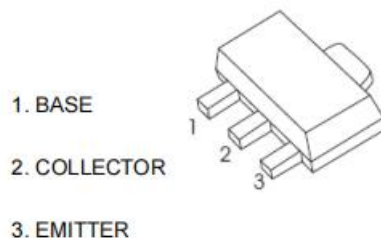


**SOT-89-3L Bipolar Transistor 双极型三极管**

■ **Features 特点**

NPN Low Voltage 低压



■ **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              | $V_{CBO}$              | 30                    | V             |
| Collector-Emitter Voltage 集电极发射极电压          | $V_{CEO}$              | 25                    | V             |
| Emitter-Base Voltage 发射极基极电压                | $V_{EBO}$              | 5                     | V             |
| Collector Current 集电极电流                     | $I_C$                  | 1000                  | mA            |
| Power dissipation 耗散功率                      | $P_C(T_a=25^{\circ}C)$ | 500                   | mW            |
| Thermal Resistance Junction-Ambient 热阻      | $R_{\theta JA}$        | 250                   | $^{\circ}C/W$ |
| Junction and Storage Temperature<br>结温和储藏温度 | $T_J, T_{stg}$         | -55to+150 $^{\circ}C$ |               |

■ **Device Marking 产品打标**

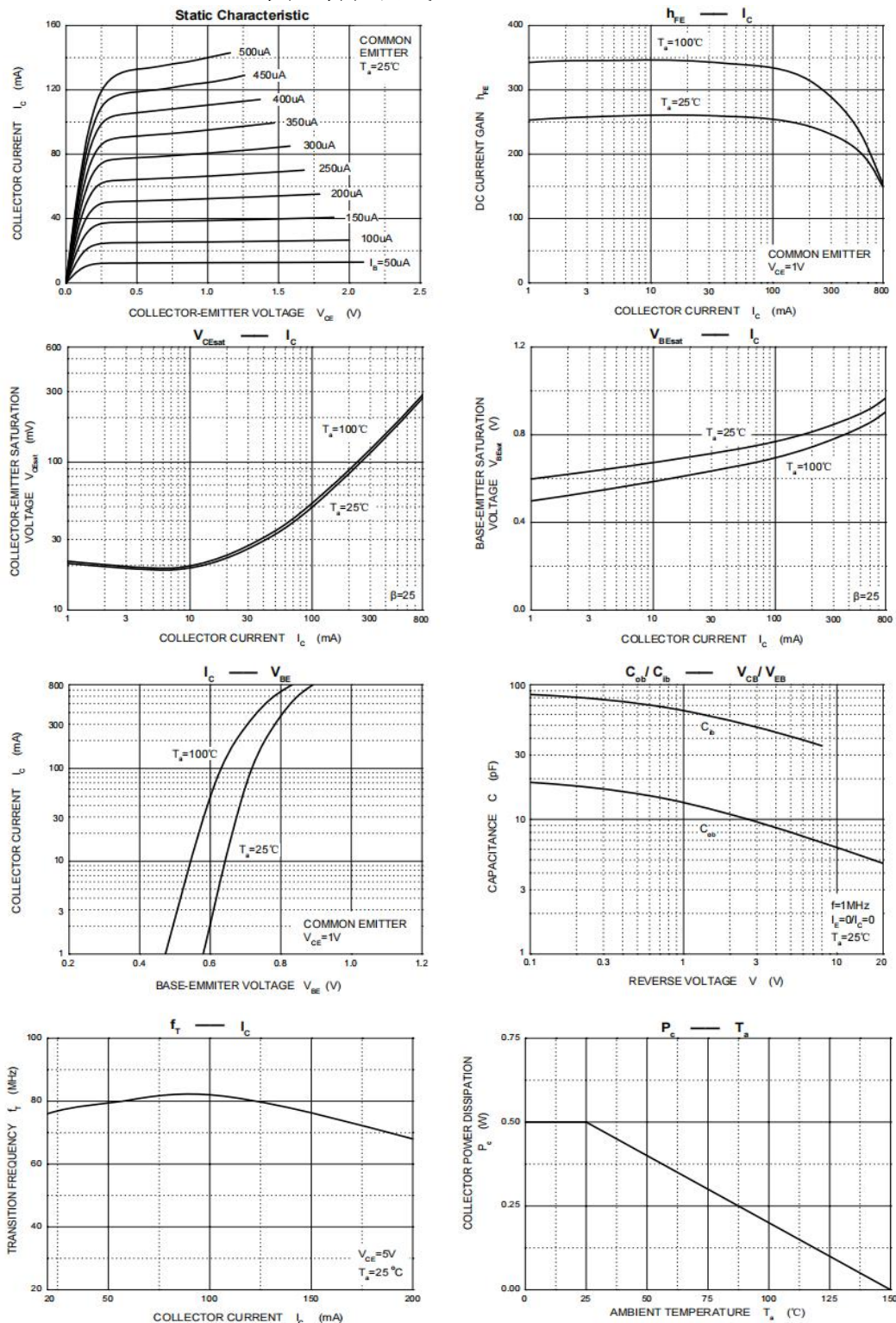
|          |        |         |         |
|----------|--------|---------|---------|
| $H_{FE}$ | 90-180 | 135-270 | 200-400 |
| Mark     | CM     | CL      | CK      |

