

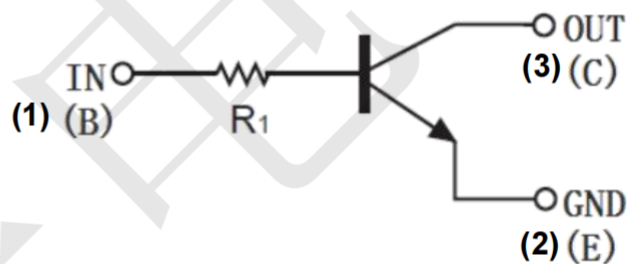
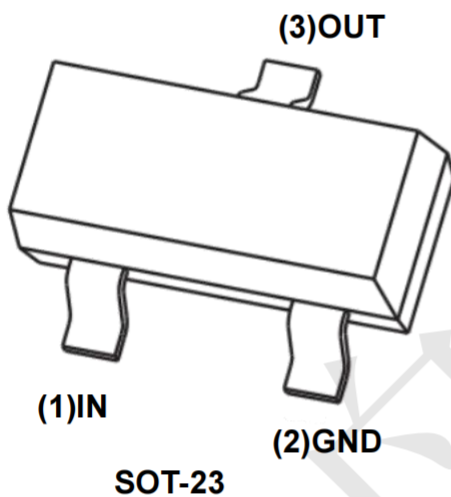
### Product Summary

- VCBO = 50V
- VCEO = 50V
- IC = 100mA
- R1 = 10kΩ

### Features

- Built-in bias resistors
- making device design easy
- almost completely eliminating parasitic effects

### Circuit diagram and pin information



### Absolute Maximum Ratings

(Ta=25°C unless otherwise specified)

| PARAMETER                              | SYMBOL         | LIMIT       | UNIT |
|--|----------------|-------------|------|
| Collector-Base Voltage                 | VCBO           | 50          | V    |
| Collector-Emitter Voltage              | VCEO           | 50          | V    |
| Emitter-Base Voltage                   | VEBO           | 5V          | V    |
| Collector current                      | IC             | 100         | mA   |
| Power Total Dissipation @ TA=25°C      | P <sub>D</sub> | 200         | mW   |
| Maximum Operating Junction Temperature | T <sub>J</sub> | +150        | °C   |
| Storage Temperature Range              | TSTG           | -55 to +150 | °C   |

