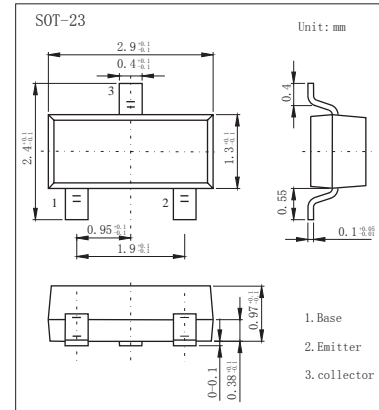


NPN Transistors

2KC1009



■ Features

- High Collector-Emitter Voltage

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

| Parameter | Symbol | Rating | Unit |
|---|-----------------|------------|---------------------------|
| Collector - Base Voltage | V_{CB0} | 400 | V |
| Collector - Emitter Voltage | V_{CE0} | 400 | |
| Emitter - Base Voltage | V_{EB0} | 6 | |
| Collector Current - Continuous | I_C | 200 | mA |
| Collector Current -Pulsed | I_{CM} | 300 | |
| Collector Power Dissipation | P_C | 350 | mW |
| Thermal Resistance From Junction To Ambient | $R_{\theta JA}$ | 357 | $^\circ\text{C}/\text{W}$ |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -55 to 150 | |

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

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|----------------|---|-----|-----|------|------|
| Collector- base breakdown voltage | V_{CB0} | $I_C = 100 \mu\text{A}, I_E = 0$ | 400 | | | V |
| Collector- emitter breakdown voltage *1 | V_{CE0} | $I_C = 1 \text{mA}, I_B = 0$ | 400 | | | |
| Emitter - base breakdown voltage | V_{EB0} | $I_E = 100 \mu\text{A}, I_C = 0$ | 6 | | | |
| Collector-base cut-off current | I_{CBO} | $V_{CB} = 400 \text{V}, I_E = 0$ | | | 100 | nA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = 4 \text{V}, I_C = 0$ | | | 100 | |
| Collector-emitter saturation voltage *1 | $V_{CE(sat)1}$ | $I_C = 10 \text{mA}, I_B = 1 \text{mA}$ | | | 0.2 | V |
| | $V_{CE(sat)2}$ | $I_C = 50 \text{mA}, I_B = 5 \text{mA}$ | | | 0.3 | |
| Base - emitter saturation voltage *1 | $V_{BE(sat)}$ | $I_C = 10 \text{mA}, I_B = 1 \text{mA}$ | | | 0.75 | |
| DC current gain *1 | $h_{FE(1)}$ | $V_{CE} = 10 \text{V}, I_C = 1 \text{mA}$ | 50 | | | |
| | $h_{FE(2)}$ | $V_{CE} = 10 \text{V}, I_C = 10 \text{mA}$ | 80 | | 300 | |
| | $h_{FE(3)}$ | $V_{CE} = 10 \text{V}, I_C = 50 \text{mA}$ | 40 | | | |
| | $h_{FE(4)}$ | $V_{CE} = 10 \text{V}, I_C = 100 \text{mA}$ | 40 | | | |
| Collector output capacitance | C_{ob} | $V_{CB} = 20 \text{V}, I_E = 0, f = 1 \text{MHz}$ | | | 7 | pF |
| Transition frequency | f_T | $V_{CE} = 20 \text{V}, I_C = 10 \text{mA}, f = 30 \text{MHz}$ | 50 | | | MHz |

*1: Pulse test: pulse width $\leq 300 \mu\text{s}$, duty cycle $\leq 2.0\%$.

■ Marking

| | |
|---------|----|
| Marking | 7B |
|---------|----|

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Typical Characteristics

