

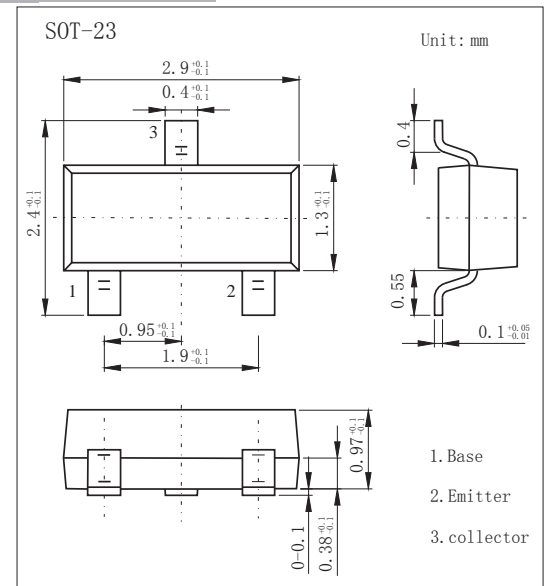
## SOT-23 Plastic-Encapsulate Transistors

### Features

- Collector Current Capability  $I_c=0.5A$
- Collector Emitter Voltage  $V_{CE0}=45V$
- Low voltage
- 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       | $V_{CB0}$ | 50         | V    |
| Collector - Emitter Voltage    | $V_{CE0}$ | 45         |      |
| Emitter - Base Voltage         | $V_{EB0}$ | 5          |      |
| Collector Current - Continuous | $I_c$     | 500        | mA   |
| Collector Power Dissipation    | $P_c$     | 225        | mW   |
| Junction Temperature           | $T_J$     | 150        | °C   |
| Storage Temperature Range      | $T_{stg}$ | -55 to 150 |      |

### PACKAGE INFORMATION

| Device | Package | Shipping       |
|--------|---------|----------------|
| BCX19  | SOT-23  | 3000/Tape&Reel |

| Parameter                            | Symbol        | Test Conditions                   | Min | Typ | Max  | Unit |
|--------------------------------------|---------------|-----------------------------------|-----|-----|------|------|
| Collector- base breakdown voltage    | $V_{CB0}$     | $I_c= 100 \mu A, I_E= 0$          | 50  |     |      | V    |
| Collector- emitter breakdown voltage | $V_{CE0}$     | $I_c= 1 mA, I_B= 0$               | 45  |     |      |      |
| Emitter - base breakdown voltage     | $V_{EB0}$     | $I_E= 100 \mu A, I_c= 0$          | 5   |     |      |      |
| Collector-base cut-off current       | $I_{CB0}$     | $V_{CB}= 50 V, I_E= 0$            |     |     | 0.1  | uA   |
| Emitter cut-off current              | $I_{EB0}$     | $V_{EB}= 5V, I_c=0$               |     |     | 0.1  |      |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_c=500 mA, I_B=50mA$            |     |     | 0.62 | V    |
| Base - emitter saturation voltage    | $V_{BE(sat)}$ | $I_c= 500 mA, I_B= 50mA$          |     |     | 1.2  |      |
| Base-emitter voltage                 | $V_{BE(on)}$  | $V_{CE}= 1V, I_c= 500mA$          |     |     | 1.2  |      |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE}= 1V, I_c= 100mA$          | 100 |     | 600  |      |
|                                      | $h_{FE(2)}$   | $V_{CE}= 1V, I_c= 300mA$          | 70  |     |      |      |
|                                      | $h_{FE(3)}$   | $V_{CE}= 1V, I_c= 500mA$          | 40  |     |      |      |
| Collector capacitance                | $C_c$         | $V_{CB}= 10V, I_E=I_c=0, f=1MHz$  |     | 5   |      | pF   |
| Transition frequency                 | $f_T$         | $V_{CE}= 5V, I_c= 10mA, f=100MHz$ | 100 |     |      | MHz  |

### Marking

|         |    |
|---------|----|
| Marking | U1 |
|---------|----|

# RATINGS AND CHARACTERISTIC CURVES

## Typical Characteristics

