

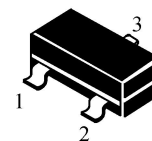
SOT-23 Bipolar Transistor 双极型三极管

SOT-23

■ **Features 特点**

NPN General Purpose 通用

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



■ **Absolute Maximum Ratings 最大额定值**

| Characteristic 特性参数 | Symbol 符号 | Rat 额定值 | Unit 单位 |
|---|-----------------------------|----------------------------|---------------------------|
| Collector-Base Voltage 集电极基极电压 | V_{CBO} | 60 | V |
| Collector-Emitter Voltage 集电极发射极电压 | V_{CEO} | 50 | V |
| Emitter-Base Voltage 发射极基极电压 | V_{EBO} | 5 | V |
| Collector Current 集电极电流 | I_C | 100 | mA |
| Power dissipation 耗散功率 | $P_C(T_a=25^\circ\text{C})$ | 200 | mW |
| Thermal Resistance Junction-Ambient 热阻 | $R_{\theta JA}$ | 625 | $^\circ\text{C}/\text{W}$ |
| Junction and Storage Temperature 结温和储藏温度 | T_J, T_{stg} | -55to+150 $^\circ\text{C}$ | |

■ **Device Marking 产品打标**

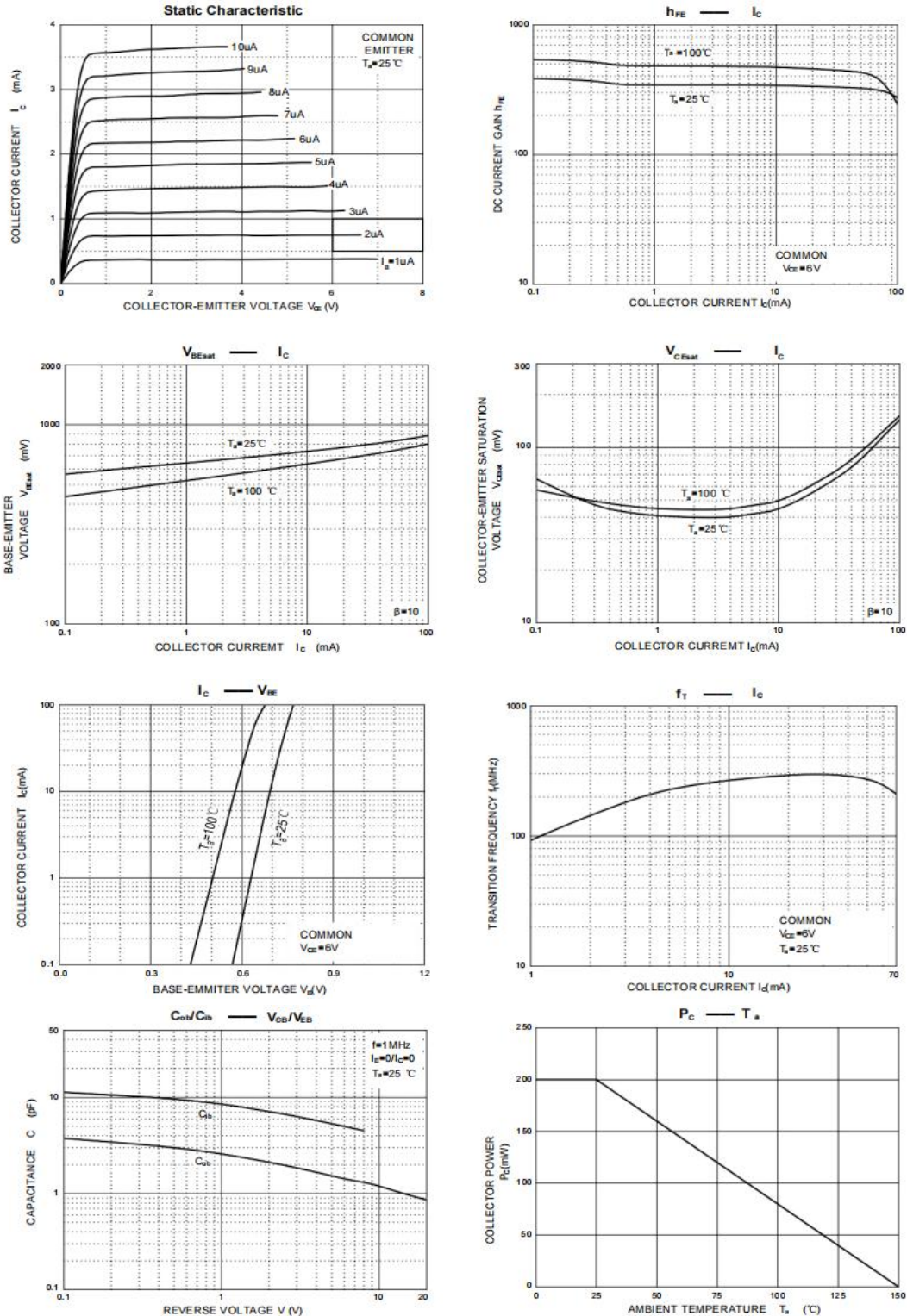
| | | | | |
|----------|--------|---------|---------|---------|
| H_{FE} | 90-180 | 135-270 | 200-400 | 300-600 |
| Mark | L4 | L5 | L6 | L7 |

