



# 安徽富信半导体科技有限公司

ANHUI FOSAN SEMICONDUCTOR TECHNOLOGY CO., LTD.

BC856/BC857/BC858

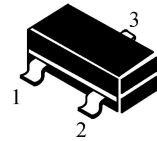
## SOT-23 Bipolar Transistor 双极型三极管

SOT-23

### ■ Features 特点

PNP General Purpose 通用

- 1. BASE
- 2. EMITTER
- 3. COLLECTOR



### ■ Absolute Maximum Ratings 最大额定值

| Characteristic<br>特性参数                      | Symbol<br>符号                | BC856<br>A/B/C             | BC857<br>A/B/C | BC858<br>A/B/C | Unit<br>单位                |
|---|-----------------------------|----------------------------|----------------|----------------|---------------------------|
| Collector-Base Voltage<br>集电极基极电压           | $V_{CBO}$                   | -80                        | -50            | -30            | V                         |
| Collector-Emitter Voltage<br>集电极发射极电压       | $V_{CEO}$                   | -65                        | -45            | -30            | V                         |
| Emitter-Base Voltage<br>发射极基极电压             | $V_{EBO}$                   | -5                         | -5             | -5             | V                         |
| Collector Current<br>集电极电流                  | $I_C$                       | -100                       |                |                | mA                        |
| Power dissipation<br>耗散功率                   | $P_C(T_a=25^\circ\text{C})$ | 200                        |                |                | mW                        |
| Thermal Resistance<br>Junction-Ambient 热阻   | $R_{\theta JA}$             | 625                        |                |                | $^\circ\text{C}/\text{W}$ |
| Junction and Storage Temperature<br>结温和储藏温度 | $T_J, T_{stg}$              | -55to+150 $^\circ\text{C}$ |                |                |                           |

### ■ Device Marking 产品打标

| $H_{FE}$ |       | 125-250(A) | 220-475(B) | 420-800(C) |
|----------|-------|------------|------------|------------|
| Mark     | BC856 | 3A         | 3B         | 3C         |
|          | BC857 | 3E         | 3F         | 3G         |
|          | BC858 | 3J         | 3K         | 3L         |

