

Silicon NPN Power Transistors

BU2508DF

DESCRIPTION

- With TO-3PFa package
- High voltage,high speed
- Built-in damper diode

APPLICATIONS

- For use in horizontal deflection circuits of colour TV

PINNING

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

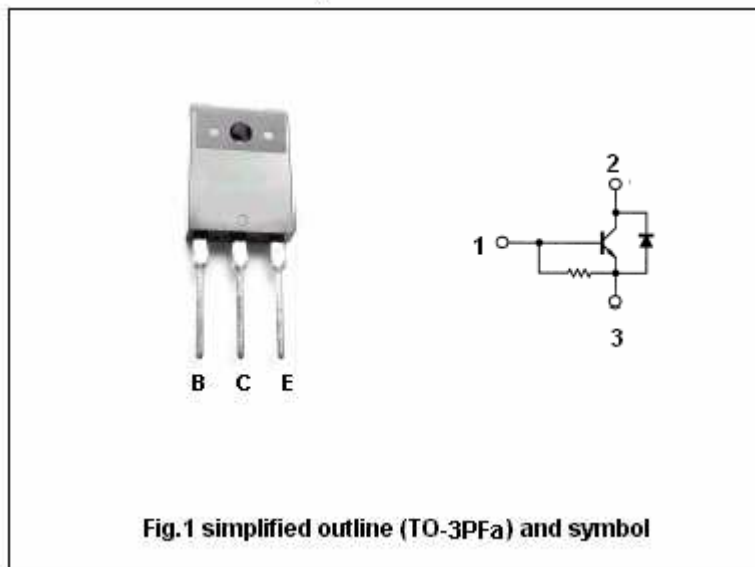


Fig.1 simplified outline (TO-3PFa) and symbol

Absolute maximum ratings(Ta=25°C)

| SYMBOL           | PARAMETER                   | CONDITIONS           | VALUE   | UNIT |
|------------------|-----------------------------|----------------------|---------|------|
| V <sub>CBO</sub> | Collector-base voltage      | Open emitter         | 1200    | V    |
| V <sub>CEO</sub> | Collector-emitter voltage   | Open base            | 700     | V    |
| I <sub>C</sub>   | Collector current (DC)      |                      | 8       | A    |
| I <sub>CM</sub>  | Collector current (Pulse)   |                      | 15      | A    |
| I <sub>B</sub>   | Base Collector current (DC) |                      | 4       | A    |
| I <sub>BM</sub>  | Base current (Pulse)        |                      | 6       | A    |
| P <sub>tot</sub> | Total power dissipation     | T <sub>C</sub> =25°C | 45      | W    |
| T <sub>j</sub>   | Junction temperature        |                      | 150     | °C   |
| T <sub>stg</sub> | 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>CEO(SUS)</sub> | Collector-emitter sustaining voltage | I <sub>C</sub> =100mA ; I <sub>B</sub> =0, L=25mH                                | 700 |      |            | V    |
| V <sub>EBO</sub>      | Emitter-base breakdown voltage       | I <sub>E</sub> =600mA ; I <sub>C</sub> =0  | 7.5 | 13.5 |            | V    |
| V <sub>CEsat</sub>    | Collector-emitter saturation voltage | I <sub>C</sub> =4.5A ; I <sub>B</sub> =1.12A                                     |     |      | 1.0        | V    |
| V <sub>BEsat</sub>    | Base-emitter saturation voltage      | I <sub>C</sub> =4.5A ; I <sub>B</sub> =1.7A                                      |     |      | 1.1        | V    |
| I <sub>CES</sub>      | Collector cut-off current            | V <sub>CE</sub> =BV <sub>CES</sub> ; V <sub>BE</sub> =0<br>T <sub>j</sub> =125°C |     |      | 1.0<br>2.0 | mA   |
| I <sub>EBO</sub>      | Emitter cut-off current              | V <sub>EB</sub> =7.5V; I <sub>C</sub> =0   |     | 227  |            | mA   |
| h <sub>FE-1</sub>     | DC current gain                      | I <sub>C</sub> =1A ; V <sub>CE</sub> =5V   |     | 13   |            |      |
| h <sub>FE-2</sub>     | DC current gain                      | I <sub>C</sub> =4.5A ; V <sub>CE</sub> =1V                                       | 4   | 5.5  | 7.0        |      |
| V <sub>F</sub>        | Diode forward voltage                | I <sub>F</sub> =4.5A   |     | 1.6  | 2.0        | V    |
| C <sub>C</sub>        | Collector capacitance                | I <sub>E</sub> =0; f=1MHz; V <sub>CB</sub> =10V                                  |     | 80   |            | pF   |

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PACKAGE OUTLINE



Fig.2 Outline dimensions (unindicated tolerance:±0.30mm)