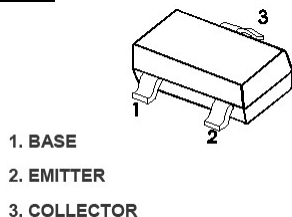


## SOT-23



Marking: 2T

## 特征 Features

- 最大功率耗散 300mW; Power Dissipation of 300mW
- 高稳定性和可靠性。High Stability and High Reliability

## 机械数据 Mechanical Data

- 封装: SOT-23 封装 SOT-23 Small Outline Plastic Package
- 环氧树脂 UL 易燃等级 Epoxy UL: 94V-0
- 安装位置: 任意 Mounting Position: Any

极限值和温度特性(TA = 25°C 除非另有规定)

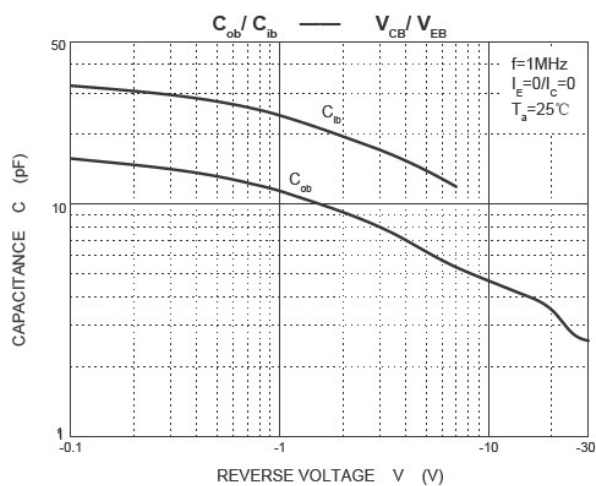
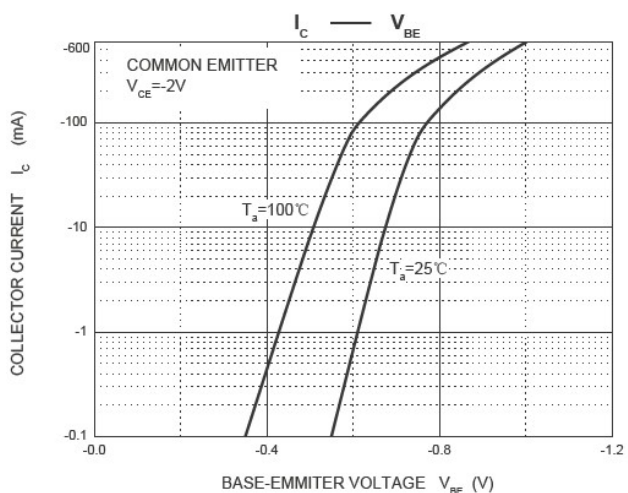
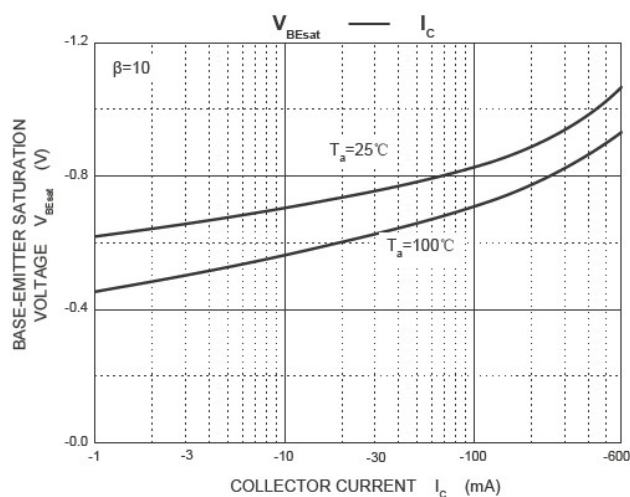
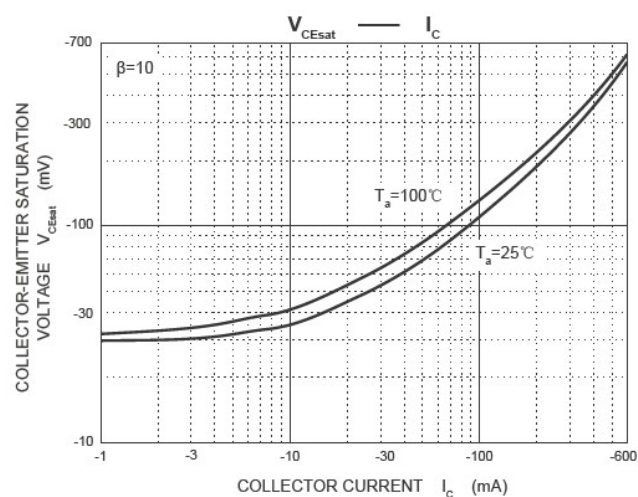
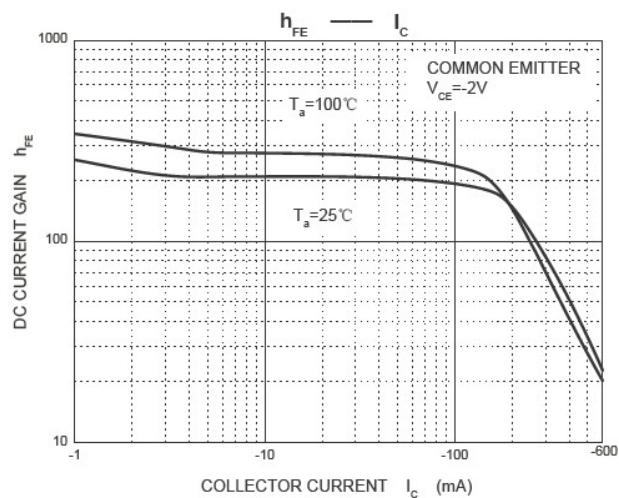
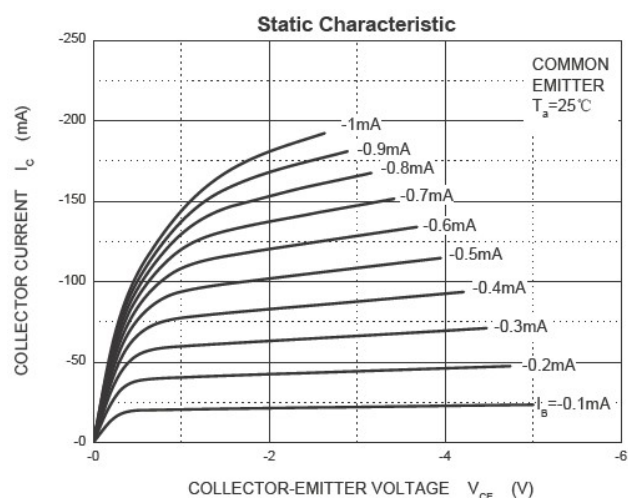
**Maximum Ratings & Thermal Characteristics** (Ratings at 25°C ambient temperature unless otherwise specified.)