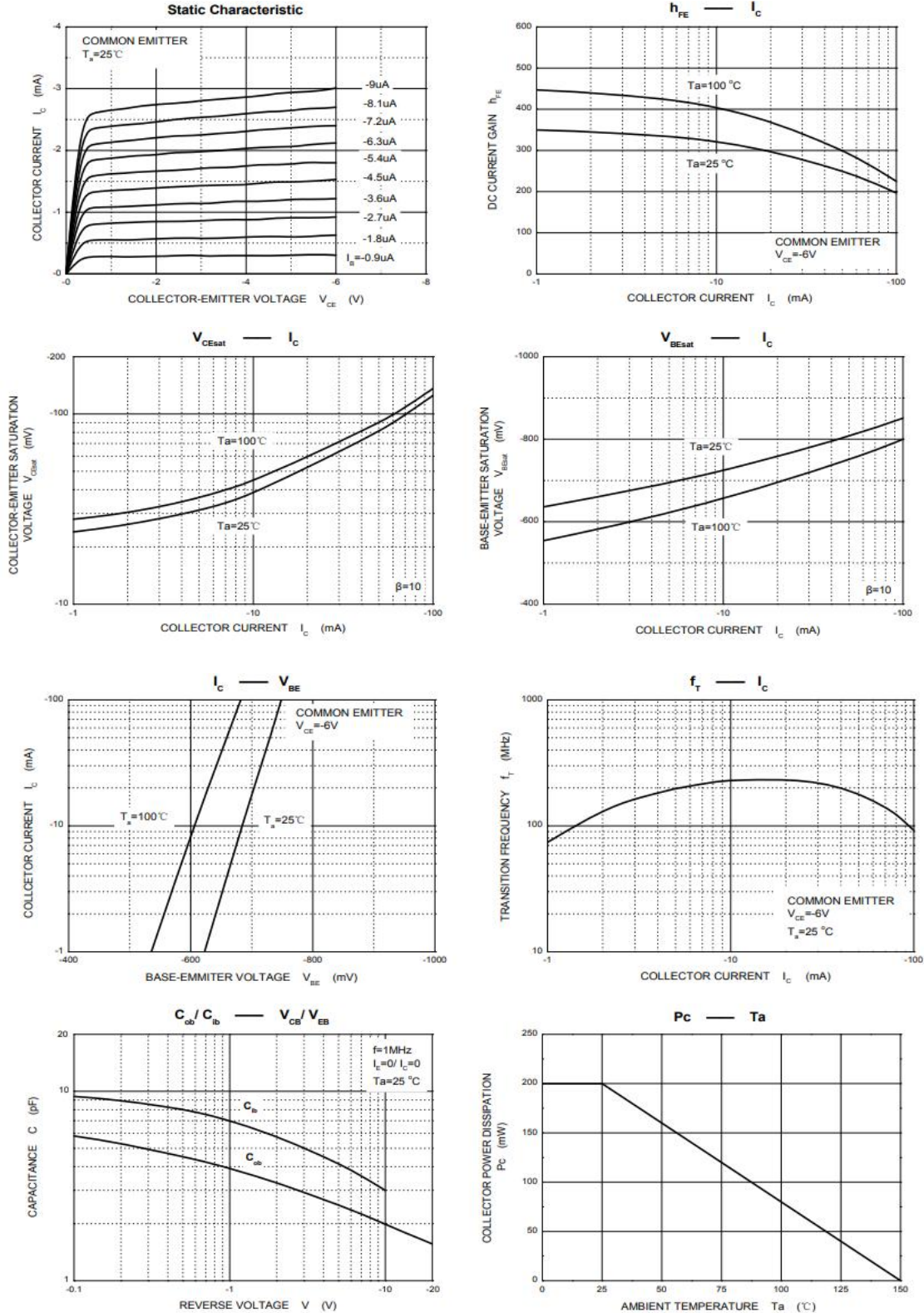


## ■ Electrical Characteristics 电特性

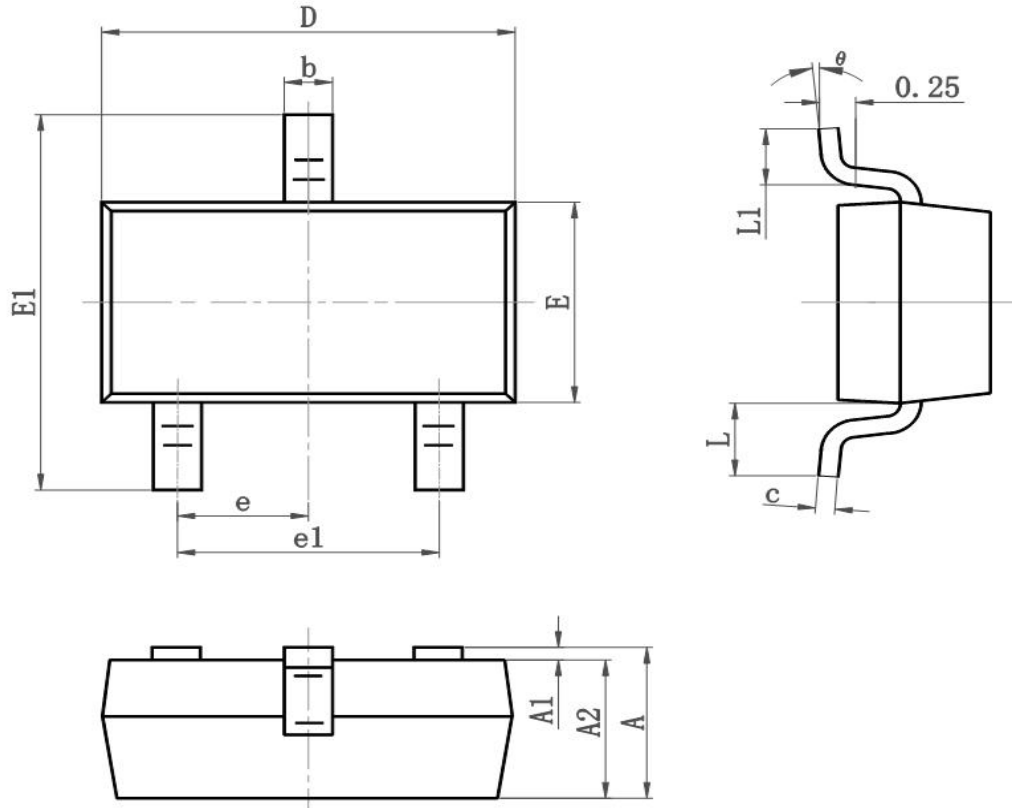
( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如无特殊说明, 温度为  $25^{\circ}\text{C}$ )

