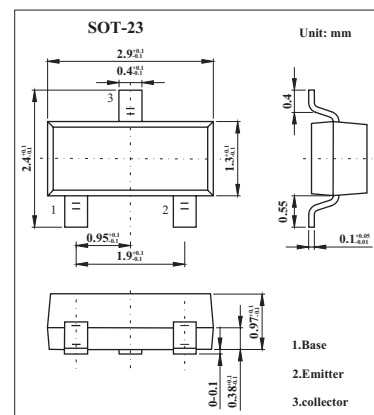


## PNP Transistor

### 2SA1015

#### ■ Features

- High voltage and high current  
 $V_{CE0}:-50V(\text{min.}), I_C:-150mA(\text{max.})$
- Low noise:  $NF=1dB(\text{Typ.})$  at  $f=1KHz$



#### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter                     | Symbol    | Rating     | Unit             |
|-------------------------------|-----------|------------|------------------|
| Collector-Base Voltage        | $V_{CBO}$ | -50        | V                |
| Collector-Emitter Voltage     | $V_{CEO}$ | -50        | V                |
| Emitter-Base Voltage          | $V_{EBO}$ | -5         | V                |
| Collector Current -Continuous | $I_C$     | 150        | mA               |
| Collector Power Dissipation   | $P_C$     | 200        | mW               |
| Junction Temperature          | $T_J$     | 125        | $^\circ\text{C}$ |
| Storage Temperature           | $T_{stg}$ | -55 to 125 | $^\circ\text{C}$ |

#### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

| Parameter                            | Symbol        | Testconditons                                        | Min | Typ | Max  | Unit          |
|--------------------------------------|---------------|------------------------------------------------------|-----|-----|------|---------------|
| Collector-base breakdown voltage     | $V_{CBO}$     | $I_C = -100\mu\text{A}, I_E = 0$                     | -50 |     |      | V             |
| Collector-emitter breakdown voltage  | $V_{CEO}$     | $I_C = -0.1\text{mA}, I_B = 0$                       | -50 |     |      | V             |
| Emitter-base breakdown voltage       | $V_{EBO}$     | $I_E = -100\mu\text{A}, I_C = 0$                     | -5  |     |      | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = -50V, I_E = 0$                             |     |     | -0.1 | $\mu\text{A}$ |
| Collector cut-off current            | $I_{CEO}$     | $V_{CE} = -50V, I_B = 0$                             |     |     | -0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = -5V, I_C = 0$                              |     |     | -0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE}$      | $V_{CE} = -6V, I_C = -2\text{mA}$                    | 130 |     | 400  |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -100\text{mA}, I_B = -10\text{mA}$            |     |     | -0.3 | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C = -100\text{mA}, I_B = -10\text{mA}$            |     |     | -1.1 | V             |
| Transition frequency                 | $f_T$         | $V_{CE} = -10V, I_C = -1\text{mA}, f = 30\text{MHz}$ | 80  |     |      | MHz           |

#### ■ $h_{FE}$ Classification

| Marking  | BA      |         |
|----------|---------|---------|
| Rank     | L       | H       |
| $h_{FE}$ | 130~200 | 200~400 |