

Silicon NPN Power Transistors

BUH1015

**DESCRIPTION**

- With TO-3PN package.
- High voltage.
- High switching speed.

**APPLICATIONS**

- Horizontal deflection for colour TV and monitors.

**PINNING**

| PIN | DESCRIPTION                          |
|-----|--------------------------------------|
| 1   | Base                                 |
| 2   | Collector;connected to mounting base |
| 3   | Emitter                              |

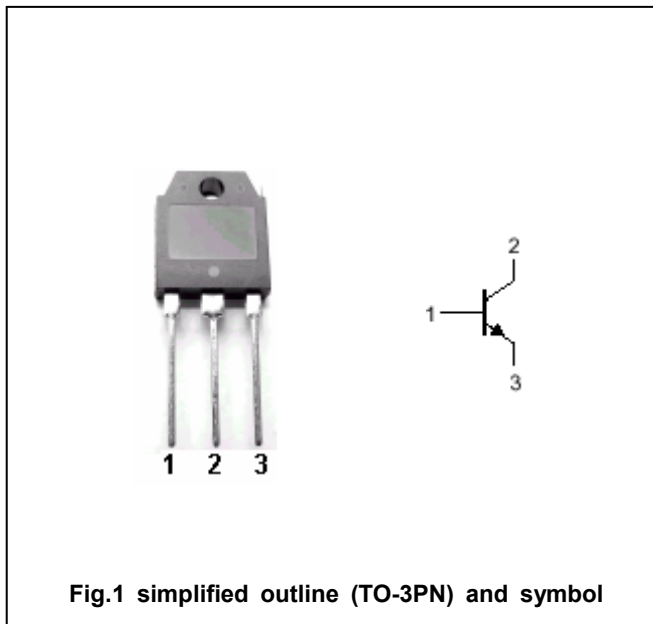


Fig.1 simplified outline (TO-3PN) and symbol

**Absolute maximum ratings (Ta=25°C)**

| SYMBOL    | PARAMETER                   | CONDITIONS       | VALUE   | UNIT |
|-----------|-----------------------------|------------------|---------|------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter     | 1500    | V    |
| $V_{CEO}$ | Collector-emitter voltage   | Open base        | 700     | V    |
| $V_{EBO}$ | Emitter-base voltage        | Open collector   | 10      | V    |
| $I_C$     | Collector current (DC)      |                  | 14      | A    |
| $I_{CM}$  | Collector current -peak     |                  | 18      | A    |
| $I_B$     | Base current                |                  | 8       | A    |
| $I_{BM}$  | Base current -peak          |                  | 11      | A    |
| $P_C$     | Collector power dissipation | $T_C=25^\circ C$ | 160     | W    |
| $T_j$     | Junction temperature        |                  | 150     | °C   |
| $T_{stg}$ | Storage temperature         |                  | -65~150 | °C   |

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## CHARACTERISTICS

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

| SYMBOL                | PARAMETER                            | CONDITIONS  | MIN | TYP. | MAX      | UNIT |
|-----------------------|--------------------------------------|---|-----|------|----------|------|
| V <sub>(BR)EBO</sub>  | Emitter-base breakdown voltage       | I <sub>E</sub> =10mA; I <sub>C</sub> =0                             | 10  |      |          | V    |
| V <sub>CEO(SUS)</sub> | Collector-emitter sustaining voltage | I <sub>C</sub> =100mA; I <sub>B</sub> =0                            | 700 |      |          | V    |
| V <sub>CEsat</sub>    | Collector-emitter saturation voltage | I <sub>C</sub> =10A; I <sub>B</sub> =2A                             |     |      | 1.5      | V    |
| V <sub>BEsat</sub>    | Base-emitter saturation voltage      | I <sub>C</sub> =10A; I <sub>B</sub> =2A                             |     |      | 1.5      | V    |
| I <sub>CES</sub>      | Collector cut-off current            | V <sub>CE</sub> =1500V; V <sub>BE</sub> =0<br>T <sub>j</sub> =125°C |     |      | 0.2<br>2 | mA   |
| I <sub>EBO</sub>      | Emitter cut-off current              | V <sub>EB</sub> =5V; I <sub>C</sub> =0                              |     |      | 0.1      | mA   |
| h <sub>FE</sub>       | DC current gain                      | I <sub>C</sub> =10A; V <sub>CE</sub> =5V                            | 7   | 10   | 14       |      |