■ Electrical Characteristics 电特性

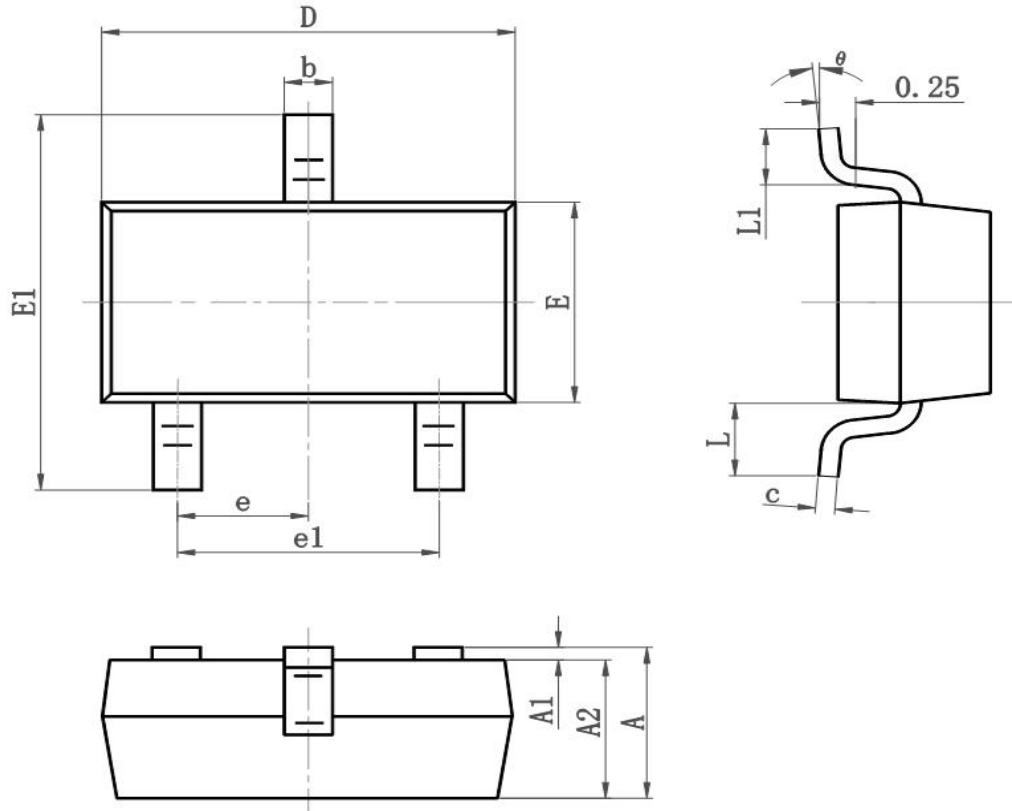
($T_A=25^\circ\text{C}$ unless otherwise noted 如无特殊说明, 温度为 25°C)

| Characteristic 特性参数 | Symbol 符号 | Min 最小值 | Type 典型值 | Max 最大值 | Unit 单位 |
|--|---------------|------------|-------------|------------|------------|
| Collector-Base Breakdown Voltage 集电极基极击穿电压 ($I_C=100\mu\text{A}$, $I_E=0$) | BV_{CBO} | 60 | — | — | V |
| Collector-Emitter Breakdown Voltage 集电极发射极击穿电压 ($I_C=1\text{mA}$, $I_B=0$) | BV_{CEO} | 50 | — | — | V |
| Emitter-Base Breakdown Voltage 发射极基极击穿电压 ($I_E=100\mu\text{A}$, $I_C=0$) | BV_{EBO} | 5 | — | — | V |
| Collector-Base Leakage Current 集电极基极漏电流 ($V_{CB}=60\text{V}$, $I_E=0$) | I_{CBO} | — | — | 100 | nA |
| Emitter-Base Leakage Current 发射极基极漏电流 ($V_{EB}=5\text{V}$, $I_C=0$) | I_{EBO} | — | — | 100 | nA |
| DC Current Gain 直流电流增益 ($V_{CE}=6\text{V}$, $I_C=1\text{mA}$) | H_{FE} | 90 | — | 600 | |
| Collector-Emitter Saturation Voltage 集电极发射极饱和压降 ($I_C=100\text{mA}$, $I_B=10\text{mA}$) | $V_{CE(sat)}$ | — | — | 0.3 | V |
| Base-Emitter Saturation Voltage 基极发射极饱和压降 ($I_C=100\text{mA}$, $I_B=10\text{mA}$) | $V_{BE(sat)}$ | — | — | 1 | V |
| Transition Frequency 特征频率 ($V_{CE}=6\text{V}$, $I_C=10\text{mA}$) | f_T | — | 250 | — | MHz |
| Output Capacitance 输出电容 ($V_{CB}=6\text{V}$, $I_E=0$, $f=1\text{MHz}$) | C_{ob} | — | 3 | — | 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 | 0.900 | 1.00 | 0.035 | 0.039 |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.500 | 0.600 | 0.020 | 0.024 |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |