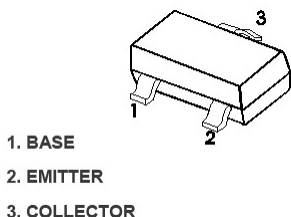


**SOT-23**

**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> | -50      | V       |
| Collector-Emitter Voltage                   | V <sub>CEO</sub> | -45      | V       |
| Emitter -Base Voltage                       | V <sub>EBO</sub> | -5       | V       |
| Collector Current-Continuous                | I <sub>C</sub>   | -500     | 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    |

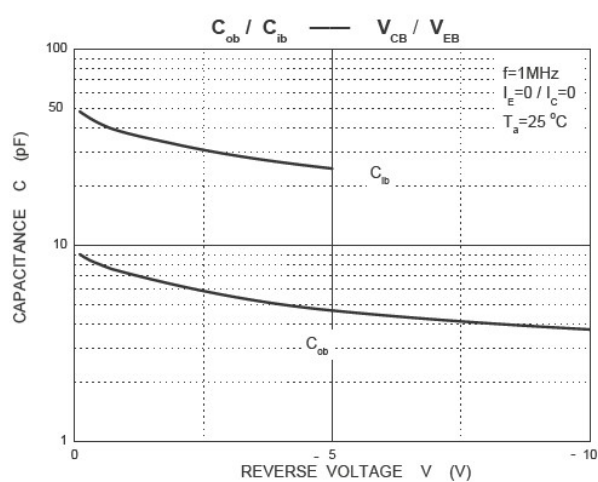
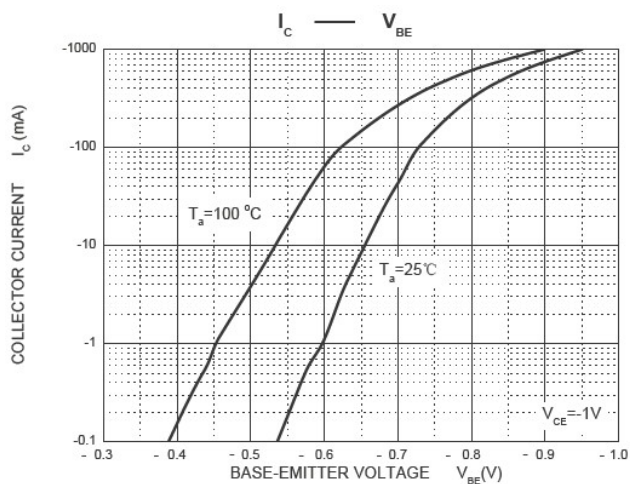
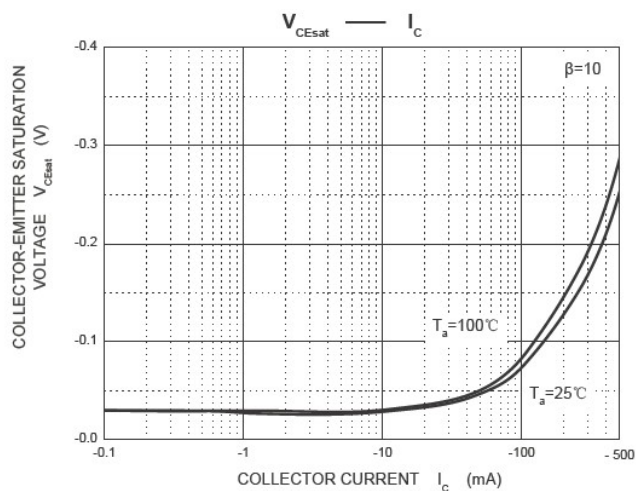
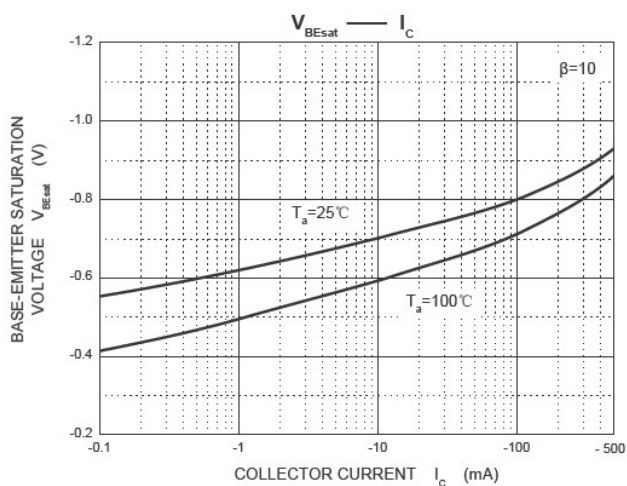
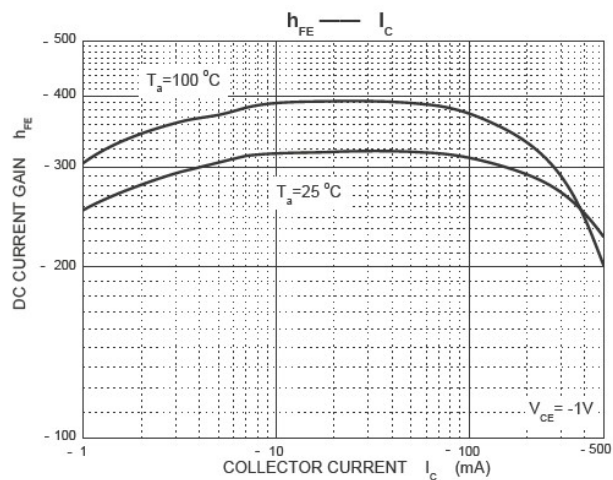
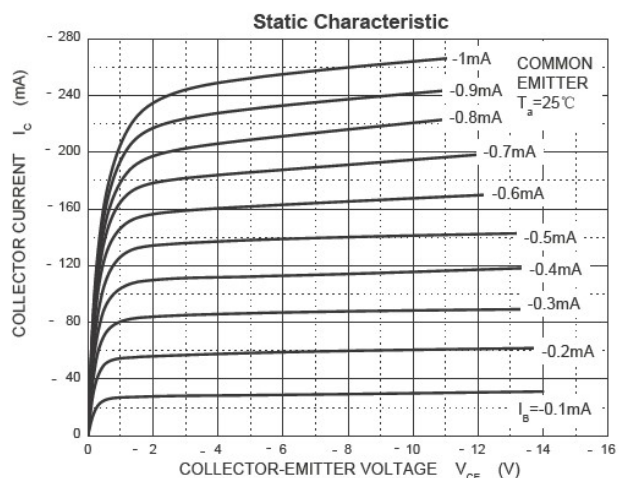
电特性 (TA = 25°C 除非另有规定)

