

### 描述 / Descriptions

SOT-323 塑封封装 NPN 半导体三极管。Silicon NPN transistor in a SOT-323 Plastic Package.

### 特征 / Features

电容小,噪声系数低,特征频率高。

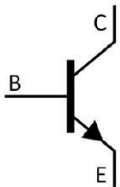
Small feedback capacitance, low noise figure, high  $f_T$ .

### 用途 / Applications

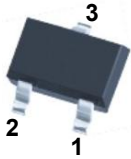
用于信号频率高达 2GHz 的低噪声小信号放大。

Low noise small signal amplifiers up to 2 GHz.

### 内部等效电路 / Equivalent Circuit



### 引脚排列 / Pinning



PIN1 : Emitter

PIN 2 : Base

PIN 3 : Collector

### 印章代码 / Marking

|                |        |
|----------------|--------|
| $h_{FE}$ Range | 65~150 |
| Marking        | HWV2   |

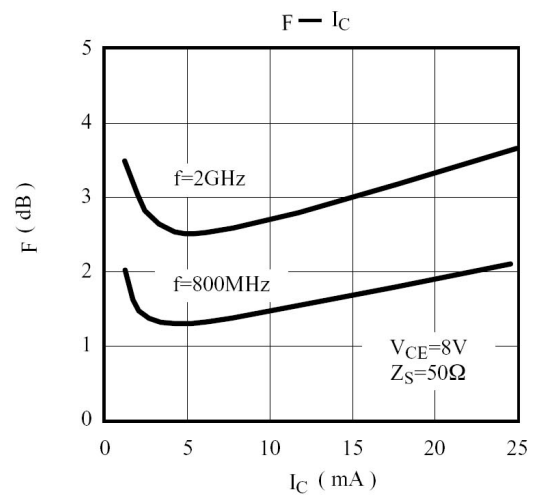
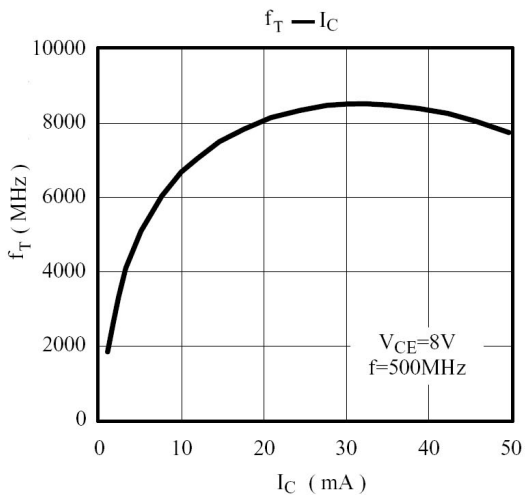
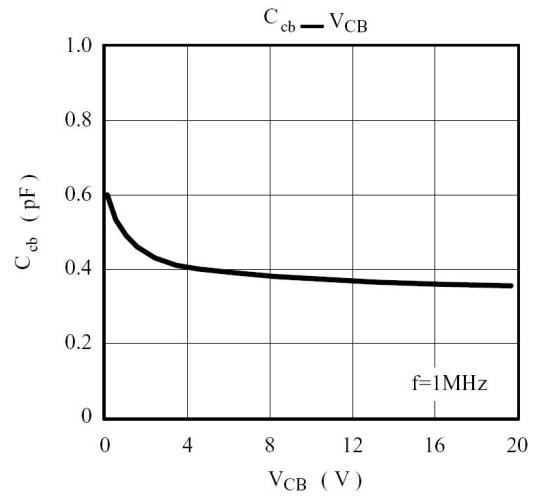
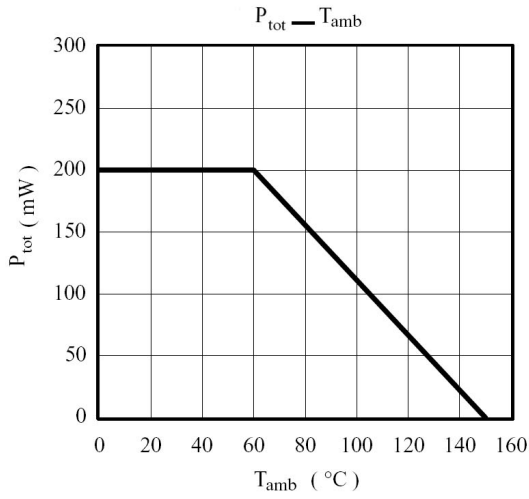
**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