## Switching times

|                |              |  |  |     |  |    |
|----------------|--------------|--|--|-----|--|----|
| t <sub>s</sub> | Storage time | I <sub>C</sub> =10A; I <sub>B1</sub> =2A; I <sub>B2</sub> =-6A;<br>V <sub>CC</sub> =400V |  | 1.5 |  | μs |
| t <sub>f</sub> | Fall time    |  |  | 110 |  | ns |

## THERMAL CHARACTERISTICS

| SYMBOL                 | PARAMETER                        | MAX  | UNIT |
|------------------------|----------------------------------|------|------|
| R <sub>th j-case</sub> | Thermal resistance junction case | 0.78 | °C/W |

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PACKAGE OUTLINE

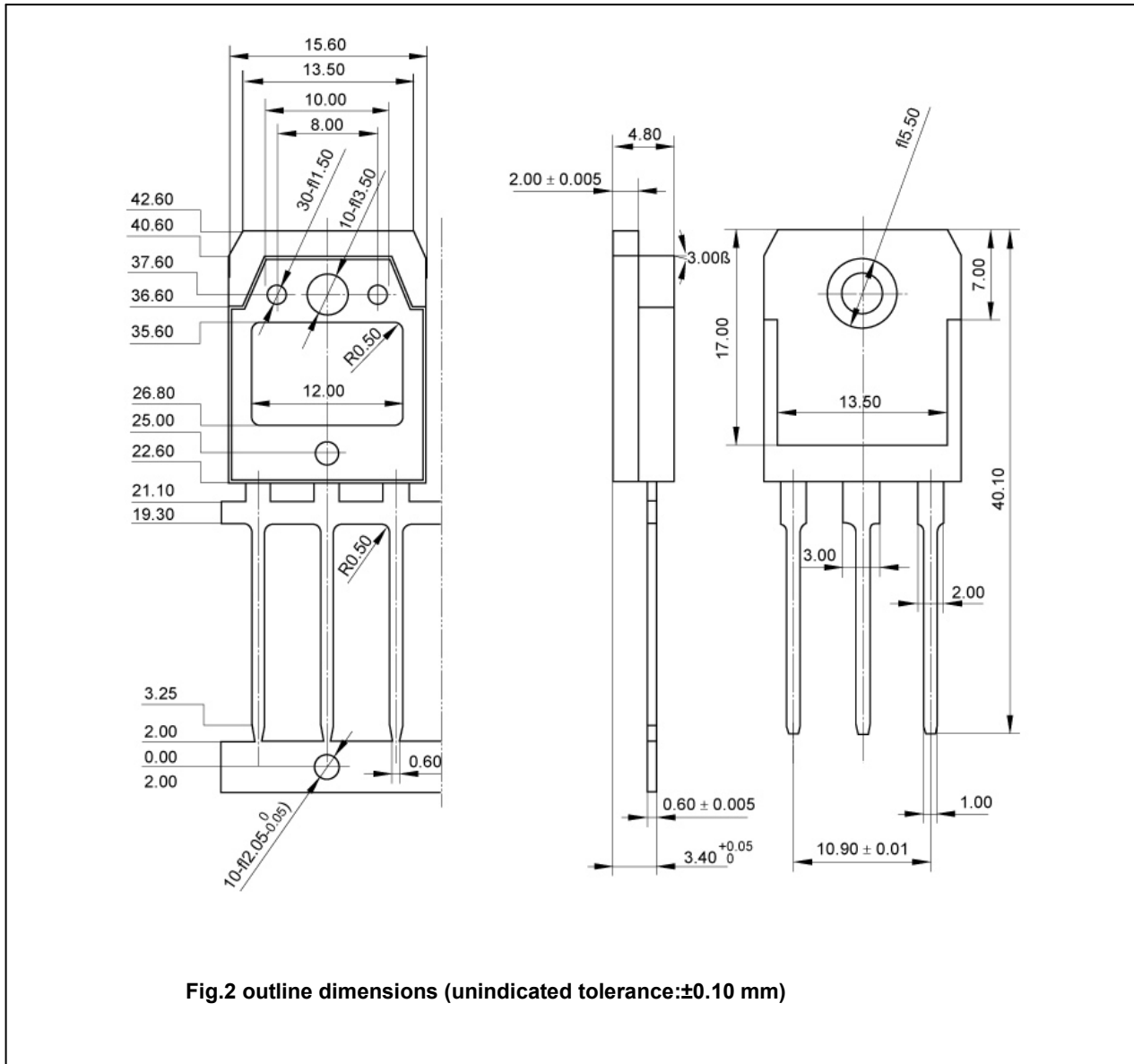


Fig.2 outline dimensions (unindicated tolerance:±0.10 mm)