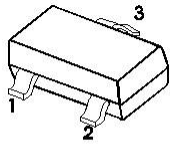
**SOT-23**

**SOT-23** 贴片塑封三极管

**SOT-23 Plastic-Encapsulate Transistors**




1. BASE
2. EMITTER
3. COLLECTOR

**Marking:**

| | | |
|---|---|---|
| BC856A=3A | BC856B=3B | |
| BC857A=3E | BC857B=3F | BC857C=3G |
| BC858A=3J | BC858B=3K | BC858C=3L |

特征 **Features**

- Complementary to BC846/BC847/BC848
- Power Dissipation of 200mW
- Ideally suited for automatic insertion
- For switching and AF amplifier applications

机械数据 **Mechanical Data**

- Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

极限值和温度特性(TA = 25℃ 除非另有规定)

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

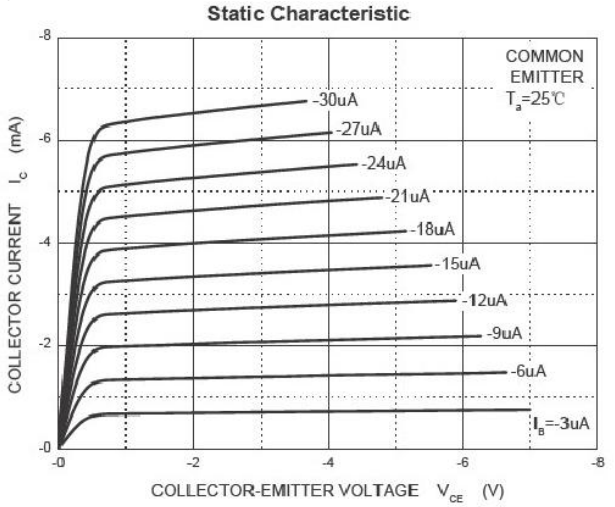
| 参数 Parameters | 符号Symbol | | 数值 Value | 单位Unit |
|---|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | BC856<br>BC857<br>BC858 | -80<br>-50<br>-30 | V |
| Collector-Emitter Voltage | $V_{CEO}$ | BC856<br>BC857<br>BC858 | -65<br>-45<br>-30 | V |
| Emitter -Base Voltage | $V_{EBO}$ | | -6 | V |
| Collector Current-Continuous | $I_C$ | | -100 | mA |
| Collector Power Dissipation | $P_C$ | | 200 | mW |
| Junction Temperature | $T_j$ | | 150 | ℃ |
| Storage Temperature | Tstg | | -55-+150 | ℃ |
| Thermal resistance From junction to ambient | $R_{\theta JA}$ | | 625 | ℃/W |

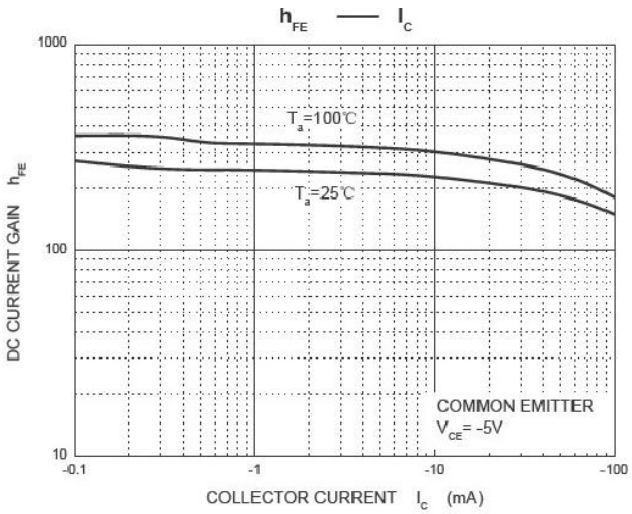
电特性 (TA = 25℃ 除非另有规定)

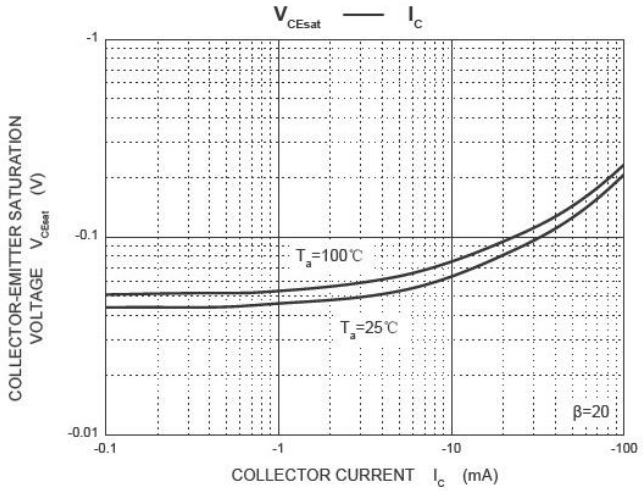
**Electrical Characteristics** (Ratings at 25℃ ambient temperature unless otherwise specified).

