

Silicon PNP Power Transistors

2SB1056

DESCRIPTION

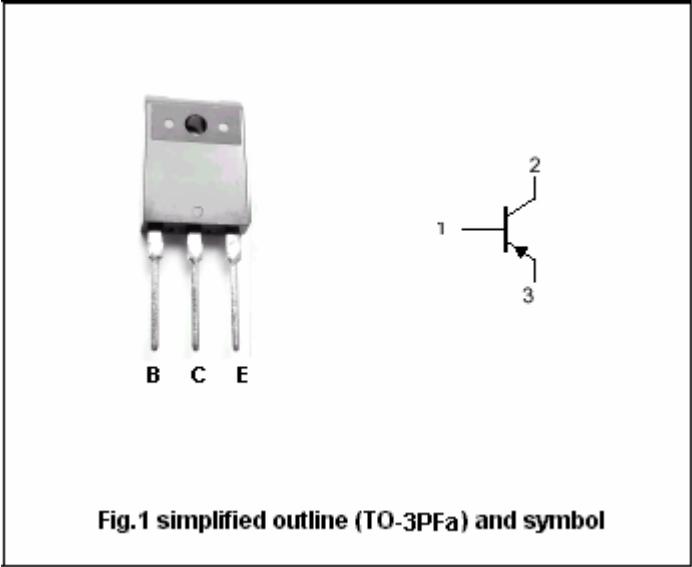
- With TO-3PFa package
- Complement to type 2SD1487
- High  $f_T$
- Satisfactory linearity of  $h_{FE}$
- Wide area of safe operation

APPLICATIONS

- For high power amplifier applications

PINNING

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



Absolute maximum ratings( $T_a=25\text{ }^{\circ}\text{C}$ )

| 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 | -5      | V    |
| $I_C$     | Collector current           |                | -7      | A    |
| $I_{CP}$  | Collector current-peak      |                | -12     | A    |
| $P_C$     | Collector power dissipation | $T_C=25$       | 80      | W    |
|           |                             |                | 3       |      |
| $T_j$     | Junction temperature        |                | 150     |      |
| $T_{stg}$ | Storage temperature         |                | -55~150 |      |

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## CHARACTERISTICS

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

| SYMBOL             | PARAMETER                            | CONDITIONS                                        | MIN | TYP. | MAX  | UNIT |
|--------------------|--------------------------------------|---------------------------------------------------|-----|------|------|------|
| V <sub>CEsat</sub> | Collector-emitter saturation voltage | I <sub>C</sub> =-5A ; I <sub>B</sub> =-0.5A       |     |      | -2.0 | V    |
| V <sub>BE</sub>    | Base-emitter on voltage              | I <sub>C</sub> =-5A ; V <sub>CE</sub> =-5V        |     |      | -1.8 | V    |
| I <sub>CBO</sub>   | Collector cut-off current            | V <sub>CB</sub> =-140V; I <sub>E</sub> =0         |     |      | -50  | μ A  |
| I <sub>EBO</sub>   | Emitter cut-off current              | V <sub>EB</sub> =-3V; I <sub>C</sub> =0           |     |      | -50  | μ A  |
| h <sub>FE-1</sub>  | DC current gain                      | I <sub>C</sub> =-20mA ; V <sub>CE</sub> =-5V      | 20  |      |      |      |
| h <sub>FE-2</sub>  | DC current gain                      | I <sub>C</sub> =-1A ; V <sub>CE</sub> =-5V        | 40  |      | 200  |      |
| h <sub>FE-3</sub>  | DC current gain                      | I <sub>C</sub> =-5A ; V <sub>CE</sub> =-5V        | 20  |      |      |      |
| C <sub>OB</sub>    | Output capacitance                   | I <sub>E</sub> =0 ; V <sub>CB</sub> =-10V; f=1MHz |     | 330  |      | pF   |
| f <sub>T</sub>     | Transition frequency                 | I <sub>C</sub> =-0.5A ; V <sub>CE</sub> =-5V      |     | 20   |      | MHz  |

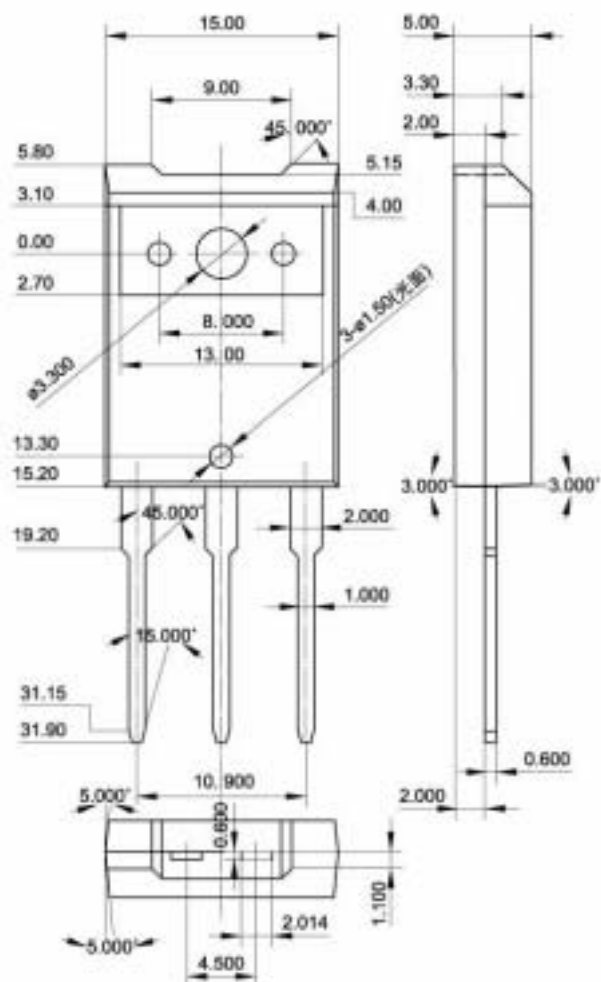
◆ h<sub>FE-2</sub> classifications

| R     | Q      | P       |
|-------|--------|---------|
| 40-80 | 60-120 | 100-200 |

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## PACKAGE OUTLINE

Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.30\text{mm}$ )