

TO-92 Plastic-Encapsulated Transistors

2SC1674 TRANSISTOR (NPN)

FEATURE

Power dissipation

$$P_{CM}: 0.25 \text{ W (Tamb=25}^{\circ}\text{C)}$$

Collector current

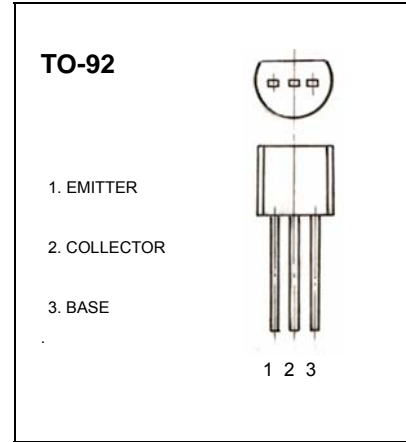
$$I_{CM}: 0.02 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO}: 30 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg}: -55^{\circ}\text{C to } +150^{\circ}\text{C}$$



ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | MAX | UNIT |
|--------------------------------------|---------------|---|-----|------|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = 100\mu\text{A}, I_E = 0$ | 30 | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = 1 \text{ mA}, I_B = 0$ | 20 | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = 100\mu\text{A}, I_C = 0$ | 4 | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = 30\text{V}, I_E = 0$ | | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 3\text{V}, I_C = 0$ | | 0.1 | μA |
| DC current gain | h_{FE} | $V_{CE} = 6 \text{ V}, I_C = 1 \text{ mA}$ | 40 | 180 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 10 \text{ mA}, I_B = 1 \text{ mA}$ | | 0.3 | V |
| Base-emitter voltage | $V_{BE(ON)}$ | $V_{CE} = 6 \text{ V}, I_C = 1 \text{ mA}$ | | 0.72 | V |
| Transition frequency | f_T | $V_{CE} = 6 \text{ V}, I_C = 1 \text{ mA}$ | 400 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CE} = 6\text{V}, I_E = 0, f = 1\text{MHz}$ | | 1.5 | pF |
| Noise figure | NF | $V_{CE} = 6\text{V}, I_C = 1\text{mA}, f = 100\text{MHz}, R_S = 50\Omega$ | | 5 | dB |
| Power gain | G_P | $V_{CE} = 6\text{V}, I_C = 1\text{mA}, f = 100\text{MHz}$ | 18 | | dB |

CLASSIFICATION OF $h_{FE(1)}$

| Rank | Y | GR | BL |
|-------|-------|--------|--------|
| Range | 40-80 | 60-120 | 90-180 |