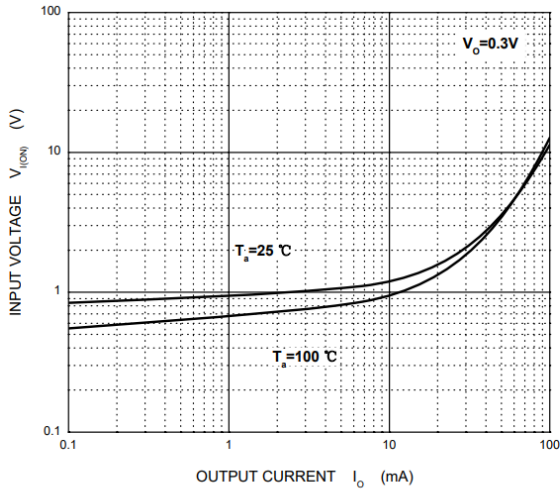
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

| 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>In</sub>  | 20           | V          |
|                           |                  | -7.0         | V          |
| Output Current            | I <sub>O</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          | V <sub>I(off)</sub>            | V <sub>CC</sub> =5.0V I <sub>O</sub> =100μA            | 0.3        |            |            | V          |
|                        | 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        |            |

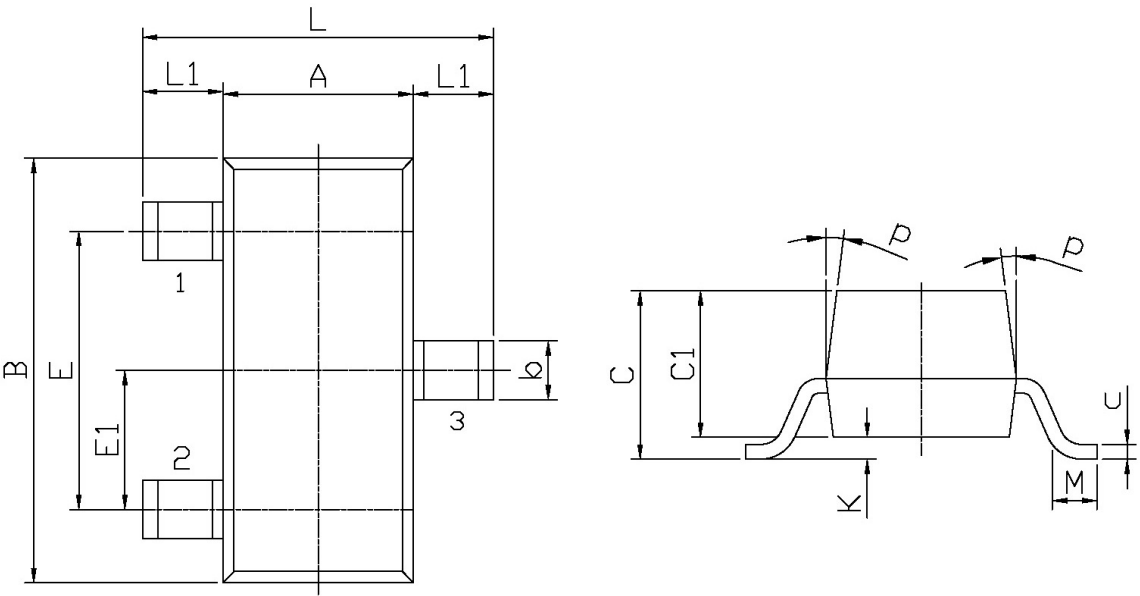
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

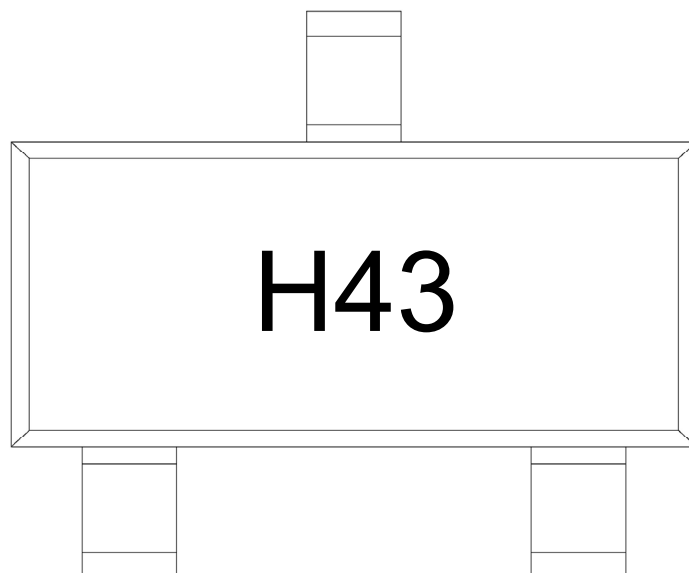
SOT-23

单位：mm



| Symbol | Dimensions In Millimeters |      | Symbol | Dimensions In Millimeters |      |
|--------|---------------------------|------|--------|---------------------------|------|
|        | Min                       | Max  |        | Min                       | Max  |
| L      | 2.2                       | 2.7  | C      | 1.30Max                   |      |
| L1     | 0.45                      | 0.65 | C1     | 0.90                      | 1.20 |
| A      | 1.15                      | 1.50 | c      | 0.05                      | 0.20 |
| B      | 2.70                      | 3.10 | K      | 0                         | 0.10 |
| E      | 1.70                      | 2.10 | M      | 0.20MIN                   |      |
| E1     | 0.85                      | 1.05 | P      | 7°                        |      |
| b      | 0.35                      | 0.55 |        |                           |      |

**印章说明 / Marking Instructions**



说明：

H： 为公司代码

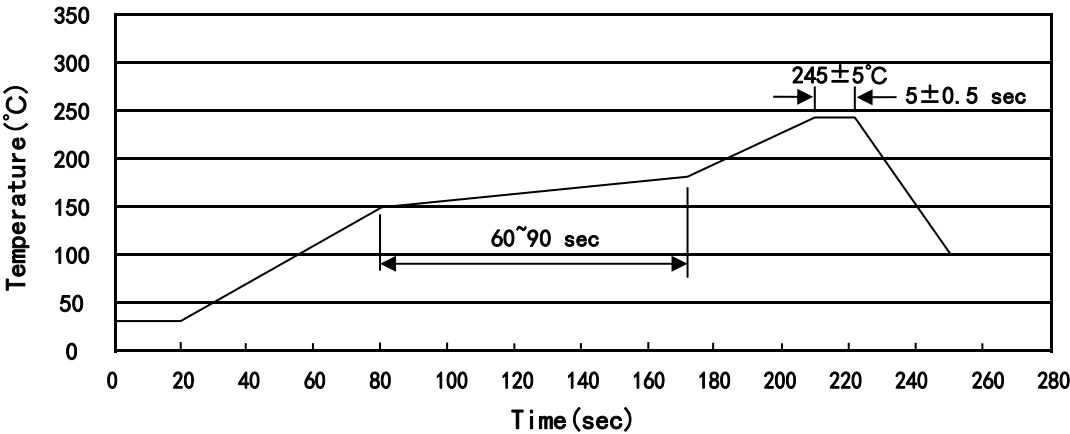
43： 为型号代码

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