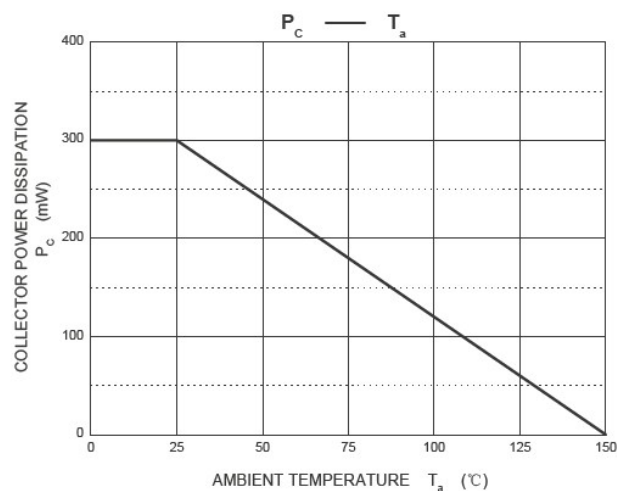
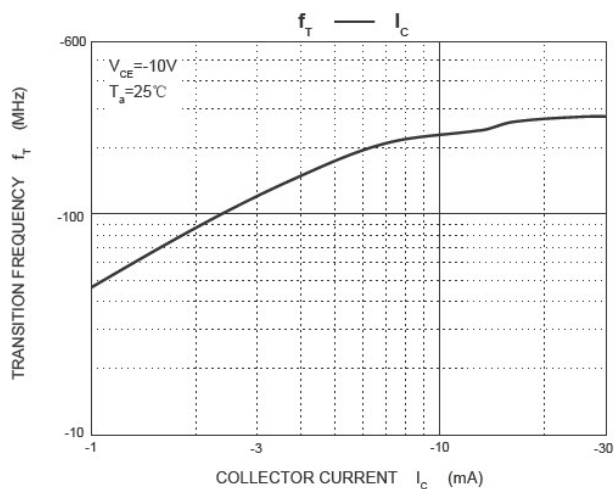
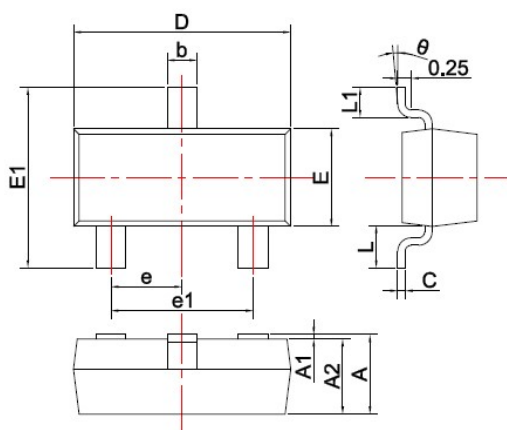
| 参数 Parameters                               | 符号 Symbol        | 数值 Value | 单位 Unit |
|---------------------------------------------|------------------|----------|---------|
| Collector-Base Voltage                      | V <sub>CBO</sub> | -40      | V       |
| Collector-Emitter Voltage                   | V <sub>CEO</sub> | -40      | V       |
| Emitter -Base Voltage                       | V <sub>EBO</sub> | -5       | V       |
| Collector Current-Continuous                | I <sub>C</sub>   | -600     | mA      |
| Collector Power Dissipation                 | P <sub>C</sub>   | 300      | mW      |
| Junction Temperature                        | T <sub>j</sub>   | 150      | °C      |
| Storage Temperature                         | T <sub>stg</sub> | -55-+150 | °C      |
| Thermal resistance From junction to ambient | R <sub>θJA</sub> | 417      | °C/W    |