| 参数<br>Parameter                | 符号<br>Symbol | 数值<br>Rating | 单位<br>Unit |
|--------------------------------|--------------|--------------|------------|
| Collector to Base Voltage      | $V_{CBO}$    | 20           | V          |
| Collector to Emitter Voltage   | $V_{CEO}$    | 10           | V          |
| Emitter to Base Voltage        | $V_{EBO}$    | 2.5          | V          |
| Collector Current - Continuous | $I_C$        | 50           | mA         |
| Collector Power 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 |
|-----------------------------------------|---------------|-----------------------------------------------------|------------|------------|------------|------------|
| Collector to Emitter Breakdown Voltage  | $V_{CEO}$     | $I_C=1.0mA$ $I_B=0$                                 | 10         |            |            | V          |
| Collector cut-off current               | $I_{CES}$     | $V_{CE}=20V$ $V_{BE}=0$                             |            |            | 100        | $\mu A$    |
| Collector Cut-Off Current               | $I_{CBO}$     | $V_{CB}=15V$ $I_E=0$                                |            |            | 0.1        | $\mu A$    |
| Emitter Base Cut-Off Current            | $I_{EBO}$     | $V_{EB}=1.0V$ $I_C=0$                               |            |            | 1.0        | $\mu A$    |
| DC Current Gain                         | $h_{FE}$      | $V_{CE}=5.0V$ $I_C=15mA$                            | 65         | 100        | 150        |            |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=50mA$ $I_B=5.0mA$                              |            | 0.1        | 0.4        | V          |
| Transition Frequency                    | $f_T$         | $V_{CE}=8.0V$ $I_C=15mA$<br>$f=500MHz$              |            | 7.5        |            | GHz        |
| Collector-Base Capacitance              | $C_{Cb}$      | $V_{CB}=10V$ $f=1.0MHz$                             |            | 0.4        |            | pF         |
| Collector-Emitter Capacitance           | $C_{Ce}$      | $V_{CE}=8.0V$ $f=1.0MHz$                            |            | 0.2        |            | pF         |
| Emitter-Base Capacitance                | $C_{eb}$      | $V_{EB}=0.5V$ $f=1.0MHz$                            |            | 0.85       |            | pF         |
| Noise Figure                            | NF            | $V_{CE}=8.0V$ $I_C=15mA$<br>$Z_s=50\Omega$ $f=2GHz$ |            | 2.5        |            | dB         |

