

Silicon PNP Power Transistors

2SB1187

DESCRIPTION

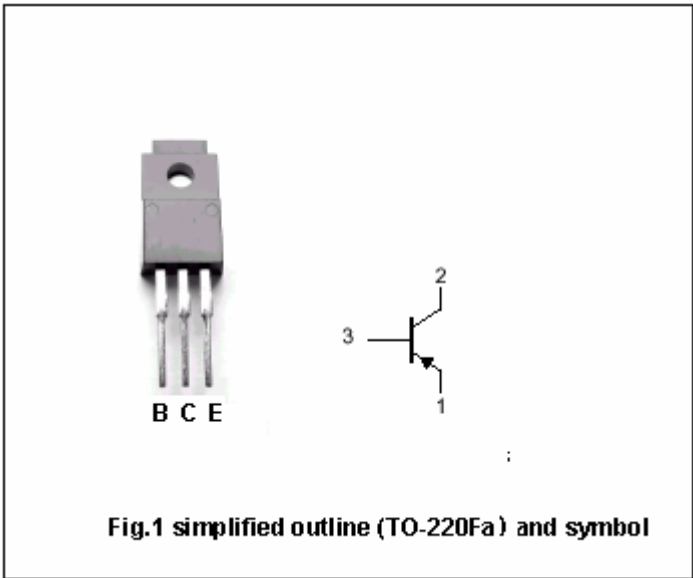
- With TO-220Fa package
- Low saturation voltage
- Complement to type 2SD1761
- Excellent DC current gain characteristics
- Wide safe operating area

APPLICATIONS

- For low frequency power amplifier applications

PINNING

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



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

| SYMBOL    | PARAMETER                   | CONDITIONS     | VALUE   | UNIT |
|-----------|-----------------------------|----------------|---------|------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter   | -80     | V    |
| $V_{CEO}$ | Collector-emitter voltage   | Open base      | -60     | V    |
| $V_{EBO}$ | Emitter-base voltage        | Open collector | -5      | V    |
| $I_C$     | Collector current (DC)      |                | -3      | A    |
| $I_{CM}$  | Collector current-Peak      |                | -6      | A    |
| $P_C$     | Collector power dissipation | $T_C=25$       | 30      | W    |
|           |                             | $T_a=25$       | 2       |      |
| $T_j$     | Junction temperature        |                | 150     |      |
| $T_{stg}$ | Storage temperature         |                | -55~150 |      |

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## CHARACTERISTICS

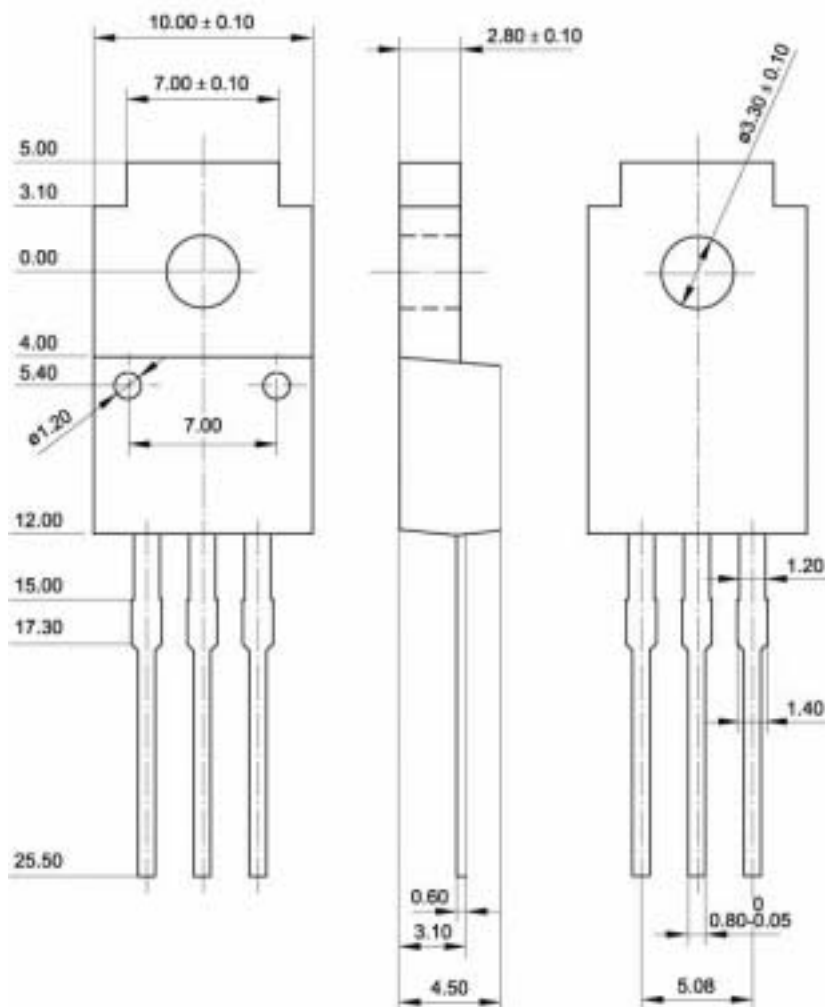
T<sub>j</sub>=25 unless otherwise specified

| SYMBOL               | PARAMETER                            | CONDITIONS                                       | MIN | TYP. | MAX  | UNIT |
|----------------------|--------------------------------------|--------------------------------------------------|-----|------|------|------|
| V <sub>(BR)CEO</sub> | Collector-emitter breakdown voltage  | I <sub>C</sub> =-1mA, I <sub>B</sub> =0          | -60 |      |      | V    |
| V <sub>(BR)CBO</sub> | Collector-base breakdown voltage     | I <sub>C</sub> =-50 μA, I <sub>E</sub> =0        | -80 |      |      | V    |
| V <sub>(BR)EBO</sub> | Emitter-base breakdown voltage       | I <sub>E</sub> =-50 μA, I <sub>C</sub> =0        | -5  |      |      | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =-2A, I <sub>B</sub> =-0.2A       |     |      | -1.0 | V    |
| V <sub>BEsat</sub>   | Base-emitter saturation voltage      | I <sub>C</sub> =-2A, I <sub>B</sub> =-0.2A       |     |      | -1.5 | V    |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =-60V, I <sub>E</sub> =0         |     |      | -10  | μA   |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =-4V, I <sub>C</sub> =0          |     |      | -10  | μA   |
| h <sub>FE</sub>      | DC current gain                      | I <sub>C</sub> =-0.5A, V <sub>CE</sub> =-5V      | 60  |      | 320  |      |
| f <sub>T</sub>       | Transition frequency                 | I <sub>C</sub> =-0.5A, V <sub>CE</sub> =-5V      |     | 12   |      | MHz  |
| C <sub>ob</sub>      | Output capacitance                   | I <sub>E</sub> =0, V <sub>CB</sub> =-10V, f=1MHz |     | 100  |      | pF   |

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## PACKAGE OUTLINE

Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.15$  mm)