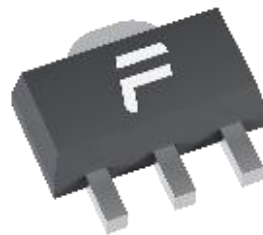
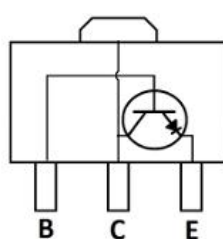


## SOT-89-3L Bipolar Transistor 双极型三极管

### ■ 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              | $V_{CBO}$              | 100                   | V             |
| Collector-Emitter Voltage 集电极发射极电压          | $V_{CEO}$              | 80                    | 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

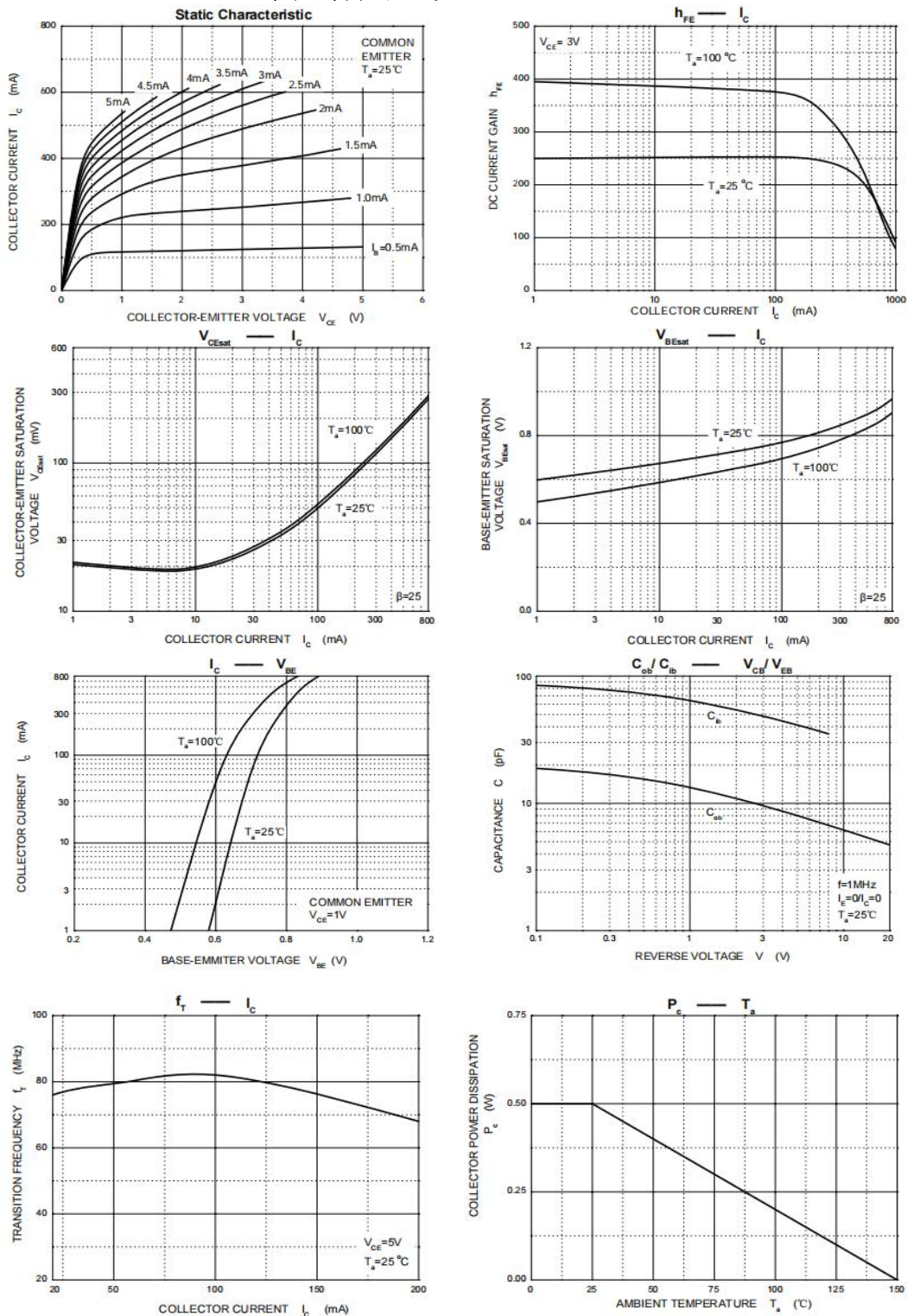
|          |           |            |            |
|----------|-----------|------------|------------|
| $H_{FE}$ | 82-180(P) | 120-270(Q) | 180-390(R) |
| Mark     | DF        |            |            |

