

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                              |

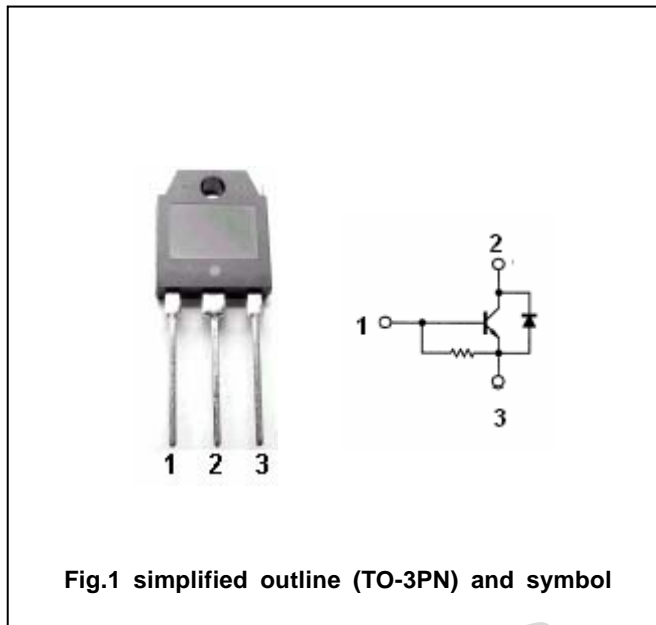


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings (Ta=25 )

| SYMBOL    | PARAMETER                   | CONDITIONS     | VALUE   | UNIT |
|-----------|-----------------------------|----------------|---------|------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter   | 1500    | V    |
| $V_{EBO}$ | Emitter-base voltage        | Open collector | 5       | V    |
| $I_C$     | Collector current (DC)      |                | 3       | A    |
| $I_{CM}$  | Collector current (Pulse)   |                | 10      | A    |
| $P_C$     | Collector power dissipation | $T_C=25$       | 50      | W    |
| $T_j$     | Junction temperature        |                | 130     |      |
| $T_{stg}$ | Storage temperature         |                | -55~130 |      |

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## CHARACTERISTICS

T<sub>j</sub>=25 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> =5 μH | 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

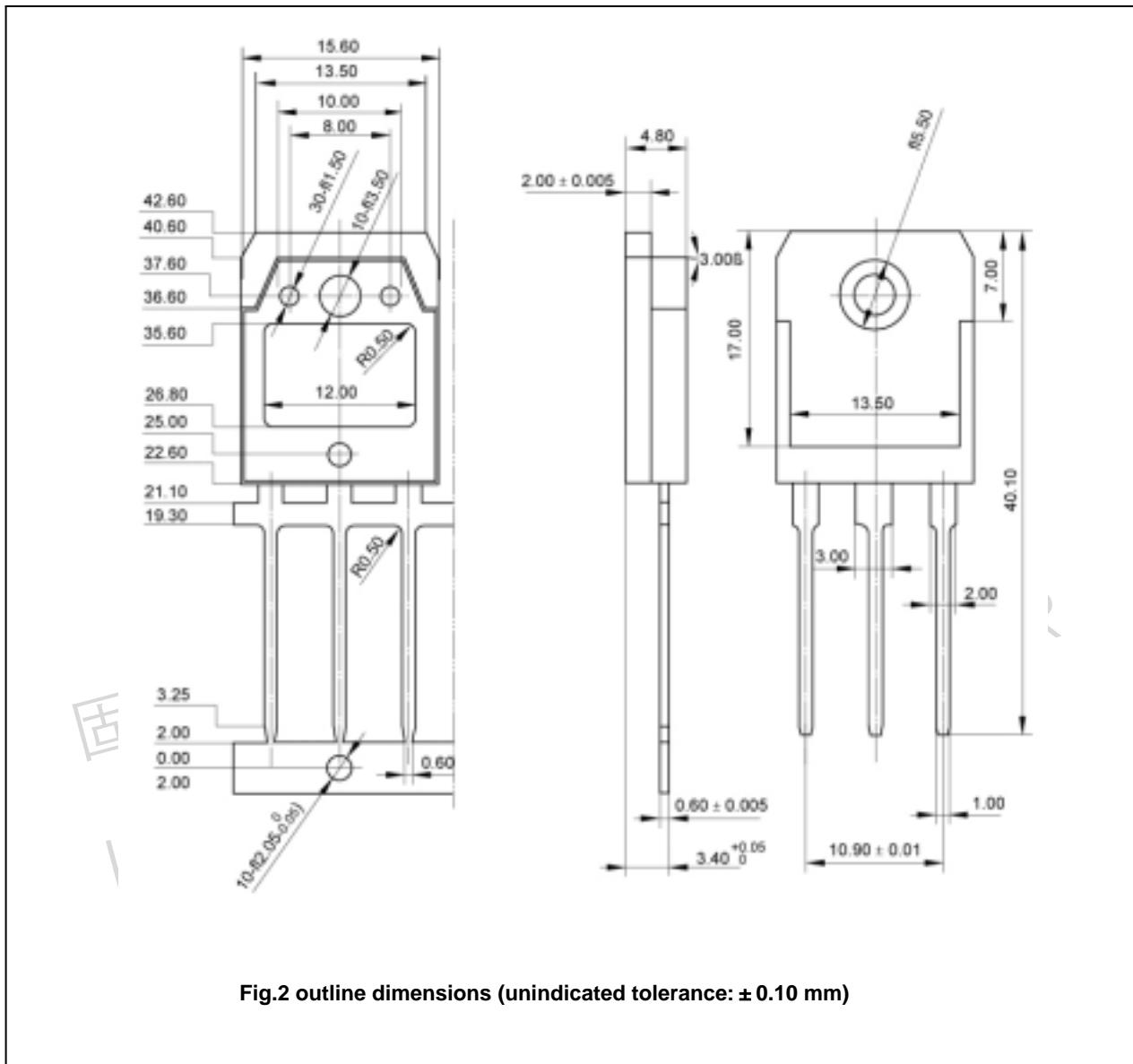


Fig.2 outline dimensions (unindicated tolerance:  $\pm 0.10$  mm)