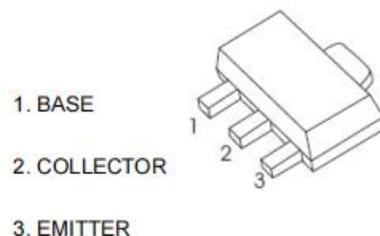


**SOT-89 Bipolar Transistor 双极型三极管**

■ **Features 特点**

NPN General Purpose 通用



■ **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          | $V_{CEO}$                   | 32                         | 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                      | $P_C(T_a=25^\circ\text{C})$ | 500                        | mW                        |
| Thermal Resistance Junction-Ambient 热阻      | $R_{\theta JA}$             | 250                        | $^\circ\text{C}/\text{W}$ |
| 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**

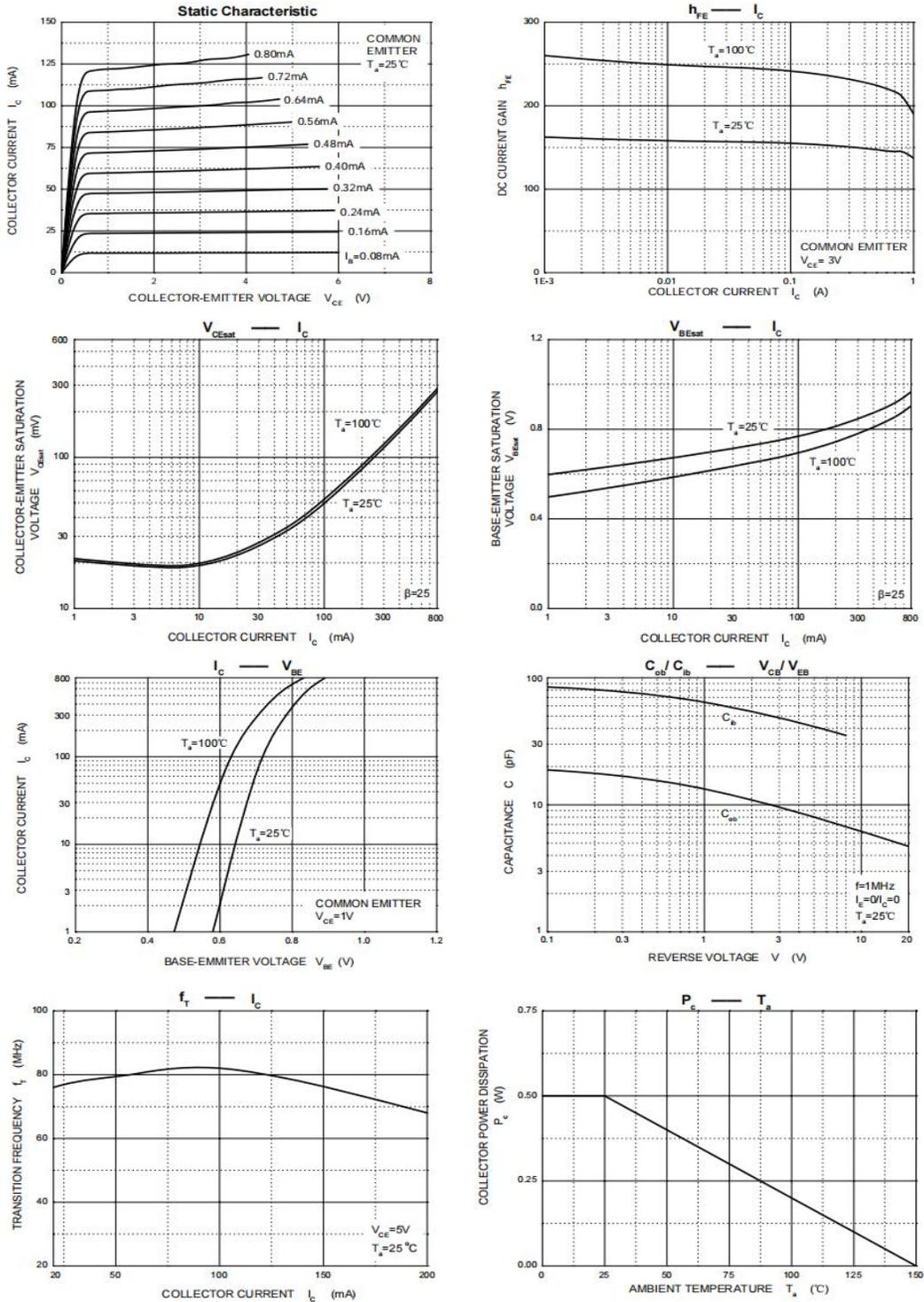
|          |           |            |            |
|----------|-----------|------------|------------|
| $H_{FE}$ | 82-180(P) | 120-270(Q) | 180-390(R) |
| Mark     | DAP       | DAQ        | DAR        |