### Electrical Characteristics

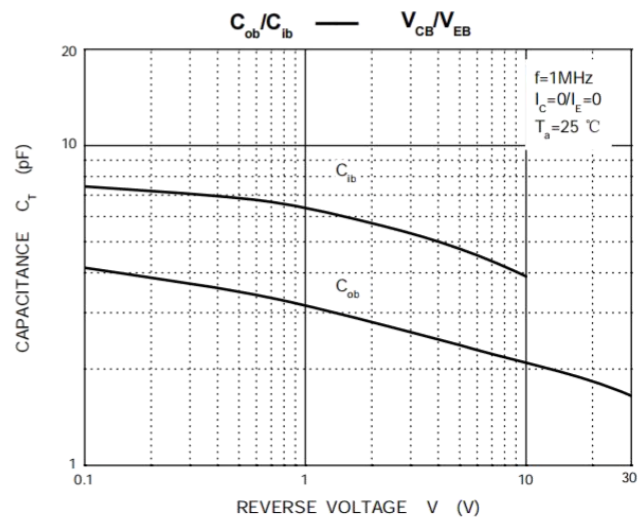
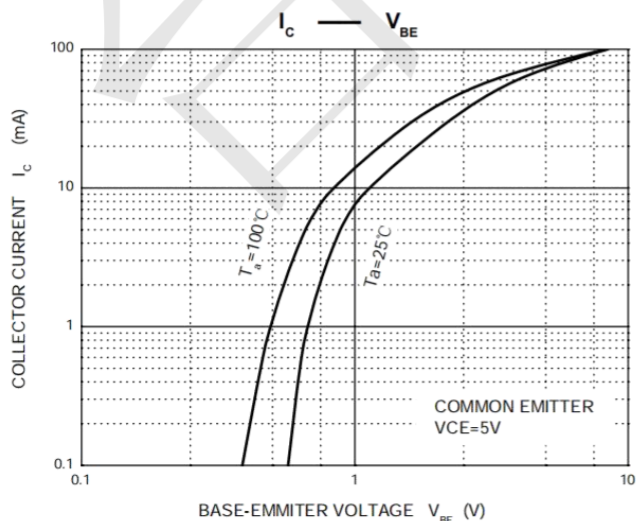
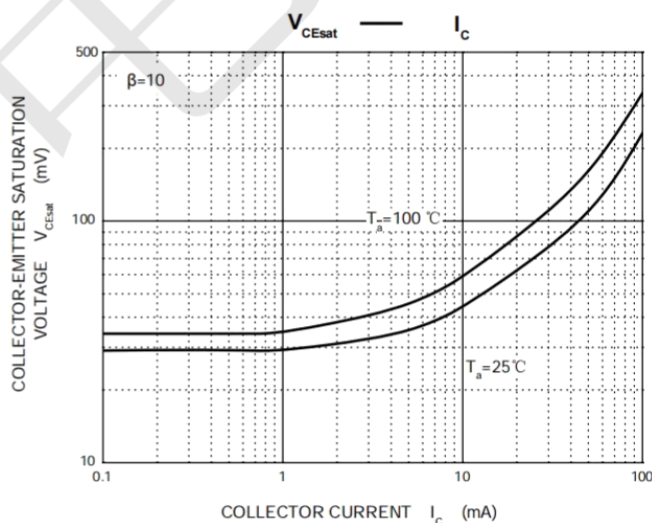
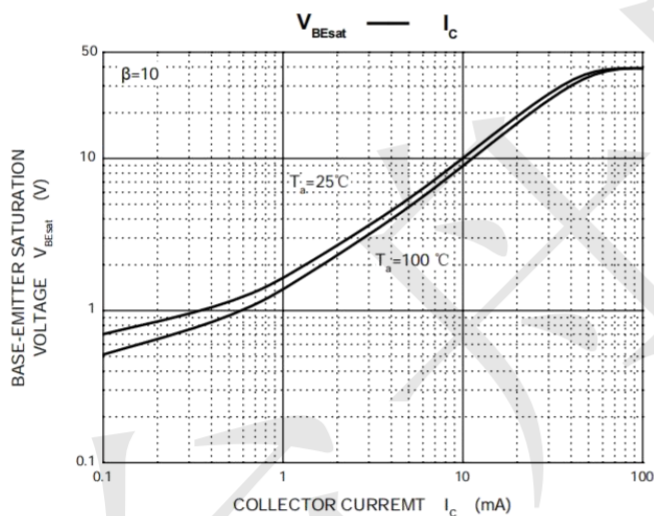
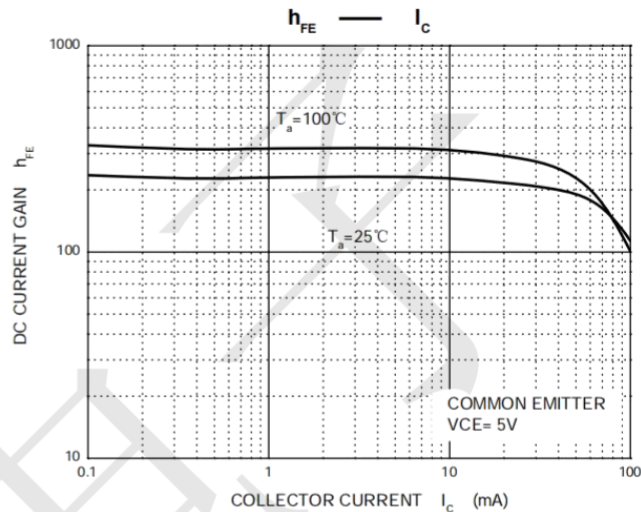
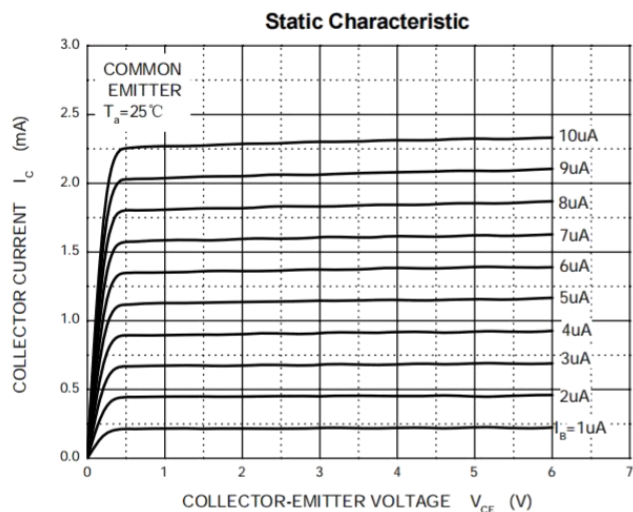
(TA=25°C unless otherwise specified)