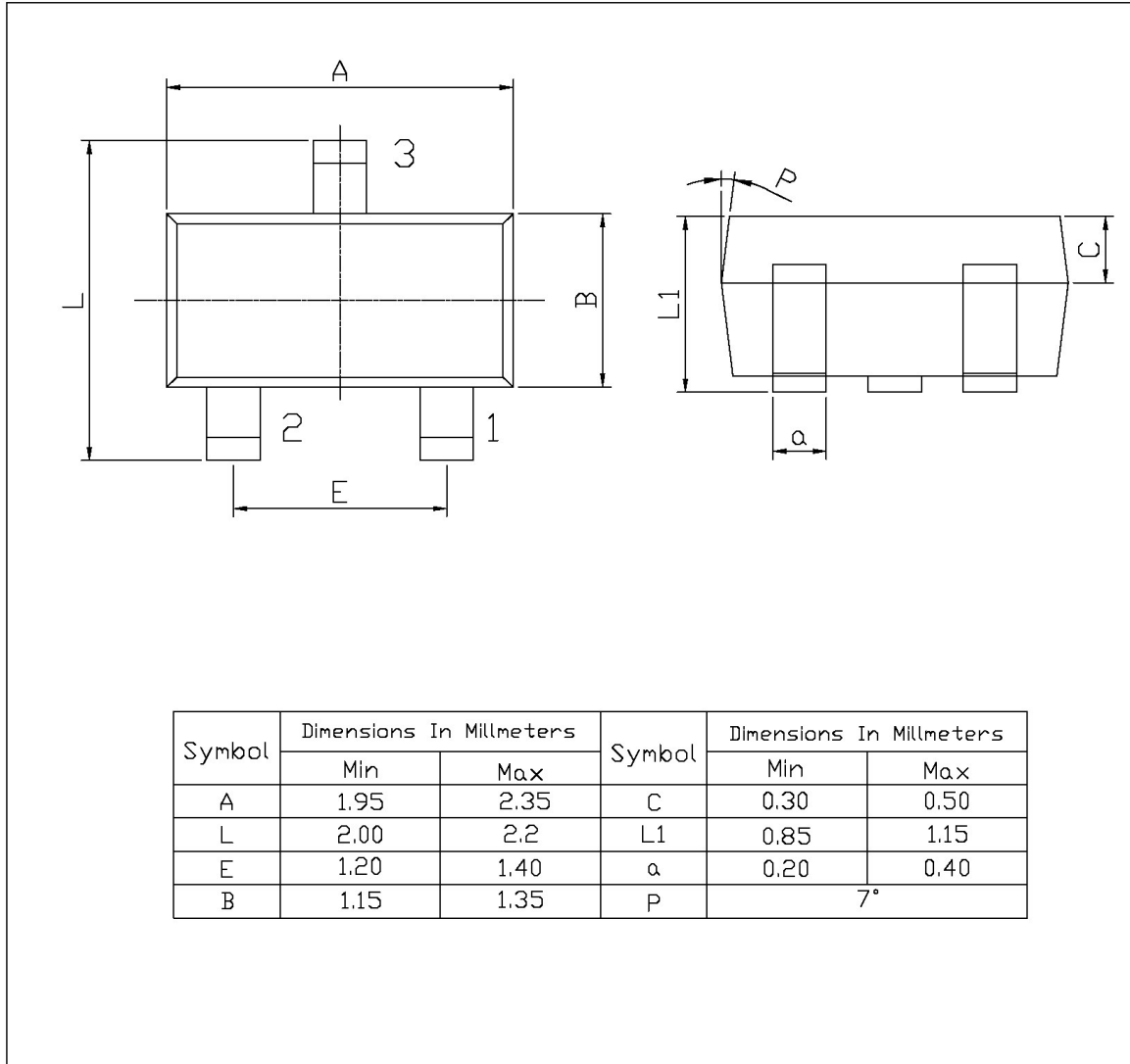
**电参数曲线图 / Electrical Characteristic Curve**



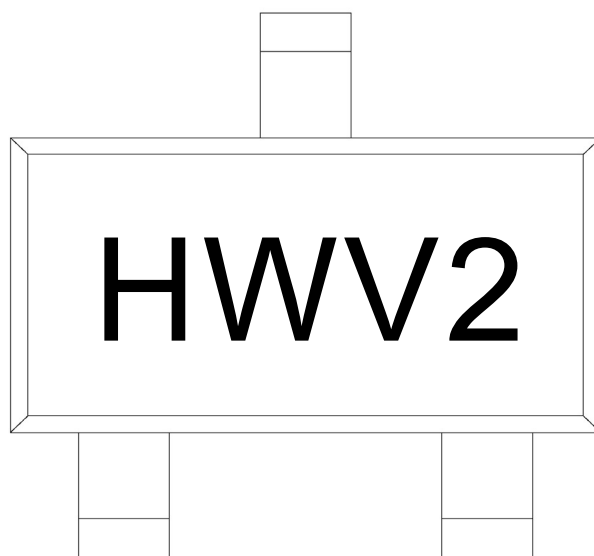
外形尺寸图 / Package Dimensions

SOT-323

单位: mm



印章说明 / Marking Instructions



说明：

H： 为公司代码

WV2： 为型号代码

Note:

H: Company Code.

WV2: 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 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<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-323              | 3,000              | 10                      | 30,000                 | 8                            | 240,000                | 7" x8                                   | 180×120×180 | 385×257×392 |

**使用说明 / Notices**