## ■Electrical Characteristics 电特性

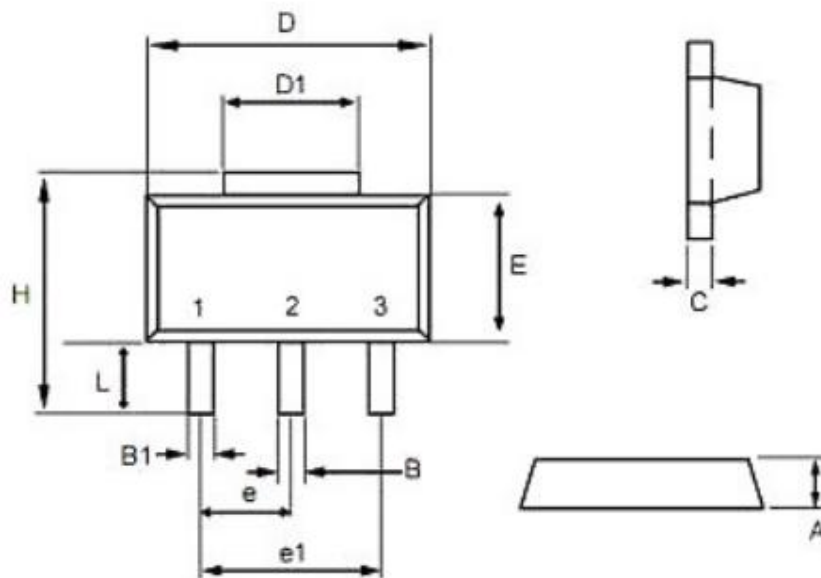
( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如无特殊说明, 温度为  $25^{\circ}\text{C}$ )

| 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( $I_C=0.1\text{mA}$ , $I_E=0$ )                                    | $BV_{CBO}$    | 30         | —           | —          | V          |
| Collector-Emitter Breakdown Voltage<br>集电极发射极击穿电压( $I_C=1\text{mA}$ , $I_B=0$ )                                  | $BV_{CEO}$    | 25         | —           | —          | V          |
| Emitter-Base Breakdown Voltage<br>发射极基极击穿电压( $I_E=0.1\text{mA}$ , $I_C=0$ )                                      | $BV_{EBO}$    | 5          | —           | —          | V          |
| Collector-Base Leakage Current<br>集电极基极漏电流( $V_{CB}=30\text{V}$ , $I_E=0$ )                                      | $I_{CBO}$     | —          | —           | 100        | nA         |
| Emitter-Base Leakage Current<br>发射极基极漏电流( $V_{EB}=5\text{V}$ , $I_C=0$ )                                         | $I_{EBO}$     | —          | —           | 100        | nA         |
| DC Current Gain( $V_{CE}=1\text{V}$ , $I_C=100\text{mA}$ )<br>直流电流增益( $V_{CE}=1\text{V}$ , $I_C=1000\text{mA}$ ) | $H_{FE}$      | 90<br>50   | —           | 400        |            |
| Collector-Emitter Saturation Voltage<br>集电极发射极饱和压降( $I_C=1000\text{mA}$ , $I_B=100\text{mA}$ )                   | $V_{CE(sat)}$ | —          | —           | 0.4        | V          |
| Base-Emitter Saturation Voltage<br>基极发射极饱和压降( $I_C=1000\text{mA}$ , $I_B=100\text{mA}$ )                         | $V_{BE(sat)}$ | —          | —           | 1.2        | V          |
| Base-Emitter On Voltage<br>基极发射极导通电压( $V_{CE}=6\text{V}$ , $I_C=10\text{mA}$ )                                   | $V_{BE(on)}$  | —          | —           | 0.9        | V          |
| Transition Frequency<br>特征频率( $V_{CE}=6\text{V}$ , $I_C=10\text{mA}$ )                                           | $f_T$         | —          | 130         | —          | MHz        |
| Output Capacitance<br>输出电容( $V_{CB}=10\text{V}$ , $I_E=0$ , $f=1\text{MHz}$ )                                    | $C_{ob}$      | —          | 22          | —          | 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      | 1.40                      | 1.60 | 0.055                | 0.063 |
| B      | 0.40                      | 0.56 | 0.016                | 0.022 |
| B1     | 0.35                      | 0.48 | 0.014                | 0.019 |
| C      | 0.35                      | 0.44 | 0.014                | 0.017 |
| D      | 4.40                      | 4.60 | 0.173                | 0.181 |
| D1     | 1.35                      | 1.83 | 0.053                | 0.072 |
| e      | 1.45                      | 1.55 | 0.057                | 0.061 |
| e1     | 2.95                      | 3.05 | 0.116                | 0.120 |
| E      | 2.29                      | 2.60 | 0.090                | 0.102 |
| H      | 3.75                      | 4.25 | 0.148                | 0.167 |
| L      | 0.80                      | 1.20 | 0.031                | 0.047 |