| Characteristic<br>特性参数  |   | Symbol<br>符号  | Min<br>最小值        | Type<br>典型值       | Max<br>最大值        | Unit<br>单位 |
|---|---|---------------|-------------------|-------------------|-------------------|------------|
| Collector-Base Breakdown Voltage<br>集电极基极击穿电压<br>( $I_C = -10\mu\text{A}$ , $I_E = 0$ )               | BC856A/B/C<br>BC857A/B/C<br>BC858A/B/C  | $BV_{CBO}$    | -80<br>-50<br>-30 | —                 | —                 | V          |
| Collector-Emitter Breakdown Voltage<br>集电极发射极击穿电压<br>( $I_C = -10\text{mA}$ , $I_B = 0$ )             | BC856A/B/C<br>BC857A/B/C<br>BC858A/B/C  | $BV_{CEO}$    | -65<br>-45<br>-30 | —                 | —                 | V          |
| Emitter-Base Breakdown Voltage<br>发射极基极击穿电压<br>( $I_E = -10\mu\text{A}$ , $I_C = 0$ )                 |   | $BV_{EBO}$    | -5                | —                 | —                 | V          |
| Collector-Base<br>Leakage Current<br>集电极基极漏电流   | BC856A/B/C( $V_{CB} = -70\text{V}, I_E = 0$ )<br>BC857A/B/C( $V_{CB} = -50\text{V}, I_E = 0$ )<br>BC858A/B/C( $V_{CB} = -30\text{V}, I_E = 0$ ) | $I_{CBO}$     | —                 | —                 | -100              | nA         |
| Emitter-Base Leakage Current<br>发射极基极漏电流<br>( $V_{EB} = -5\text{V}$ , $I_C = 0$ )                     |   | $I_{EBO}$     | —                 | —                 | -100              | nA         |
| DC Current Gain<br>直流电流增益<br>( $V_{CE} = -5\text{V}, I_C = -2\text{mA}$ )                             | BC856A/BC857A/BC858A<br>BC856B/BC857B/BC858B<br>BC856C/BC857C/BC858C  | $H_{FE}$      | 125<br>220<br>420 | 185<br>295<br>610 | 250<br>475<br>800 |            |
| Collector-Emitter Saturation Voltage<br>集电极发射极饱和压降<br>( $I_C = -100\text{mA}$ , $I_B = -5\text{mA}$ ) |   | $V_{CE(sat)}$ | —                 | —                 | -0.5              | V          |
| Base-Emitter Saturation Voltage<br>基极发射极饱和压降<br>( $I_C = -100\text{mA}$ , $I_B = -5\text{mA}$ )       |   | $V_{BE(sat)}$ | —                 | —                 | -1.1              | V          |
| Transition Frequency<br>特征频率<br>( $V_{CE} = -5\text{V}$ , $I_C = -10\text{mA}$ )                      |   | $f_T$         | 100               | —                 | —                 | MHz        |
| Output Capacitance<br>输出电容<br>( $V_{CB} = -10\text{V}$ , $I_E = 0$ , $f = 1\text{MHz}$ )              |   | $C_{ob}$      | —                 | 4.5               | —                 | pF         |

## Typical Characteristic Curve 典型特性曲线



## ■Dimension 外形封装尺寸



| Symbol   | Dimensions In Millimeters |       | Dimensions In Inches |       |
|----------|---------------------------|-------|----------------------|-------|
|          | Min                       | Max   | Min                  | Max   |
| A        | 0.900                     | 1.150 | 0.035                | 0.045 |
| A1       | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2       | 0.900                     | 1.050 | 0.035                | 0.041 |
| b        | 0.300                     | 0.500 | 0.012                | 0.020 |
| c        | 0.080                     | 0.150 | 0.003                | 0.006 |
| D        | 2.800                     | 3.000 | 0.110                | 0.118 |
| E        | 1.200                     | 1.400 | 0.050                | 0.055 |
| E1       | 2.250                     | 2.550 | 0.089                | 0.100 |
| e        | 0.950TYP                  |       | 0.037TYP             |       |
| e1       | 1.800                     | 2.000 | 0.071                | 0.079 |
| L        | 0.550REF                  |       | 0.022REF             |       |
| L1       | 0.300                     | 0.500 | 0.012                | 0.020 |
| $\theta$ | 0°                        | 8°    | 0°                   | 8°    |