| Parameter                            | Symbol        | Conditions                           | Min | Typ | Max | Unit       |
|--------------------------------------|---------------|--------------------------------------|-----|-----|-----|------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=50\mu A, I_E=0$                 | 50  | --  | --  | V          |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=1mA, I_B=0$                     | 50  | --  | --  | V          |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=50\mu A, I_C=0$                 | 5   | --  | --  | V          |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=50V, I_E=0$                  | --  | --  | 0.5 | $\mu A$    |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=4V, I_C=0$                   | --  | --  | 0.5 | $\mu A$    |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=5mA, I_B=0.5mA$                 | --  | --  | 0.3 | V          |
| DC current gain                      | $h_{FE}$      | $V_{CE}=5V, I_C=1mA$                 | 100 | 300 | 600 | --         |
| Input resistor                       | $R_1$         |                                      | 7   | 10  | 13  | k $\Omega$ |
| Transition frequency                 | $f_T$         | $V_{CE}=10V, I_E=5mA,$<br>$f=100MHz$ | --  | 250 | --  | MHz        |

Note:

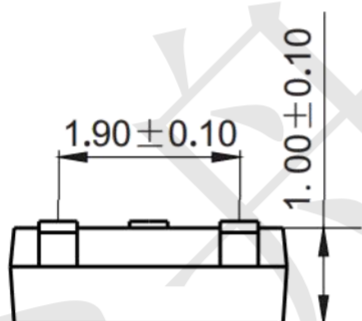
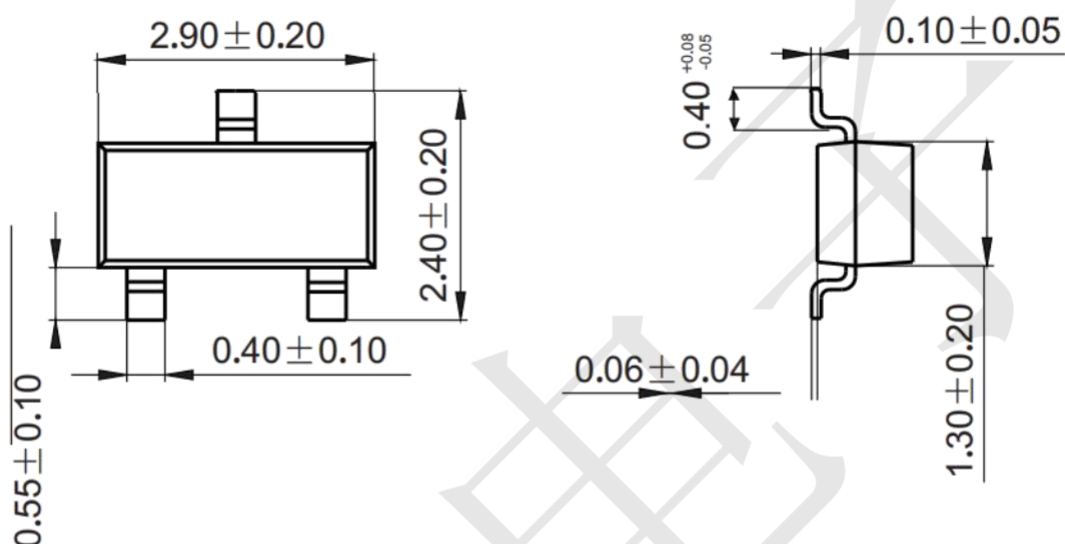
- 1.Characteristics of built-in transistor
- 2.Each terminal mounted on a reference land

### Typical Performance Characteristics(TA=25°C)



### Package Outline Dimensions (unit: mm)

SOT-23



### Mounting Pad Layout (unit: mm)

