



SOT-23 Plastic-Encapsulate Transistors

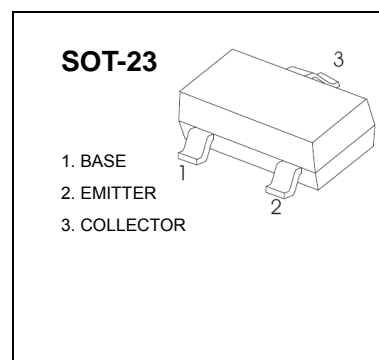
S9014 TRANSISTOR (NPN)

FEATURES

- Complementary to S9015

MARKING: J6

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)



| Symbol | Parameter | Value | Unit |
|-----------|-------------------------------|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 50 | V |
| V_{CEO} | Collector-Emitter Voltage | 45 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current -Continuous | 0.1 | A |
| P_C | Collector Power Dissipation | 0.2 | W |
| T_j | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -55-150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--|-----|-----|------|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=100\mu\text{A}$, $I_E=0$ | 50 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=0.1\text{mA}$, $I_B=0$ | 45 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=100\mu\text{A}$, $I_C=0$ | 5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=50\text{V}$, $I_E=0$ | | | 0.1 | μA |
| Collector cut-off current | I_{CEO} | $V_{CE}=35\text{V}$, $I_B=0$ | | | 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} | $V_{CE}=5\text{V}$, $I_C=1\text{mA}$ | 200 | | 1000 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=100\text{mA}$, $I_B=5\text{mA}$ | | | 0.3 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=100\text{mA}$, $I_B=5\text{mA}$ | | | 1 | V |
| Transition frequency | f_T | $V_{CE}=5\text{V}$, $I_C=10\text{mA}$ $f=30\text{MHz}$ | 150 | | | MHz |

CLASSIFICATION OF h_{FE}

| Rank | L | H |
|-------|---------|----------|
| Range | 200-450 | 450-1000 |