

Silicon NPN Power Transistors

2N6500

**DESCRIPTION**

- With TO-66 package
- Wide area of operation
- High sustaining voltage

**APPLICATIONS**

- For high-speed switching and linear-amplifier applications

**PINNING (See Fig.2)**

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

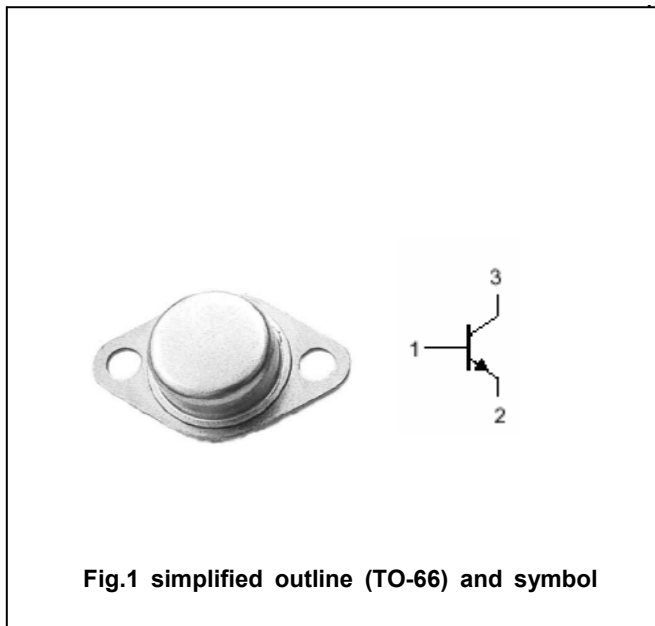


Fig.1 simplified outline (TO-66) and symbol

**Absolute maximum ratings(Ta=25□)**

| SYMBOL           | PARAMETER                 | CONDITIONS          | VALUE   | UNIT |
|------------------|---------------------------|---------------------|---------|------|
| V <sub>CBO</sub> | Collector-base voltage    | Open emitter        | 120     | V    |
| V <sub>CEO</sub> | Collector-emitter voltage | Open base           | 90      | V    |
| V <sub>EBO</sub> | Emitter-base voltage      | Open collector      | 7       | V    |
| I <sub>C</sub>   | Collector current         |                     | 4       | A    |
| I <sub>CM</sub>  | Collector current-peak    |                     | 5       | A    |
| I <sub>B</sub>   | Base current              |                     | 3       | A    |
| P <sub>T</sub>   | Total power dissipation   | T <sub>C</sub> =25□ | 35      | W    |
| T <sub>j</sub>   | Junction temperature      |                     | 150     | □    |
| T <sub>stg</sub> | Storage temperature       |                     | -65~200 | □    |

**THERMAL CHARACTERISTICS**

| SYMBOL              | PARAMETER                           | MAX | UNIT |
|---------------------|-------------------------------------|-----|------|
| R <sub>th j-c</sub> | Thermal resistance junction to case | 5.0 | □/W  |

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## CHARACTERISTICS

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

| SYMBOL                | PARAMETER                            | CONDITIONS   | MIN | TYP. | MAX       | UNIT |
|-----------------------|--------------------------------------|--|-----|------|-----------|------|
| V <sub>CEO(SUS)</sub> | Collector-emitter sustaining voltage | I <sub>C</sub> =0.2 A ; I <sub>B</sub> =0                                    | 90  |      |           | V    |
| V <sub>CEsat</sub>    | Collector-emitter saturation voltage | I <sub>C</sub> =3A; I <sub>B</sub> =0.3A                                     |     |      | 1.5       | V    |
| V <sub>BEsat</sub>    | Base -emitter saturation voltage     | I <sub>C</sub> =3A; I <sub>B</sub> =0.3A                                     |     |      | 2.5       | V    |
| I <sub>CEV</sub>      | Collector cut-off current            | V <sub>CE</sub> =110V; V <sub>BE(off)</sub> =-1.5V<br>T <sub>C</sub> =150 °C |     |      | 5.0<br>10 | mA   |
| I <sub>CEO</sub>      | Collector cut-off current            | V <sub>CE</sub> =70V; I <sub>B</sub> =0                                      |     |      | 5.0       | mA   |
| I <sub>EBO</sub>      | Emitter cut-off current              | V <sub>EB</sub> =7V; I <sub>C</sub> =0                                       |     |      | 25        | mA   |
| h <sub>FE</sub>       | DC current gain                      | I <sub>C</sub> =3A ; V <sub>CE</sub> =2V                                     | 15  |      | 60        |      |
| C <sub>OB</sub>       | Output capacitance                   | I <sub>E</sub> =0 ; V <sub>CB</sub> =10V; f=1MHz                             |     |      | 175       | pF   |

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PACKAGE OUTLINE

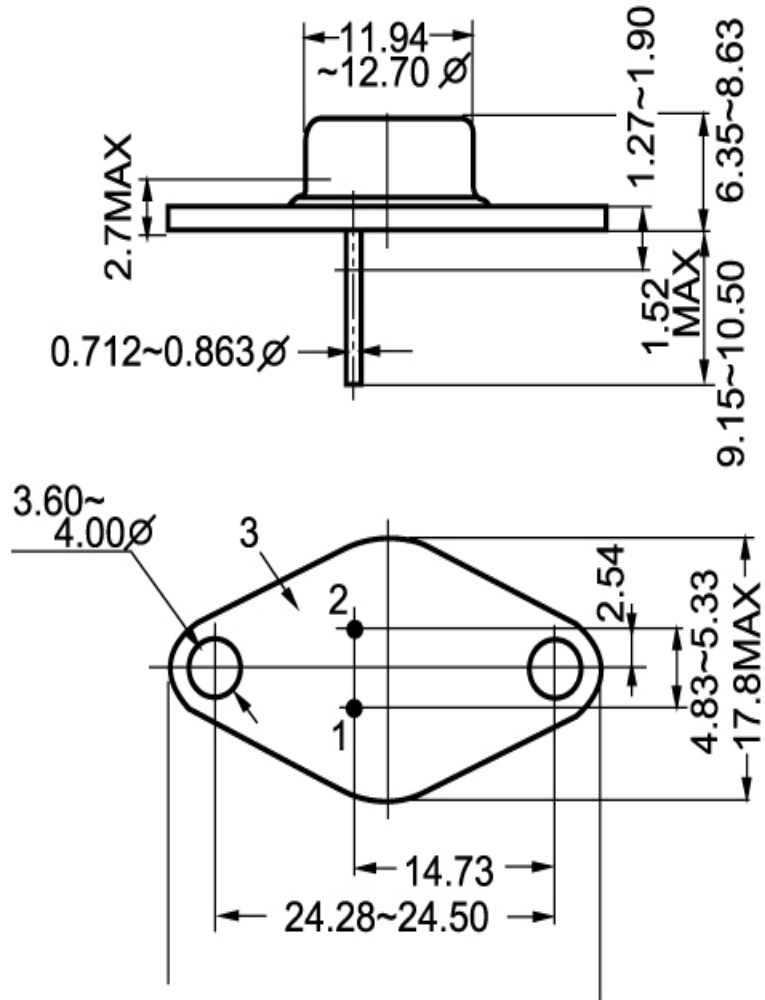


Fig.2 Outline dimensions