

## Silicon PNP Power Transistors

2SA1491

**DESCRIPTION**

- With TO-3PN package
- Complement to type 2SC3855

**APPLICATIONS**

- Audio and general purpose

**PINNING**

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

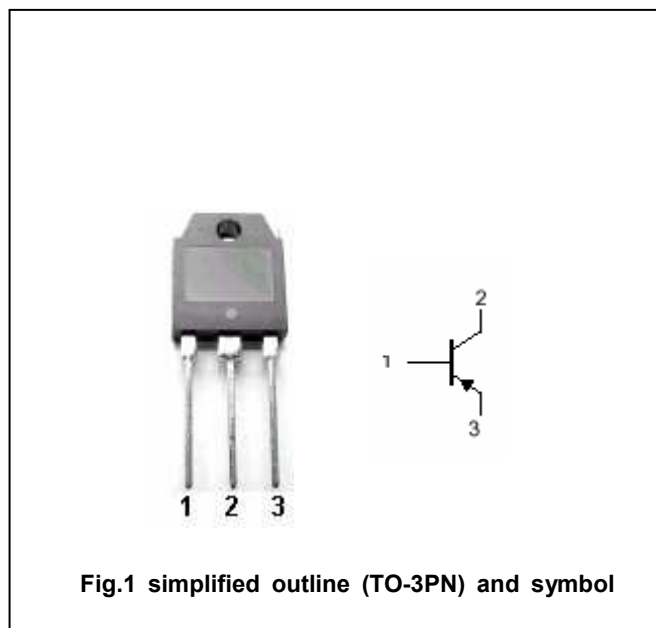


Fig.1 simplified outline (TO-3PN) and symbol

**Absolute maximum ratings(Ta=□)**

| SYMBOL    | PARAMETER                   | CONDITIONS     | VALUE   | UNIT |
|-----------|-----------------------------|----------------|---------|------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter   | -140    | V    |
| $V_{CEO}$ | Collector-emitter voltage   | Open base      | -140    | V    |
| $V_{EBO}$ | Emitter-base voltage        | Open collector | -6      | V    |
| $I_C$     | Collector current           |                | -10     | A    |
| $I_B$     | Base current                |                | -4      | A    |
| $P_C$     | Collector power dissipation | $T_C=25^\circ$ | 100     | W    |
| $T_j$     | Junction temperature        |                | 150     | □    |
| $T_{stg}$ | Storage temperature         |                | -55~150 | □    |

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## CHARACTERISTICS

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

| SYMBOL               | PARAMETER                            | CONDITIONS                                   | MIN  | TYP. | MAX  | UNIT |
|----------------------|--------------------------------------|--|------|------|------|------|
| V <sub>(BR)CEO</sub> | Collector-emitter breakdown voltage  | I <sub>C</sub> =-50mA ; I <sub>B</sub> =0    | -140 |      |      | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =-5A; I <sub>B</sub> =-0.5A   |      |      | -2.0 | V    |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =-140V; I <sub>E</sub> =0    |      |      | -100 | μA   |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =-6V; I <sub>C</sub> =0      |      |      | -100 | μA   |
| h <sub>FE</sub>      | DC current gain                      | I <sub>C</sub> =-3A ; V <sub>CE</sub> =-4V   | 50   |      |      |      |
| f <sub>T</sub>       | Transition frequency                 | I <sub>C</sub> =0.5A ; V <sub>CE</sub> =-12V |      | 20   |      | MHz  |

## Switching times

|                 |              |   |  |      |  |    |
|-----------------|--------------|---|--|------|--|----|
| t <sub>on</sub> | Turn-on time | I <sub>C</sub> =-5A; R <sub>L</sub> =12Ω<br>I <sub>B1</sub> =- I <sub>B2</sub> =-0.5A<br>V <sub>CC</sub> =60V |  | 0.30 |  | μs |
| t <sub>s</sub>  | Storage time |   |  | 0.90 |  | μs |
| t <sub>f</sub>  | Fall time    |   |  | 0.20 |  | μs |

