

### 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。

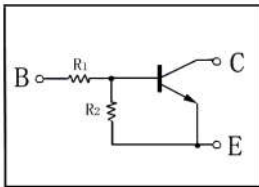
With built-in bias resistors, simplify circuit design, reduce a quantity of parts and manufacturing process. HF product.

### 用途 / Applications

用于开关、界面电路以及驱动电路中。

Switching applications, 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 / $h_{FE}$ Classifications & Marking

|         |     |
|---------|-----|
| Marking | H24 |
|---------|-----|

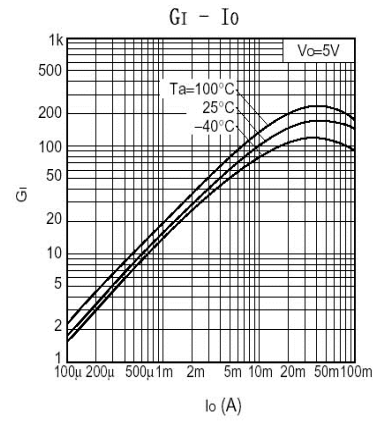
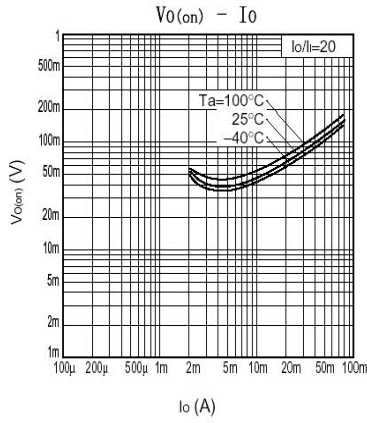
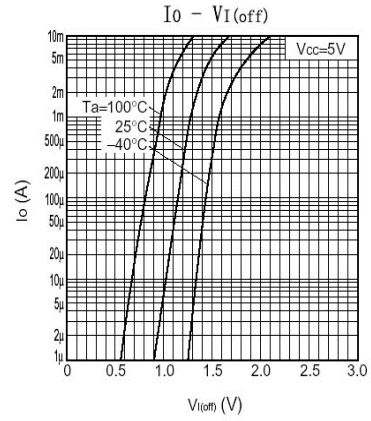
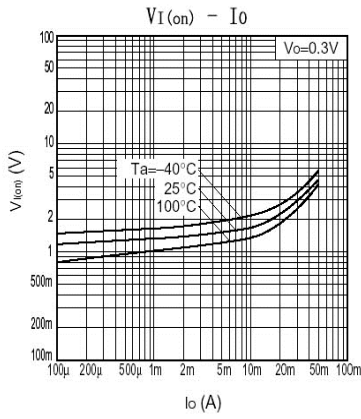
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

| 参数<br>Parameter           | 符号<br>Symbol | 数值<br>Rating | 单位<br>Unit |
|---------------------------|--------------|--------------|------------|
| Output Voltage            | $V_{CC}$     | 50           | V          |
| Input Voltage             | $V_{IN}$     | 40           | V          |
|                           |              | -10          | V          |
| Output Current            | $I_{CM}$     | 100          | mA         |
|                           | $I_O$        | 50           | mA         |
| Collector Dissipation     | $P_C$        | 200          | 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<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          | $V_{I(off)}$ | $V_{CC}=5.0V$ $I_O=100\mu A$           |            |            | 0.5        | V          |
| Input Voltage          | $V_{I(on)}$  | $V_O=0.3V$ $I_O=10mA$                  | 3          |            |            | V          |
| Output Voltage         | $V_{O(on)}$  | $I_O=10mA$ $I_I=0.5mA$                 |            |            | 0.3        | V          |
| Input Current          | $I_I$        | $V_I=5.0V$                             |            |            | 0.88       | mA         |
| Output Cut-off Current | $I_{O(off)}$ | $V_{CC}=50V$ $V_I=0V$                  |            |            | 0.5        | $\mu A$    |
| DC Current Gain        | $G_I$        | $V_O=5.0V$ $I_O=5.0mA$                 | 30         |            |            |            |
| Transition Frequency   | $f_T$        | $V_{CE}=10V$ $I_C=5.0mA$<br>$f=100MHz$ |            | 250        |            | MHz        |
| Resistance1            | $R_1$        |                                        | 7          | 10         | 13         | K $\Omega$ |
| Resistance Ratio       | $R_2/R_1$    |                                        | 0.8        | 1          | 1.2        |            |

