

NPN Transistors

2KC1004

■ Features

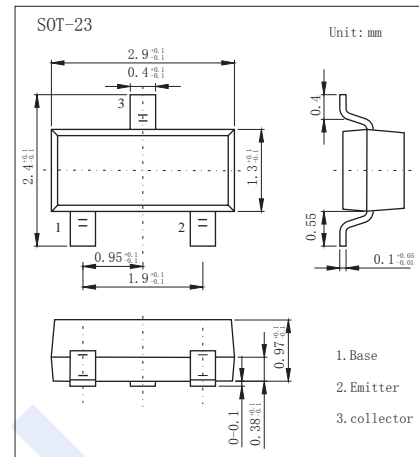
● High DC Current Gain:

$h_{FE} = 200$ TYP.

$V_{CE} = 6.0$ V, $I_C = 1.0$ mA

● High Voltage:

$V_{CE0} = 50$ V

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Rating | Unit |
|------------------------------|-----------|-------------|------------------|
| Collector to base voltage | V_{CBO} | 60 | V |
| Collector to emitter voltage | V_{CEO} | 50 | V |
| Emitter to base voltage | V_{EBO} | 5 | V |
| Collector current (DC) | I_C | 100 | mA |
| Collector power dissipation | P_C | 200 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature range | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--|---------------|--|------|------|-----|------|
| Collector- base breakdown voltage | V_{CBO} | $I_C = 100 \mu\text{A}$, $I_E = 0$ | 60 | | | V |
| Collector- emitter breakdown voltage | V_{CEO} | $I_C = 1 \text{ mA}$, $I_B = 0$ | 50 | | | |
| Emitter - base breakdown voltage | V_{EBO} | $I_E = 100 \mu\text{A}$, $I_C = 0$ | 5 | | | |
| Collector-base cut-off current | I_{CBO} | $V_{CB} = 60 \text{ V}$, $I_E = 0$ | | | 100 | nA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 5 \text{ V}$, $I_C = 0$ | | | 100 | |
| Collector-emitter saturation voltage * | $V_{CE(sat)}$ | $I_C = 100 \text{ mA}$, $I_B = 10 \text{ mA}$ | | 0.15 | 0.3 | V |
| Base - emitter saturation voltage * | $V_{BE(sat)}$ | $I_C = 100 \text{ mA}$, $I_B = 10 \text{ mA}$ | | 0.86 | 1 | |
| Base - emitter voltage * | V_{BE} | $V_{CE} = 6 \text{ V}$, $I_C = 1 \text{ mA}$ | 0.55 | | 0.7 | |
| DC current gain * | h_{FE} | $V_{CE} = 6 \text{ V}$, $I_C = 1 \text{ mA}$ | 200 | | 400 | |
| Collector output capacitance | C_{ob} | $V_{CB} = 6 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$ | | 3 | | pF |
| Transition frequency | f_T | $V_{CE} = 6 \text{ V}$, $I_E = -10 \text{ mA}$ | | 250 | | MHz |

*. $PW \leq 350 \mu\text{s}$, duty cycle $\leq 2\%$

■ Marking

| Marking | 7A |
|---------|----|
|---------|----|

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Typical Characteristics