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PACKAGE OUTLINE

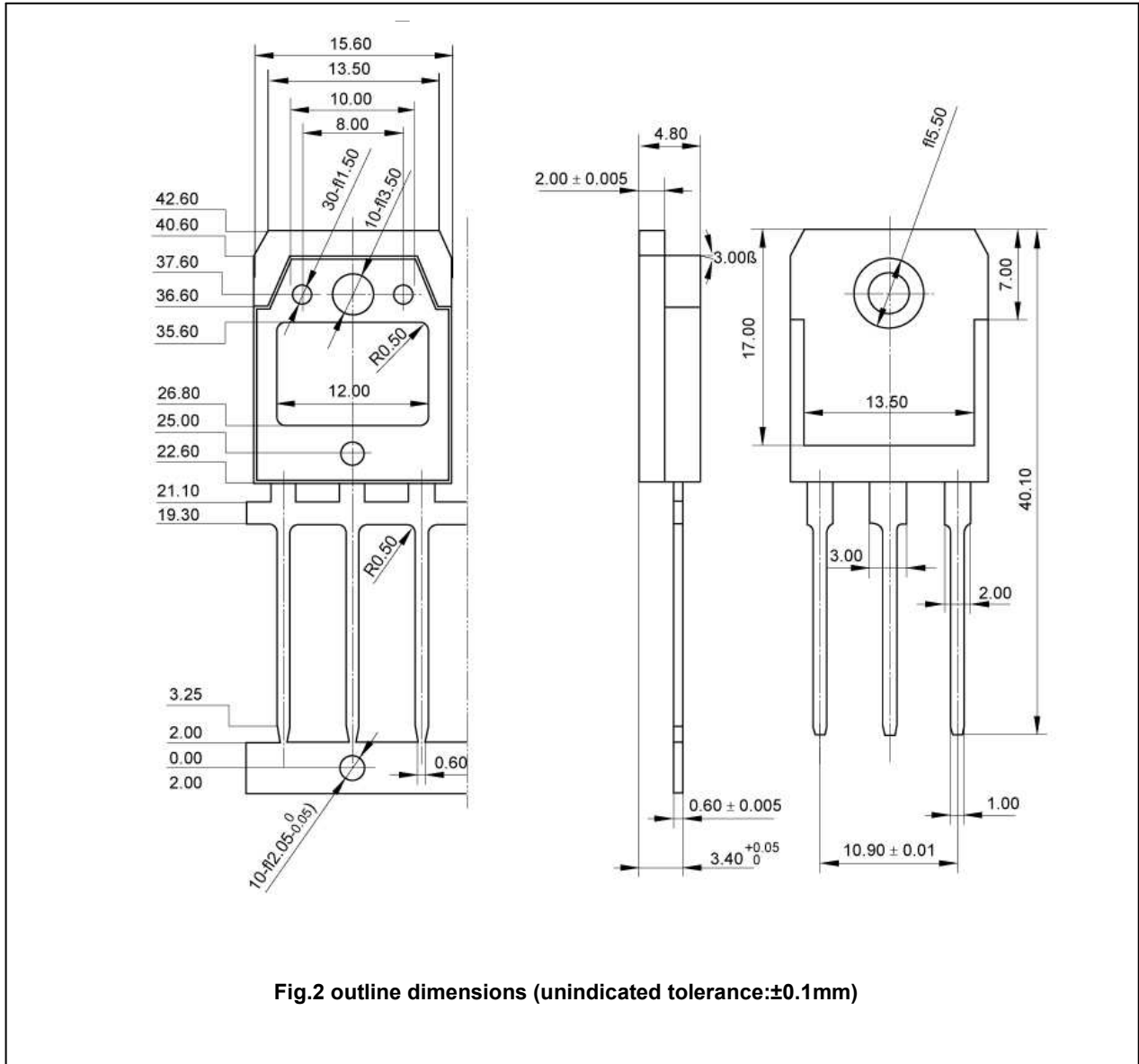


Fig.2 outline dimensions (unindicated tolerance:  $\pm 0.1$ mm)

