

2SD1664

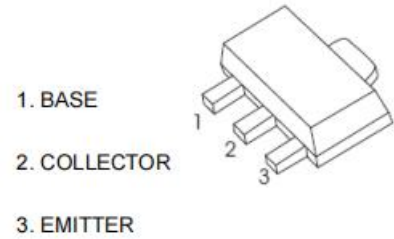
NPN TRANSISTOR



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 结温和储藏温度 | T_J, T_{stg} | -55to+150 $^\circ\text{C}$ | |

■ Device Marking 产品打标

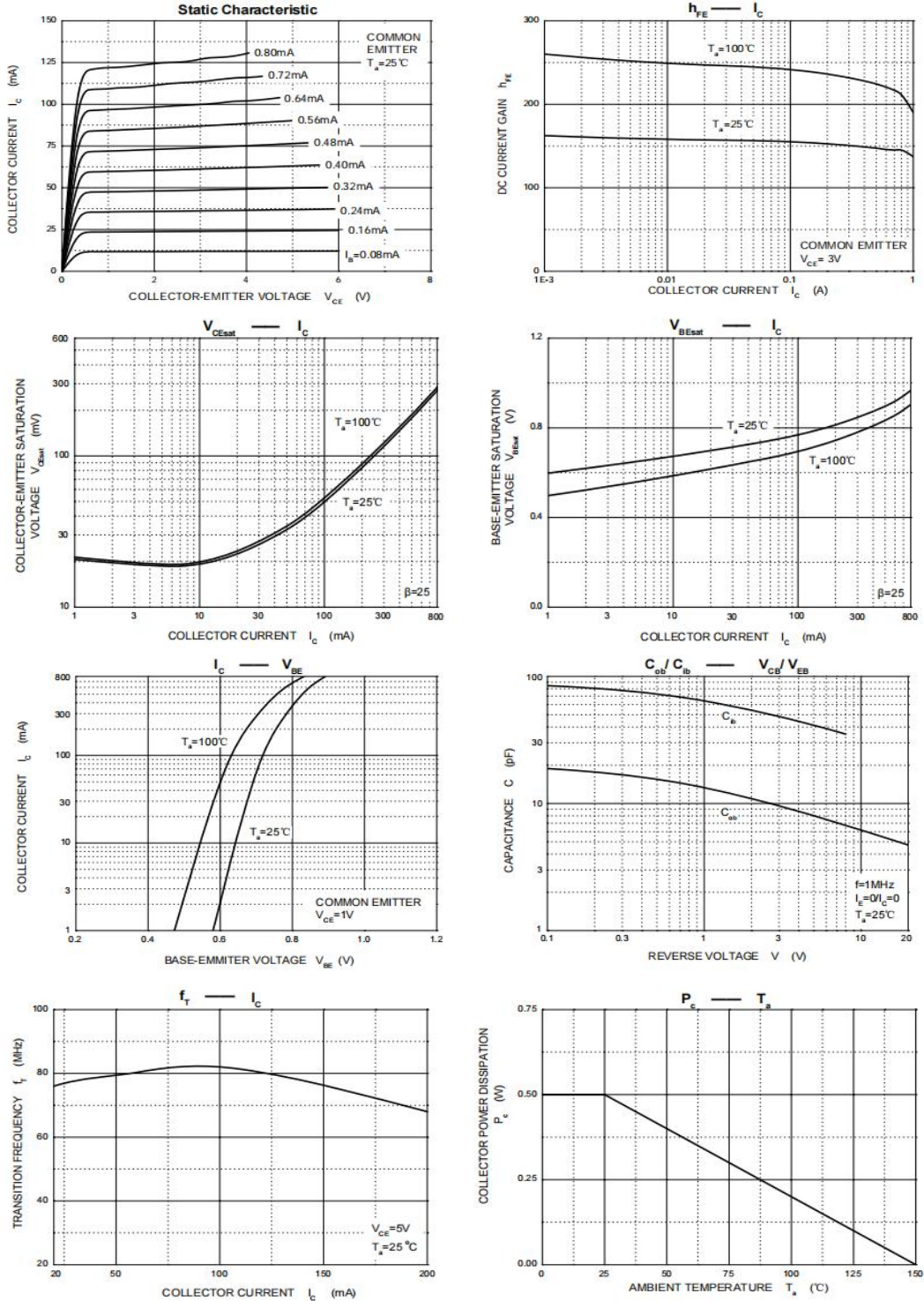
| | | | |
|----------|-----------|------------|------------|
| H_{FE} | 82-180(P) | 120-270(Q) | 180-390(R) |
| Mark | DAP | DAQ | DAR |

■ Electrical Characteristics 电特性

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

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

■ Typical Characteristic Curve 典型特性曲线

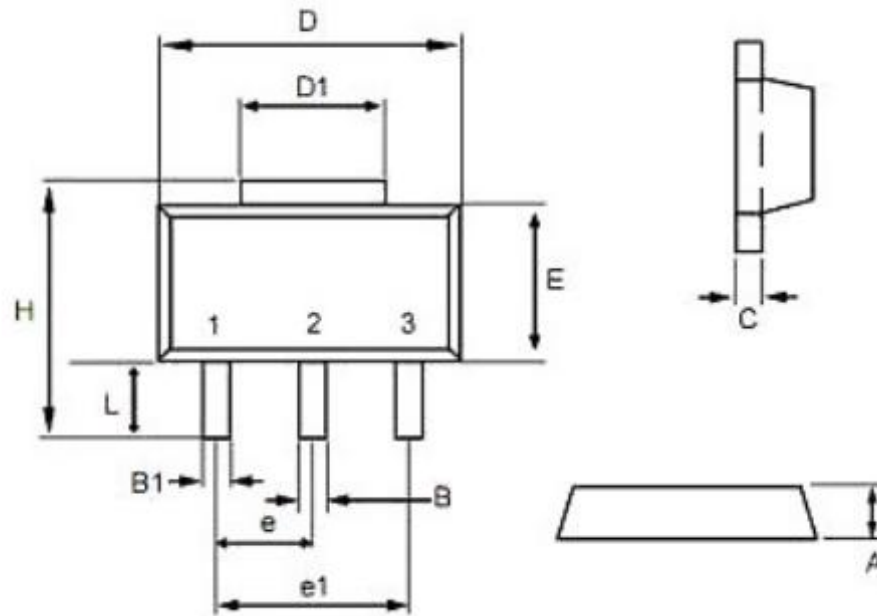


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■Dimension 外形封装尺寸



| 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 |