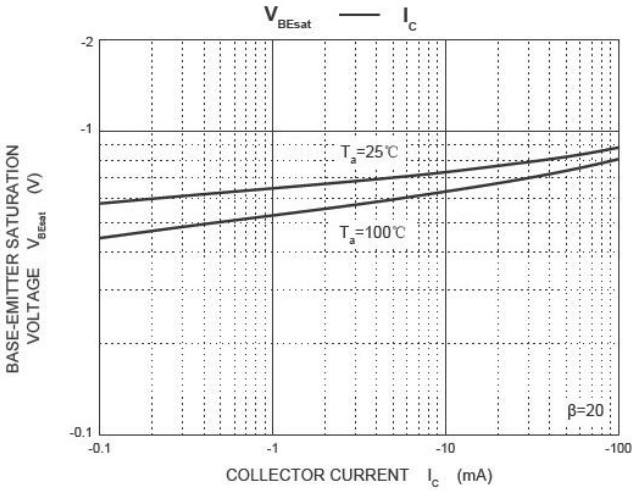
| 参数<br>**Parameter** | 符号<br>**Symbols** | 测试条件<br>**Test Condition** | | 界限 **Limits**<br>**Min** | <br>**Max** | 单位<br>**Unit** |
|---|---|---|---|---|---|---|
| Collector-base breakdown voltage | **$V_{(BR)CBO}$** | $I_C$=-10uA, $I_E$=0 | BC856<br>BC857<br>BC858 | -80<br>-50<br>-30 | | V |
| Collector-emitter breakdown voltage | **$V_{(BR)CEO}$** | $I_C$=-10mA, $I_B$=0 | BC856<br>BC857<br>BC858 | -65<br>-45<br>-30 | | V |
| Emitter-base breakdown voltage | **$V_{(BR)EBO}$** | $I_E$=10uA, $I_C$=0 | | -6 | | V |
| Collector cut-off current | **$I_{CBO}$** | $V_{CB}$=-70V, $I_E$=0<br>$V_{CB}$=-45V, $I_E$=0<br>$V_{CB}$=-25V, $I_E$=0 | BC856<br>BC857<br>BC858 | | -100 | nA |
| Collector cut-off current | **$I_{CEO}$** | $V_{CE}$=-60V, $I_B$=0<br>$V_{CE}$=-40V, $I_B$=0<br>$V_{CE}$=-25V, $I_B$=0 | BC856<br>BC857<br>BC858 | | -100 | nA |
| Emitter cut-off current | **$I_{EBO}$** | $V_{EB}$=-5V, $I_C$=0 | | | -100 | nA |
| DC current gain | **$h_{FE}$** | $V_{CE}$=-5V, $I_C$=-2mA | BC856A;BC857A;BC858A<br>BC856B;BC857B;BC858B<br>BC857C;BC858C | 125<br>220<br>420 | 250<br>475<br>800 | |
| Collector-emitter saturation voltage | **$V_{CE(sat)}$** | $I_C$=-100mA, $I_B$=-5mA | | | -0.50 | V |
| Base -emitter saturation voltage | **$V_{BE(sat)}$** | $I_C$=-100mA, $I_B$=-5mA | | | -1.10 | V |
| Transition frequency | **$f_T$** | $V_{CE}$=-5V, $I_C$=-10mA,f=100MHz | | 100 | | MHz |
| Collector output capacitance | **$C_{ob}$** | $V_{CB}$=-10V, f=1MHz | | | 4.5 | pF |