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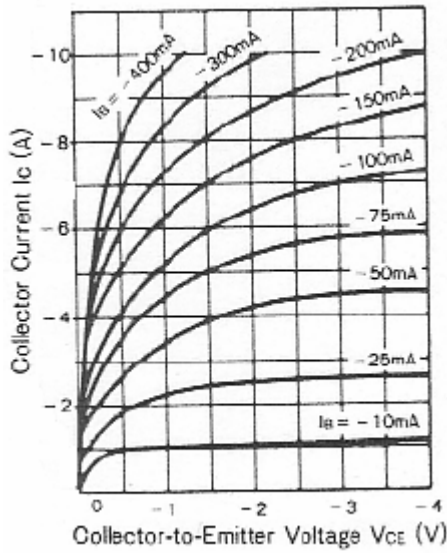


Fig.3 Static Characteristic

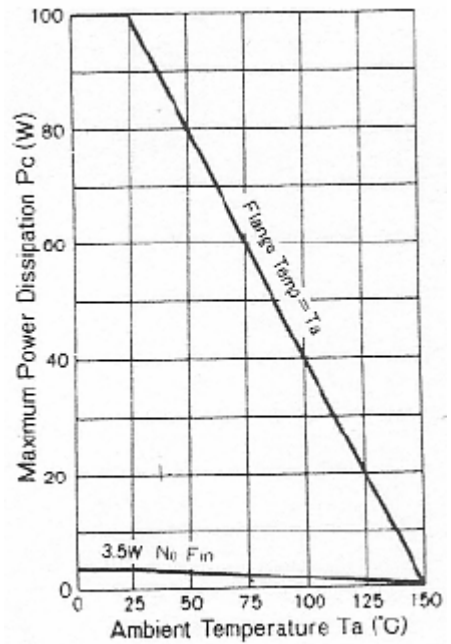


Fig.4 Power Derating

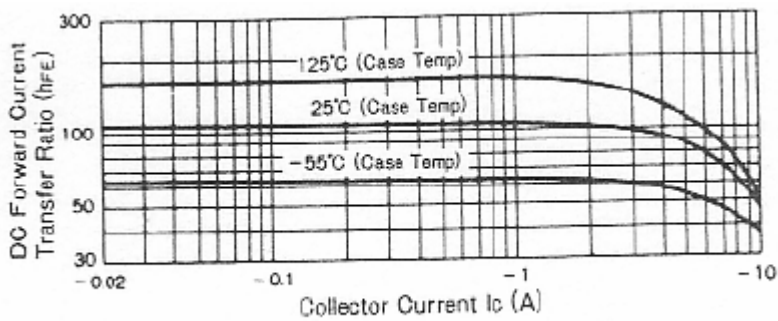


Fig.5 DC current Gain

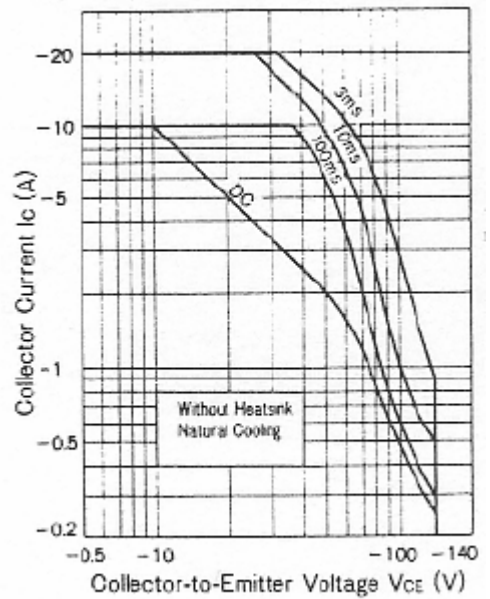


Fig.6 Safe Operating Area