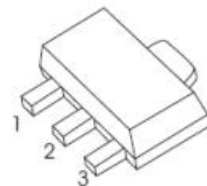


SOT-89 Bipolar Transistor 双极型三极管

■ Features 特点

NPN Low Saturation Voltage 低饱和压降

1. BASE
2. COLLECTOR
3. EMITTER



■ 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} | 40 | 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} | 7 | V |
| Collector Current 集电极电流 | I_C | 3000 | mA |
| Power dissipation 耗散功率 | $P_C(T_a=25^\circ\text{C})$ | 500 | mW |
| Thermal Resistance Junction-Ambient 热阻 | $R_{\theta JA}$ | 250 | $^\circ\text{C}/\text{W}$ |
| 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

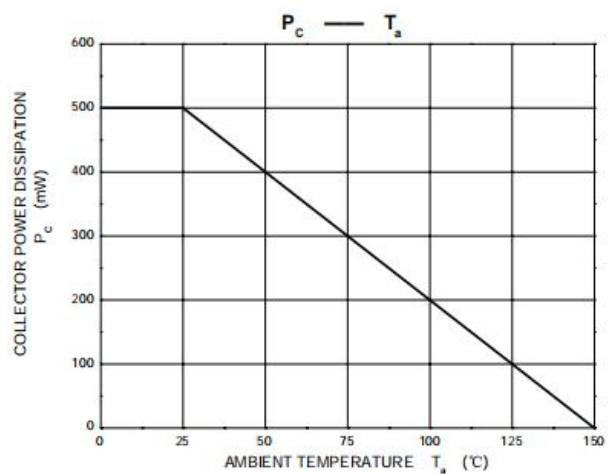
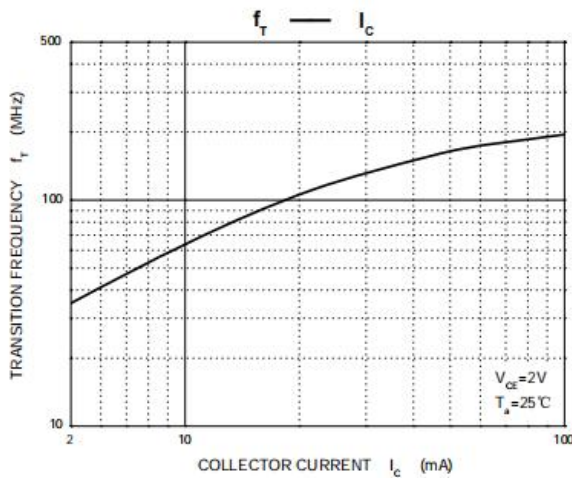
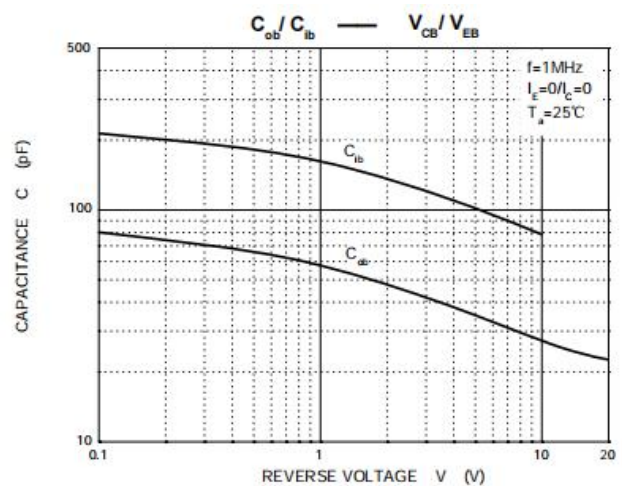
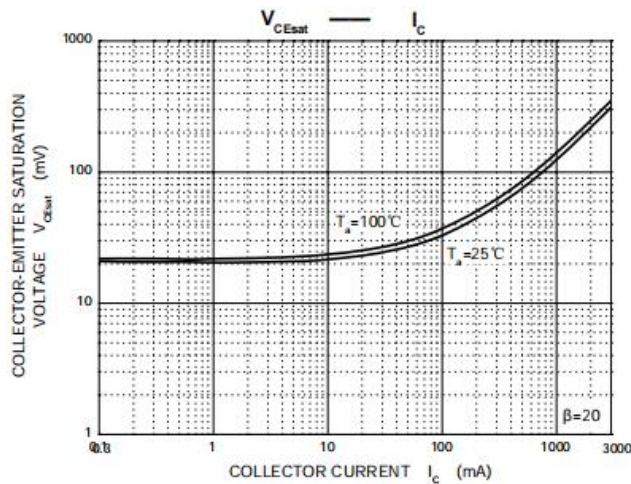
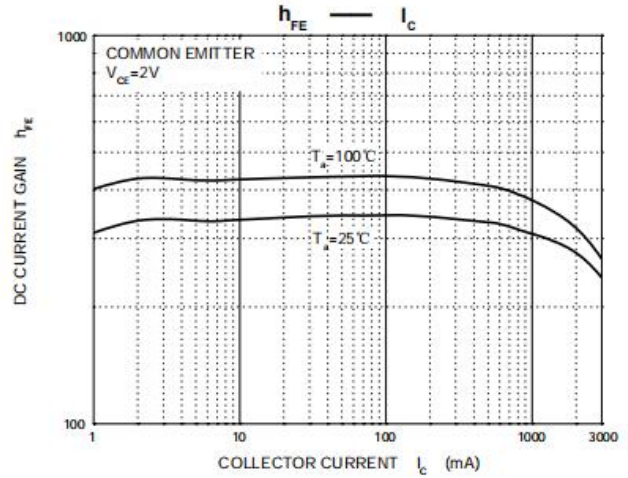
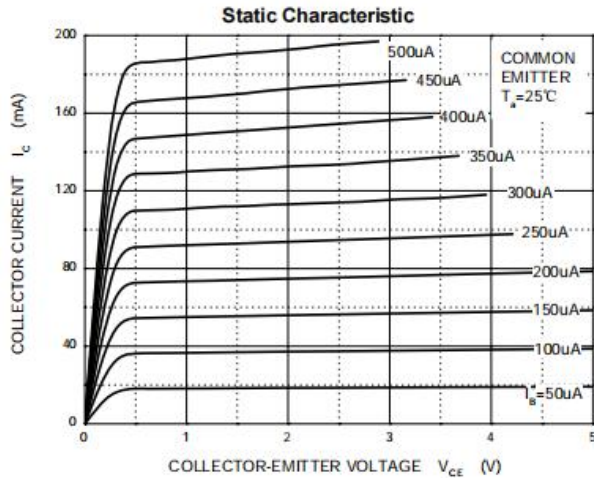
| | | |
|----------|------------|------------|
| H_{FE} | 230-380(Q) | 340-600(R) |
| Mark | TQ | TR |

