

TRANSISTOR (NPN)

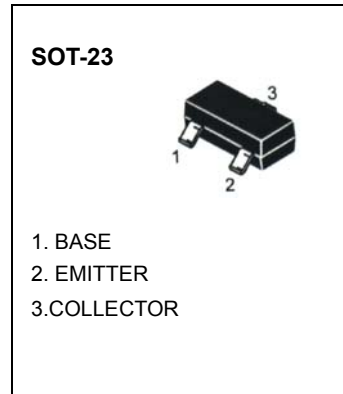
FEATURES

- High emitter-base voltage
- low on resistance

MARKING: MAX

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

| Symbol | Parameter | Value | Units |
|-----------|-------------------------------|---------|--------------------|
| V_{CB0} | Collector-Base Voltage | 25 | V |
| V_{CE0} | Collector-Emitter Voltage | 20 | V |
| V_{EBO} | Emitter-Base Voltage | 12 | V |
| I_C | Collector Current -Continuous | 0.3 | 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 ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------------------|----------------------|----------------------------------------------------------|-----|-----|------|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=100\mu\text{A}, I_E=0$ | 25 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=1\text{mA}, I_B=0$ | 20 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=100\mu\text{A}, I_C=0$ | 12 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=25\text{V}, I_E=0$ | | | 0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=12\text{V}, I_C=0$ | | | 0.1 | μA |
| DC current gain | $h_{FE}(\text{FOR})$ | $V_{CE}=2\text{V}, I_C=4\text{mA}$ | 200 | | 1000 | |
| | $h_{FE}(\text{REV})$ | $V_{CE}=2\text{V}, I_C=4\text{mA}$ | 20 | | | |
| Collector-emitter saturation voltage | $V_{CE}(\text{sat})$ | $I_C=100\text{mA}, I_B=10\text{mA}$ | | | 0.25 | V |
| Base-emitter saturation voltage | $V_{BE}(\text{sat})$ | $I_C=100\text{mA}, I_B=10\text{mA}$ | | | 1 | V |
| Transition frequency | f_T | $V_{CE}=10\text{V}, I_C=1\text{mA}$ $f=100\text{MHz}$ | | 60 | | MHz |
| output capacitance | C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$ | | 10 | | pF |
| On resistance | $R_{(on)}$ | $V_{in}=0.3\text{V}, I_B=1\text{mA}, f=1\text{KHz}$ | | 0.6 | | Ω |

Typical characteristics

