

Silicon NPN Power Transistors

2SD1290

DESCRIPTION

- With TO-3PN package
- Built-in damper diode
- High voltage ,high reliability
- Wide area of safe operation

APPLICATIONS

- For color TV horizontal deflection output applications

PINNING

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

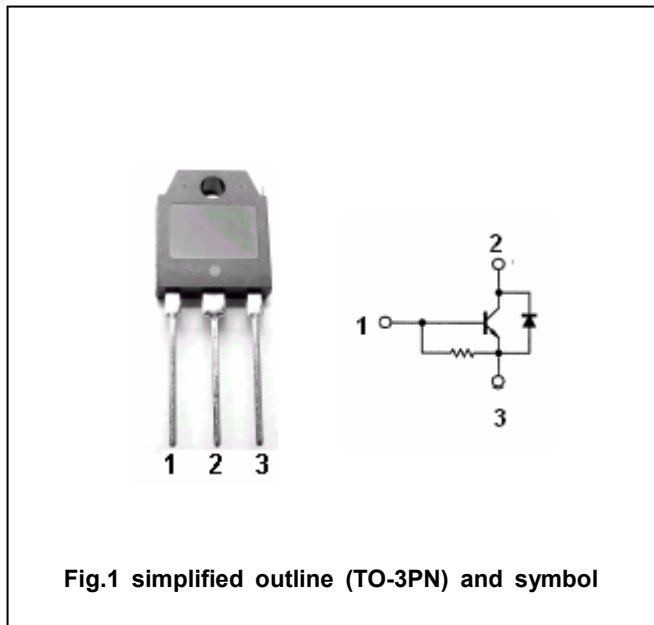


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings (Ta=25°C)

| SYMBOL           | PARAMETER                   | CONDITIONS           | VALUE   | UNIT |
|------------------|-----------------------------|----------------------|---------|------|
| V <sub>CBO</sub> | Collector-base voltage      | Open emitter         | 1500    | V    |
| V <sub>EBO</sub> | Emitter-base voltage        | Open collector       | 5       | V    |
| I <sub>C</sub>   | Collector current (DC)      |                      | 3       | A    |
| I <sub>CM</sub>  | Collector current (Pulse)   |                      | 10      | A    |
| P <sub>C</sub>   | Collector power dissipation | T <sub>C</sub> =25°C | 50      | W    |
| T <sub>j</sub>   | Junction temperature        |                      | 130     | °C   |
| T <sub>stg</sub> | Storage temperature         |                      | -55~130 | °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> =500mA; I <sub>C</sub> =0                            | 5   |      |     | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =2A; I <sub>B</sub> =0.75A                           |     |      | 5.0 | V    |
| V <sub>BEsat</sub>   | Base-emitter saturation voltage      | I <sub>C</sub> =2A; I <sub>B</sub> =0.75A                           |     |      | 1.5 | V    |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =750V; I <sub>E</sub> =0                            |     |      | 50  | μA   |
|                      |                                      | V <sub>CB</sub> =1500V; I <sub>E</sub> =0                           |     |      | 1   | mA   |
| h <sub>FE</sub>      | DC current gain                      | I <sub>C</sub> =2A; V <sub>CE</sub> =10V                            | 3   |      | 8   |      |
| t <sub>s</sub>       | Storage time                         | I <sub>C</sub> =2A<br>I <sub>Leak</sub> =0.75A, L <sub>B</sub> =5μH | 3   |      | 7   | μs   |
| t <sub>f</sub>       | Fall time                            |   |     |      | 1   | μs   |
| V <sub>F</sub>       | Diode forward voltage                | I <sub>F</sub> =-4A, I <sub>B</sub> =0                              |     |      | 2.2 | V    |