■ Electrical Characteristics 电特性

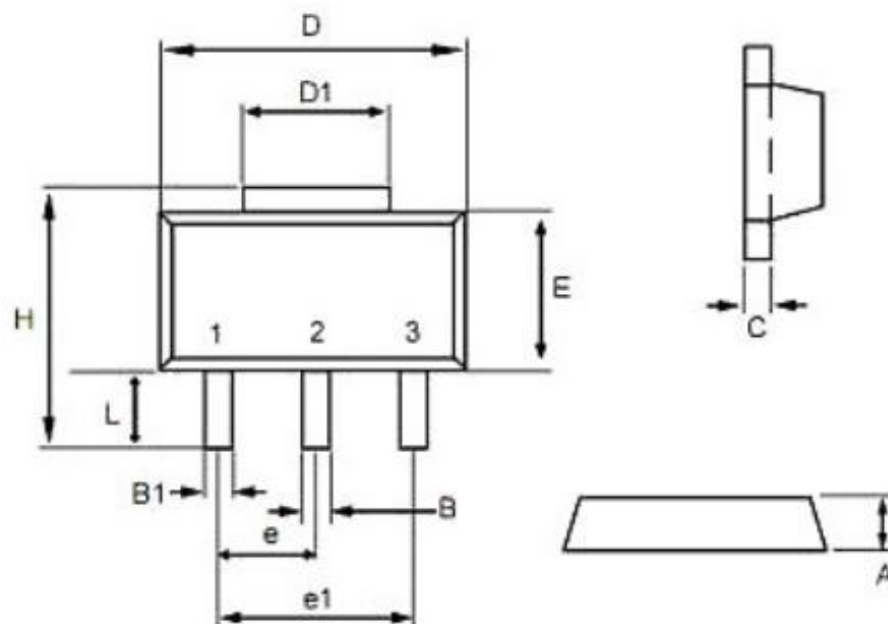
($T_A=25^{\circ}\text{C}$ unless otherwise noted 如无特殊说明, 温度为 25°C)

| 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} | 40 | — | — | 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} | 25 | — | — | V |
| Emitter-Base Breakdown Voltage 发射极基极击穿电压($I_E=10\mu\text{A}$, $I_C=0$) | BV_{EBO} | 7 | — | — | V |
| Collector-Base Leakage Current 集电极基极漏电流($V_{CB}=10\text{V}$, $I_E=0$) | I_{CBO} | — | — | 0.1 | μA |
| Collector-Base Leakage Current 集电极基极漏电流($V_{EB}=6\text{V}$, $I_E=0$) | I_{EBO} | — | — | 0.1 | μA |
| DC Current Gain($V_{CE}=2\text{V}$, $I_C=500\text{mA}$) 直流电流增益($V_{CE}=2\text{V}$, $I_C=1000\text{mA}$) | H_{FE} | 230 150 | — | 600 | |
| Collector-Emitter Saturation Voltage 集电极发射极饱和压降($I_C=3\text{A}$, $I_B=100\text{mA}$) | $V_{CE(sat)}$ | — | — | 1 | V |
| Output Capacitance 输出电容($V_{CB}=20\text{V}$, $I_E=0$, $f=1\text{MHz}$) | C_{ob} | — | 50 | — | pF |
| Transition Frequency 特征频率($V_{CE}=6\text{V}$, $I_C=50\text{mA}$) | f_T | — | 150 | — | MHz |

■ 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 |