

**Silicon PNP Power Transistors**

**2SB645**

**DESCRIPTION**

- With TO-3 package
- High power dissipation

**APPLICATIONS**

- For power switching and general purpose applications

**PINNING(see Fig.2)**

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Base        |
| 2   | Emitter     |
| 3   | Collector   |

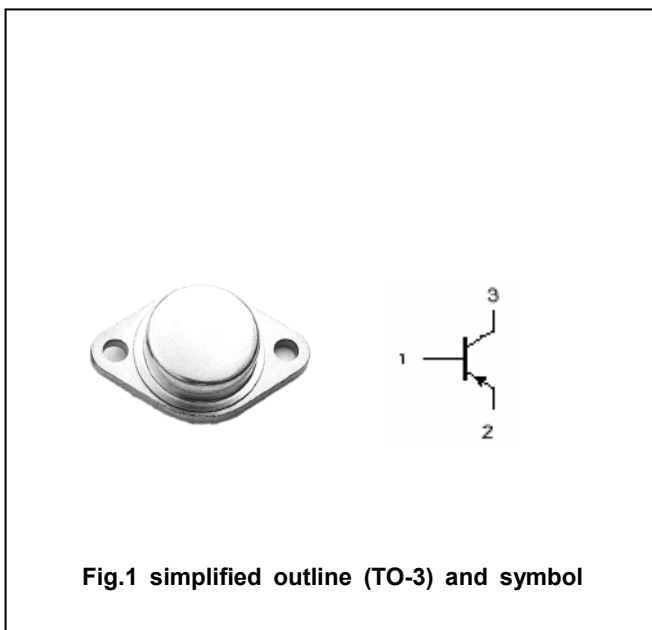


Fig.1 simplified outline (TO-3) and symbol

**Absolute maximum ratings(Ta=□)**

| SYMBOL           | PARAMETER                   | CONDITIONS          | VALUE   | UNIT |
|------------------|-----------------------------|---------------------|---------|------|
| V <sub>CBO</sub> | Collector-base voltage      | Open emitter        | -200    | V    |
| V <sub>CEO</sub> | Collector-emitter voltage   | Open base           | -200    | V    |
| V <sub>EBO</sub> | Emitter-base voltage        | Open collector      | -5      | V    |
| I <sub>C</sub>   | Collector current           |                     | -15     | A    |
| I <sub>B</sub>   | Base current                |                     | -5      | A    |
| P <sub>C</sub>   | Collector power dissipation | T <sub>C</sub> =25□ | 150     | W    |
| T <sub>j</sub>   | Junction temperature        |                     | 150     | □    |
| T <sub>stg</sub> | Storage temperature         |                     | -65~150 | □    |

## Silicon PNP Power Transistors

## 2SB645

## CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

| SYMBOL               | PARAMETER                            | CONDITIONS                                    | MIN  | TYP. | MAX  | UNIT |
|----------------------|--------------------------------------|---|------|------|------|------|
| V <sub>(BR)CEO</sub> | Collector-emitter breakdown voltage  | I <sub>C</sub> =-50mA ; I <sub>B</sub> =0     | -200 |      |      | V    |
| V <sub>(BR)EBO</sub> | Emitter-base breakdown voltage       | I <sub>E</sub> =-1mA ; I <sub>C</sub> =0      | -5   |      |      | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =-10A; I <sub>B</sub> =-1A     |      |      | -3.0 | V    |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =-200V; I <sub>E</sub> =0     |      |      | -0.1 | mA   |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =-6V; I <sub>C</sub> =0       |      |      | -0.1 | mA   |
| h <sub>FE</sub>      | DC current gain                      | I <sub>C</sub> =-1A ; V <sub>CE</sub> =-5V    | 40   |      | 140  |      |
| f <sub>T</sub>       | Transition frequency                 | I <sub>C</sub> =-0.5A ; V <sub>CE</sub> =-10V |      | 12   |      | MHz  |

◆ h<sub>FE</sub> Classifications

| R     | O      |
|-------|--------|
| 40-80 | 70-140 |

PACKAGE OUTLINE

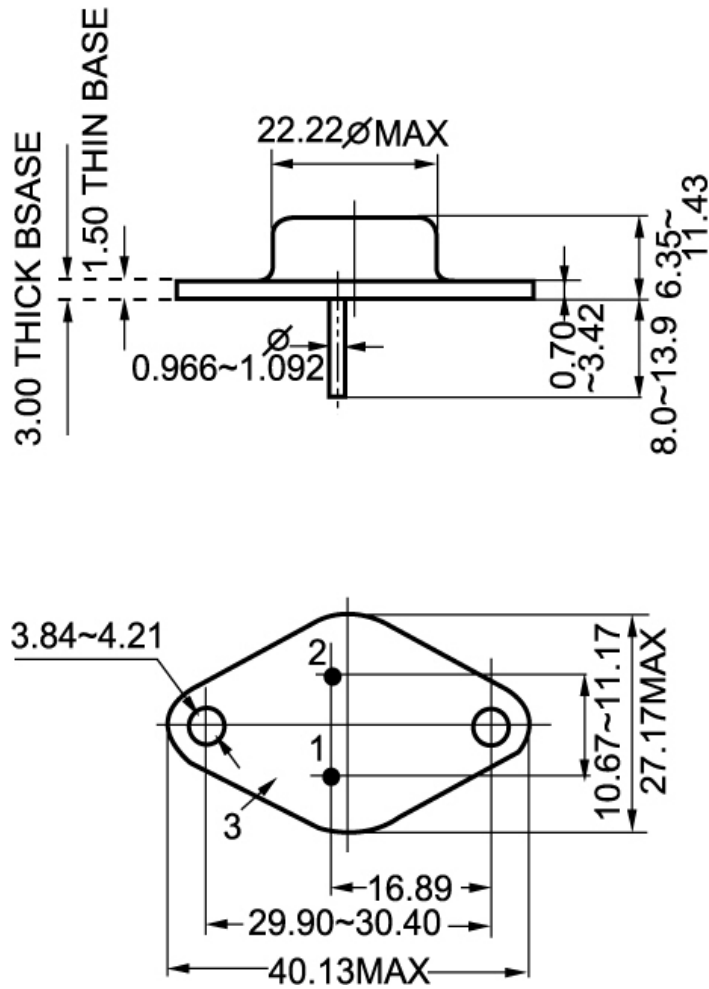


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)