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PACKAGE OUTLINE

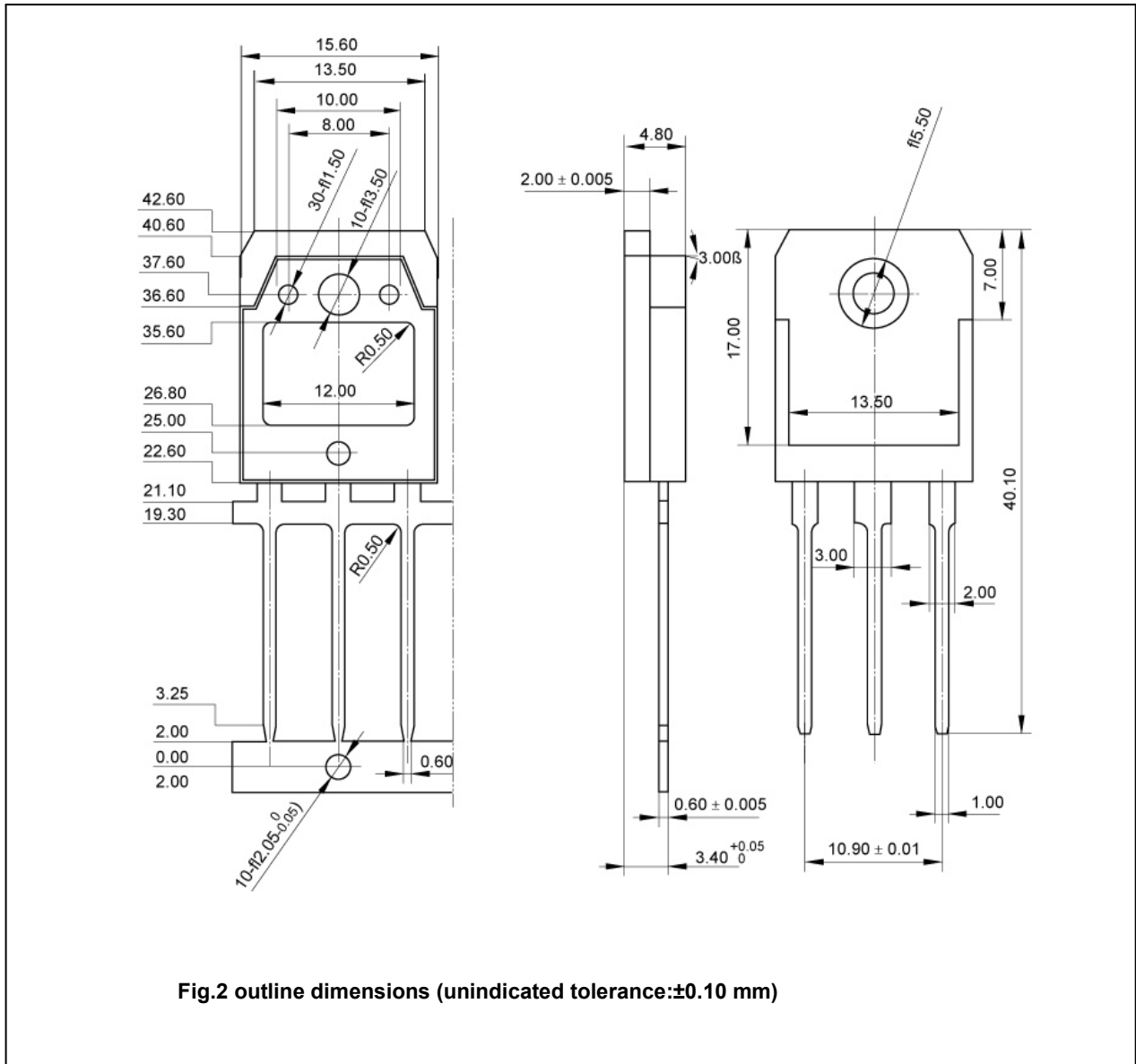


Fig.2 outline dimensions (unindicated tolerance:±0.10 mm)