

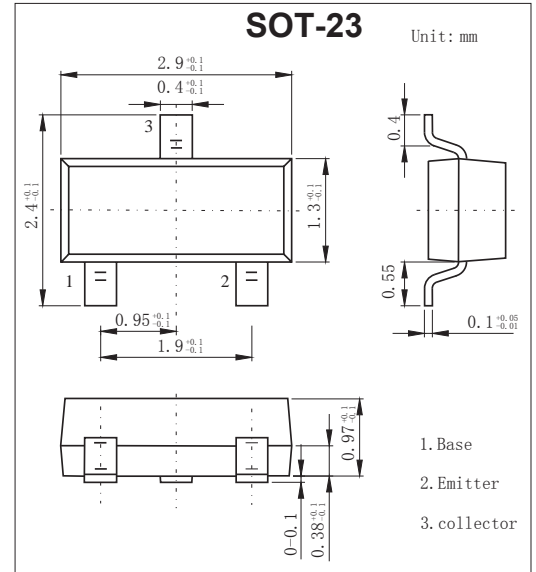
SOT-23 Plastic-Encapsulate Transistors

Features

- Collector Current Capability $I_c=50\text{mA}$
- Collector Emitter Voltage $V_{CE0}=160\text{V}$
- NPN Transistors

MECHANICAL DATA

- Case style:SOT-23molded plastic
- Mounting position:any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

| Parameter | Symbol | Rating | Unit |
|--------------------------------|-----------|------------|------|
| Collector - Base Voltage | V_{CB0} | 180 | V |
| Collector - Emitter Voltage | V_{CE0} | 160 | |
| Emitter - Base Voltage | V_{EB0} | 5 | |
| Collector Current - Continuous | I_c | 50 | mA |
| Collector Power Dissipation | P_c | 150 | mW |
| Junction Temperature | T_J | 125 | °C |
| Storage Temperature Range | T_{stg} | -55 to 125 | |

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--|-----|-----|-----|------|
| Collector- base breakdown voltage | V_{CB0} | $I_c= 100 \mu\text{A}, I_E= 0$ | 180 | | | V |
| Collector- emitter breakdown voltage | V_{CE0} | $I_c= 1 \text{mA}, I_B= 0$ | 160 | | | |
| Emitter - base breakdown voltage | V_{EB0} | $I_E= 100 \mu\text{A}, I_c= 0$ | 5 | | | |
| Collector-base cut-off current | I_{CB0} | $V_{CB}= 160 \text{V}, I_E= 0$ | | | 0.1 | uA |
| Emitter cut-off current | I_{EB0} | $V_{EB}= 5\text{V}, I_c=0$ | | | 0.1 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_c=50\text{mA}, I_B=5\text{mA}$ | | | 0.3 | V |
| Base - emitter saturation voltage | $V_{BE(sat)}$ | $I_c=50\text{mA}, I_B=5\text{mA}$ | | | 1 | |
| DC current gain | h_{FE} | $V_{CE}= 3\text{V}, I_c= 1\text{mA}$ | 70 | | | |
| | | $V_{CE}= 3\text{V}, I_c= 15\text{mA}$ | 90 | | 400 | |
| Collector output capacitance | C_{ob} | $V_{CB}= 10\text{V}, I_E=0, f=1\text{MHz}$ | | 2.3 | | pF |
| Transition frequency | f_T | $V_{CE}= 10\text{V}, I_E= -10\text{mA}$ | | 120 | | MHz |

■ Classification of $h_{fe}(2)$

| Type | 2SC1654-N5 | 2SC1654-N6 | 2SC1654-N7 |
|---------|------------|------------|------------|
| Range | 90-180 | 135-270 | 200-400 |
| Marking | N5 | N6 | N7 |



RATINGS AND CHARACTERISTIC CURVES

■ Typical Characteristics