电特性 (TA = 25°C 除非另有规定)

**Electrical Characteristics** (Ratings at 25°C ambient temperature unless otherwise specified).

| 参数<br>Parameter                      | 符号<br>Symbols  | 测试条件<br>Test Condition                         | 界限 Limits |       | 单位<br>Unit |
|--------------------------------------|----------------|------------------------------------------------|-----------|-------|------------|
|                                      |                |                                                | Min       | Max   |            |
| Collector-base breakdown voltage     | V(BR)CBO       | IC=-100uA, IE=0                                | -40       |       | V          |
| Collector-emitter breakdown voltage  | V(BR)CEO       | IC=-1mA, IB=0                                  | -40       |       | V          |
| Emitter-base breakdown voltage       | V(BR)EBO       | IE=-100uA, IC=0                                | -5        |       | V          |
| Collector cut-off current            | ICBO           | VCE=-35V, IE=0                                 |           | -100  | nA         |
| Collector cut-off current            | ICEX           | VCE=-35V, VEB(off)=-0.4V                       |           | -100  | nA         |
| Emitter cut-off current              | IEBO           | VEB=-4V, IC=0                                  |           | -100  | nA         |
| DC current gain                      | hFE(1)         | VCE=-1V, IC=-0.1mA                             | 30        |       |            |
|                                      | hFE(2)         | VCE=-1V, IC=-1mA                               | 60        |       |            |
|                                      | hFE(3)         | VCE=-1V, IC=-10mA                              | 100       |       |            |
|                                      | hFE(4)         | VCE=-2V, IC=-150mA                             | 100       | 300   |            |
|                                      | hFE(5)         | VCE=-2V, IC=-500mA                             | 20        |       |            |
| Collector-emitter saturation voltage | VCE(sat)       | IC=-150mA, IB=-15mA                            |           | -0.40 | V          |
|                                      |                | IC=-500mA, IB=-50mA                            |           | -0.75 | V          |
| Base -emitter saturation voltage     | VBE(sat)       | IC=-150mA, IB=-15mA                            |           | -0.95 | V          |
|                                      |                | IC=-500mA, IB=-50mA                            |           | -1.30 | V          |
| Transition frequency                 | f <sub>T</sub> | VCE=-10V, IC=-20mA, f=100MHz                   | 200       |       | MHz        |
| Delay time                           | t <sub>d</sub> | VCC=-30V, VBE(off)=-0.5V, IC=-150mA, IB1=-15mA |           | 15    | nS         |
| Rise time                            | t <sub>r</sub> |                                                |           | 20    | nS         |
| Storage time                         | t <sub>s</sub> |                                                |           | 225   | nS         |
| Fall time                            | t <sub>f</sub> |                                                |           | 60    | nS         |

**Typical characteristics**


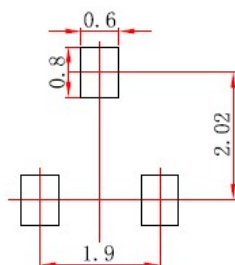

**SOT-23 PACKAGE OUTLINE** Plastic surface mounted package


| SYMBOL | DIMENSIONS |       |
|--------|------------|-------|
|        | MIN.       | MAX.  |
| A      | 0.900      | 1.150 |
| A1     | 0.000      | 0.100 |
| A2     | 0.900      | 1.050 |
| b      | 0.300      | 0.500 |
| c      | 0.080      | 0.150 |
| D      | 2.800      | 3.000 |
| E      | 1.200      | 1.400 |
| E1     | 2.250      | 2.550 |
| e      | 0.950TYP   |       |
| e1     | 1.800      | 2.000 |
| L      | 0.550REF   |       |
| L1     | 0.300      | 0.500 |
| θ      | 0°         | 8°    |

Unit: mm

**焊盘设计参考**Precautions: PCB Design

Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs


**Note:**

1. Controlling dimension: In millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

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