**■ Electrical Characteristics 电特性**

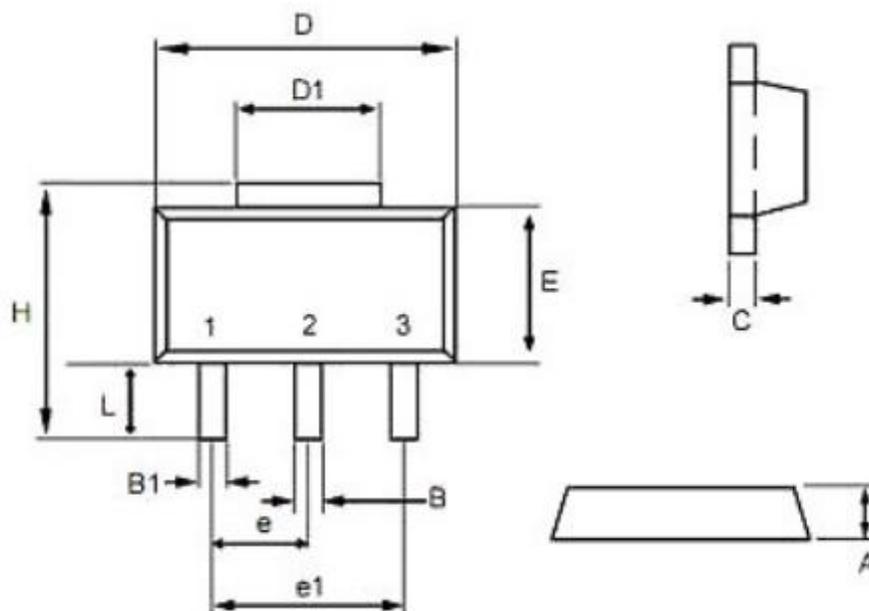
(TA=25°C unless otherwise noted 如无特殊说明, 温度为 25°C)

| 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 <sub>C</sub> =50μA, I <sub>E</sub> =0)           | BV <sub>CBO</sub>    | 40         | —           | —          | V          |
| Collector-Emitter Breakdown Voltage<br>集电极发射极击穿电压(I <sub>C</sub> =1mA, I <sub>B</sub> =0)        | BV <sub>CEO</sub>    | 32         | —           | —          | V          |
| Emitter-Base Breakdown Voltage<br>发射极基极击穿电压(I <sub>E</sub> =50μA, I <sub>C</sub> =0)             | BV <sub>EBO</sub>    | 5          | —           | —          | V          |
| Collector-Base Leakage Current<br>集电极基极漏电流(V <sub>CB</sub> =20V, I <sub>E</sub> =0)              | I <sub>CBO</sub>     | —          | —           | 0.5        | μA         |
| Emitter-Base Leakage Current<br>发射极基极漏电流(V <sub>EB</sub> = 4V, I <sub>C</sub> =0)                | I <sub>EBO</sub>     | —          | —           | 0.5        | μA         |
| DC Current Gain<br>直流电流增益(V <sub>CE</sub> =3V, I <sub>C</sub> =100mA)                            | H <sub>FE</sub>      | 82         | —           | 390        |            |
| Collector-Emitter Saturation Voltage<br>集电极发射极饱和压降(I <sub>C</sub> =500mA, I <sub>B</sub> = 50mA) | V <sub>CE(sat)</sub> | —          | —           | 0.4        | V          |
| Base-Emitter Saturation Voltage<br>基极发射极饱和压降(I <sub>C</sub> =500mA, I <sub>B</sub> =50mA)        | V <sub>BE(sat)</sub> | —          | —           | 1.2        | V          |
| Base-Emitter On Voltage<br>基极发射极导通电压(V <sub>CE</sub> = 10V, I <sub>C</sub> = 500mA)              | V <sub>BE(on)</sub>  | —          | —           | 1.2        | V          |
| Transition Frequency<br>特征频率(V <sub>CE</sub> = 5V, I <sub>C</sub> = 50mA)                        | f <sub>T</sub>       | —          | 150         | —          | MHz        |
| Output Capacitance<br>输出电容(V <sub>CB</sub> = 10V, I <sub>E</sub> =0, f=1MHz)                     | C <sub>ob</sub>      | —          | 15          | —          | 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 |