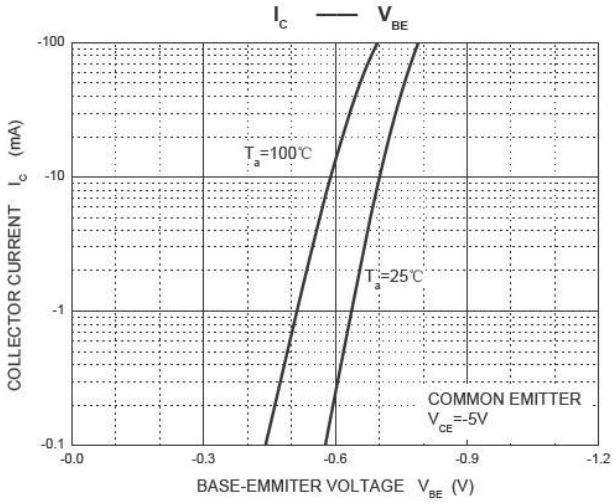
## Typical characteristics

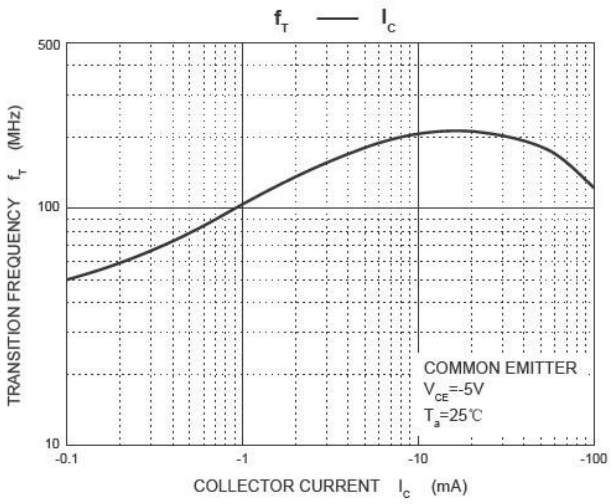


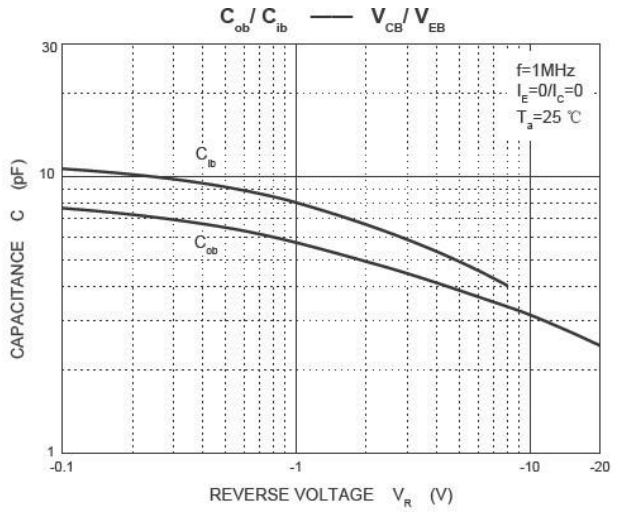



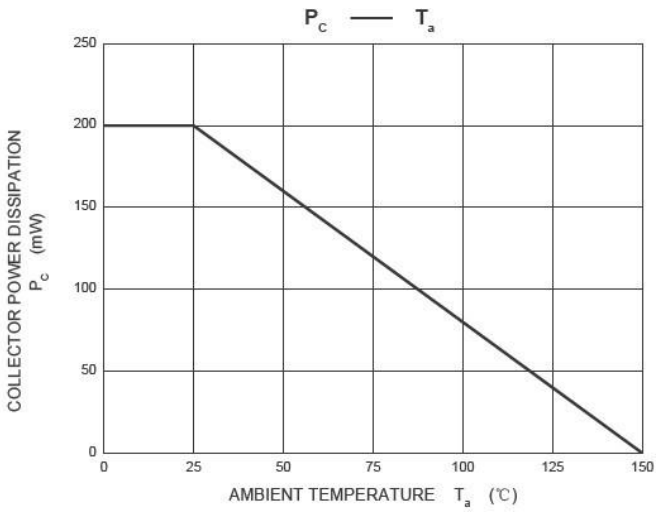



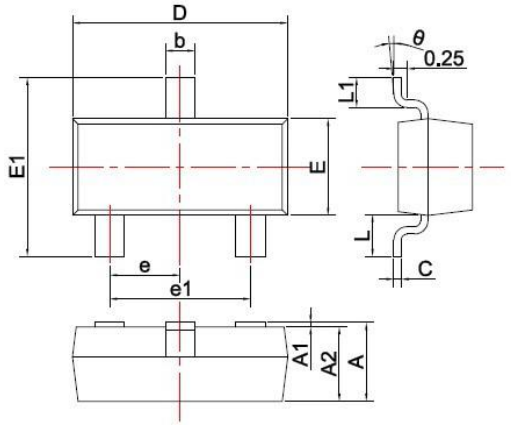






## SOT-23 PACKAGE OUTLINE Plastic surface mounted package

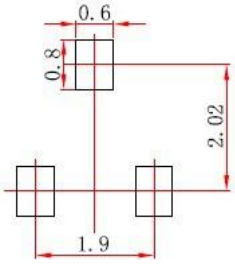



| SYMBOL | DIMENSIONS | |
|---|---|---|
| | MIN. | MAX. |
| A | 0.900 | 1.150 |
| A1 | 0.000 | 0.100 |
| A2 | 0.900 | 1.050 |
| b | 0.300 | 0.500 |
| c | 0.080 | 0.150 |
| D | 2.800 | 3.000 |
| E | 1.200 | 1.400 |
| E1 | 2.250 | 2.550 |
| e | 0.950TYP | |
| e1 | 1.800 | 2.000 |
| L | 0.550REF | |
| L1 | 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:± 0.05mm.
3.The pad layout is for reference purposes only.