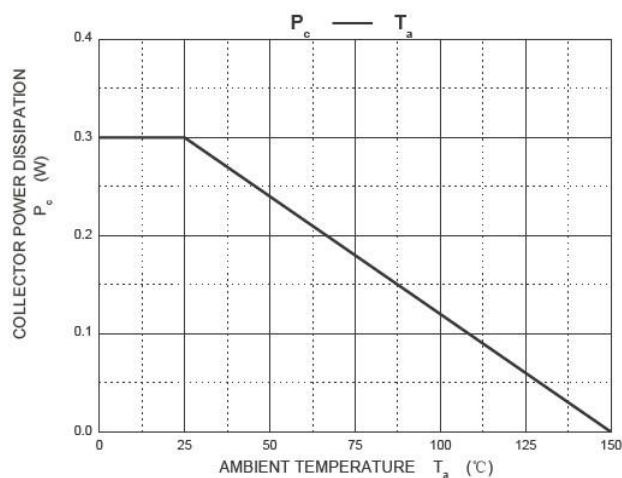
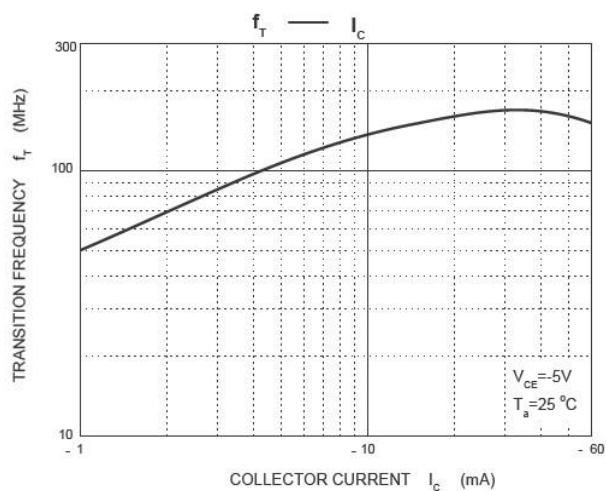
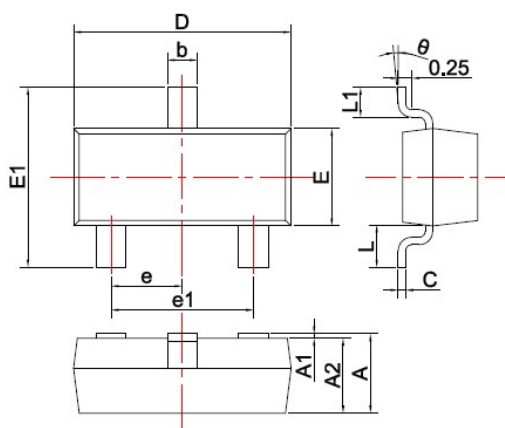
**Electrical Characteristics** (Ratings at 25°C ambient temperature unless otherwise specified).