**■Electrical Characteristics 电特性**

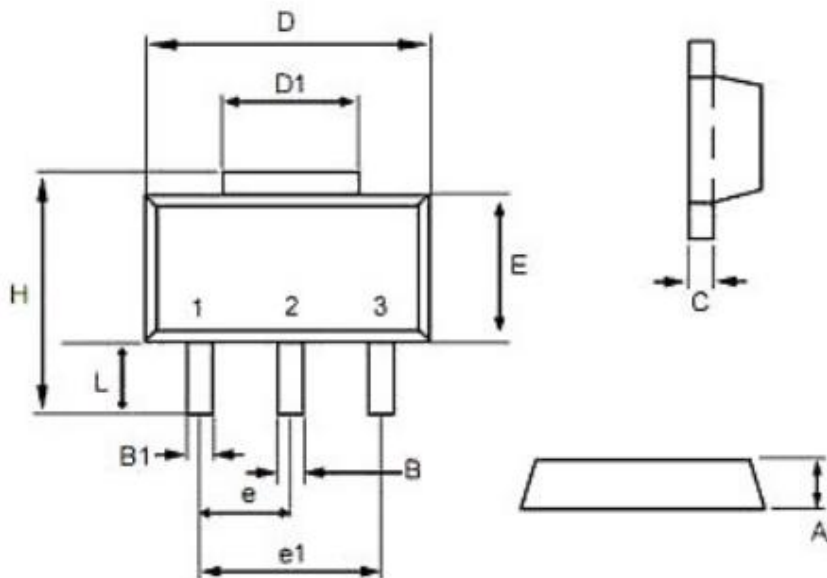
(TA=25℃ unless otherwise noted 如无特殊说明, 温度为 25℃)

| 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(IC=50μA, IE=0)           | BV <sub>CBO</sub>    | 100        | —           | —          | V          |
| Collector-Emitter Breakdown Voltage<br>集电极发射极击穿电压(IC=2mA, IB=0)        | BV <sub>CEO</sub>    | 80         | —           | —          | V          |
| Emitter-Base Breakdown Voltage<br>发射极基极击穿电压(IE=50μA, IC=0)             | BV <sub>EBO</sub>    | 5          | —           | —          | V          |
| Collector-Base Leakage Current<br>集电极基极漏电流(V <sub>CB</sub> =80V, IE=0) | I <sub>CBO</sub>     | —          | —           | 1          | μA         |
| Emitter-Base Leakage Current<br>发射极基极漏电流(V <sub>EB</sub> = 4V, IC=0)   | I <sub>EBO</sub>     | —          | —           | 1          | μA         |
| DC Current Gain<br>直流电流增益(V <sub>CE</sub> =3V, IC=100mA)               | H <sub>FE</sub>      | 82         | —           | 390        |            |
| Collector-Emitter Saturation Voltage<br>集电极发射极饱和压降(IC=500mA, IB= 50mA) | V <sub>CE(sat)</sub> | —          | —           | 0.4        | V          |
| Base-Emitter Saturation Voltage<br>基极发射极饱和压降(IC=500mA, IB=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, IC= 500mA) | V <sub>BE(on)</sub>  | —          | —           | 1.2        | V          |
| Transition Frequency<br>特征频率(V <sub>CE</sub> = 10V, IC= 50mA)          | f <sub>T</sub>       | —          | 100         | —          | MHz        |
| Output Capacitance<br>输出电容(V <sub>CB</sub> = 10V, IE=0, f=1MHz)        | C <sub>ob</sub>      | —          | 20          | —          | 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 |