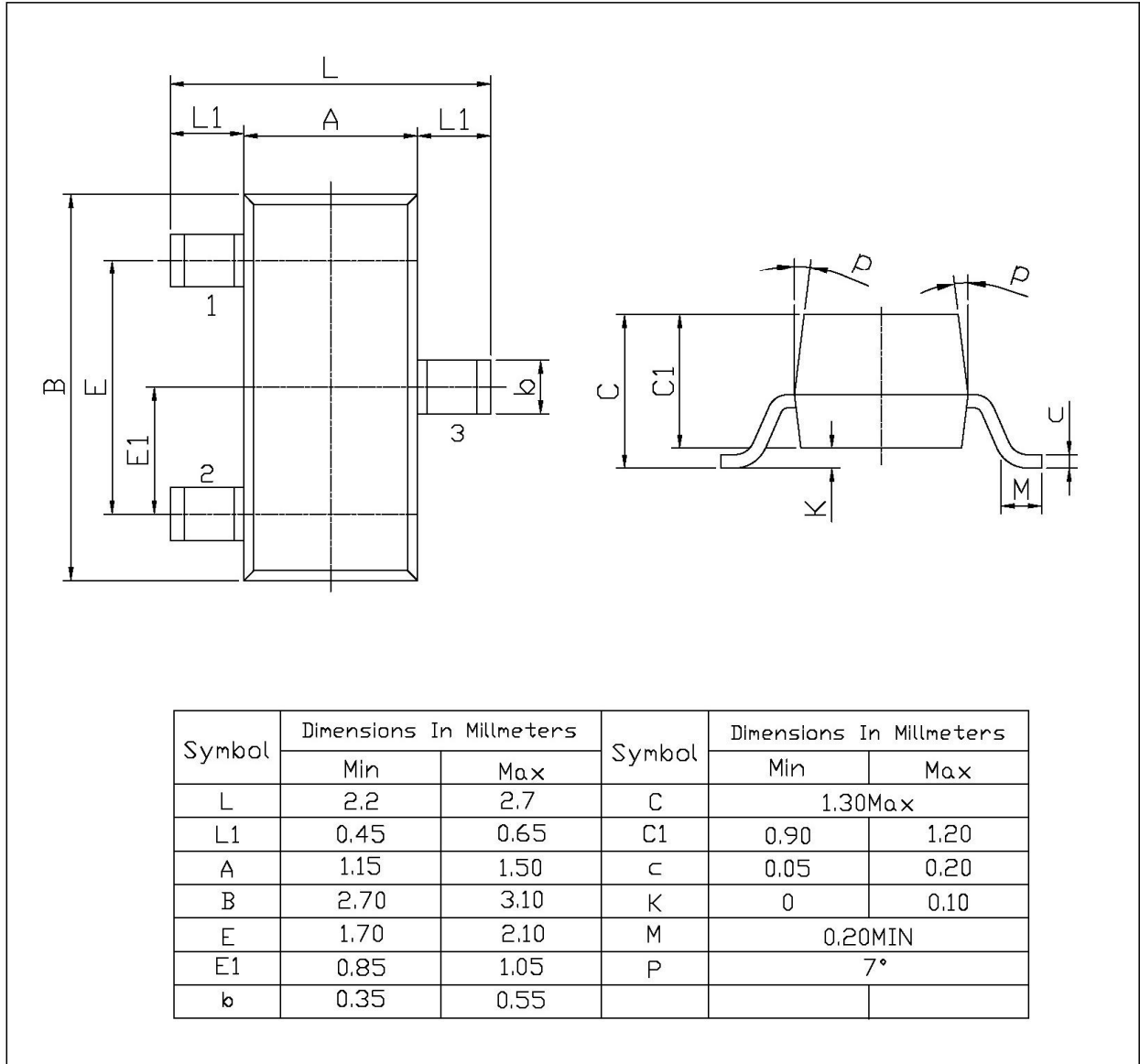
电参数曲线图 / Electrical Characteristic Curve



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

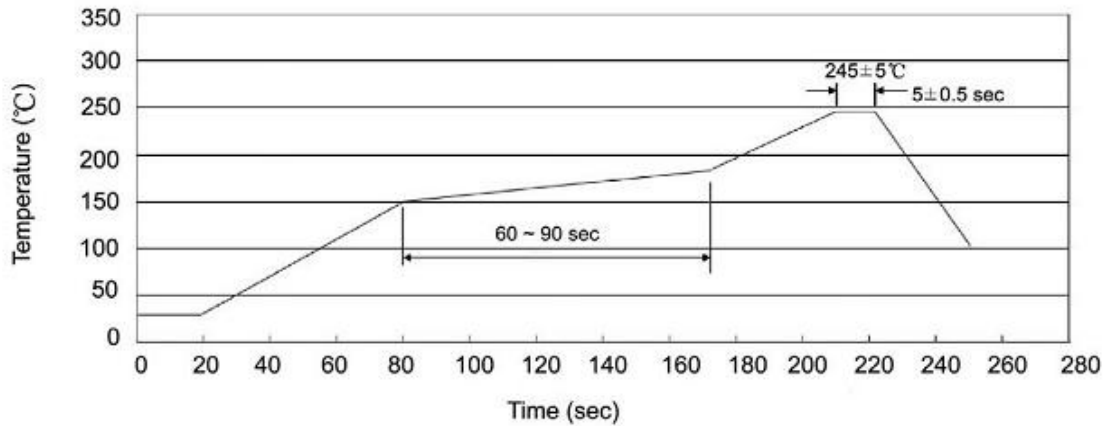
24： 为型号代码

Note:

H： Company Code

24： Product Type

**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：270±5°C

时间：10±1 sec.

Temp.:270±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**