| 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             | I <sub>C</sub> =-10uA, I <sub>E</sub> =0              | -50       |       | V          |
| Collector-emitter breakdown voltage  | V(BR)CEO             | I <sub>C</sub> =-10mA, I <sub>B</sub> =0              | -45       |       | V          |
| Emitter-base breakdown voltage       | V(BR)EBO             | I <sub>E</sub> =-1uA, I <sub>C</sub> =0               | -5        |       | V          |
| Collector cut-off current            | I <sub>CBO</sub>     | V <sub>CB</sub> =-45V, I <sub>E</sub> =0              |           | -100  | nA         |
| Emitter cut-off current              | I <sub>EBO</sub>     | V <sub>EB</sub> =-4V, I <sub>C</sub> =0               |           | -100  | nA         |
| DC current gain                      | h <sub>FE</sub> (1)  | V <sub>CE</sub> =-1V, I <sub>C</sub> =-100mA          | 100       | 600   |            |
|                                      | h <sub>FE</sub> (2)  | V <sub>CE</sub> =-1V, I <sub>C</sub> =-500mA          | 40        |       |            |
| Collector-emitter saturation voltage | V <sub>CE(sat)</sub> | I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA         |           | -0.70 | V          |
| Base -emitter saturation voltage     | V <sub>BE(sat)</sub> | I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA         |           | -1.20 | V          |
| Transition frequency                 | f <sub>T</sub>       | V <sub>CE</sub> =-5V, I <sub>C</sub> =-10mA, f=100MHz | 100       |       | MHz        |

**CLASSIFICATION OF h<sub>FE</sub>(1)**

|         |                 |
|---------|-----------------|
| RANK    | BC807-40,215-CN |
| RANGE   | 250-600         |
| MARKING | 5C              |

**Typical characteristics**


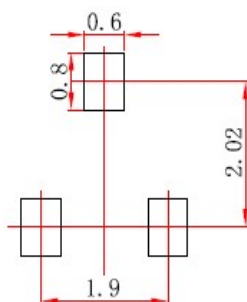

**SOT-23 PACKAGE OUTLINE** Plastic surface mounted package


| 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        |
| $\theta$ | 0 $^{\circ}$ | 8 $^{\circ}$ |

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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