

**Silicon PNP Power Transistors**

**2SB857 2SB858**

**DESCRIPTION**

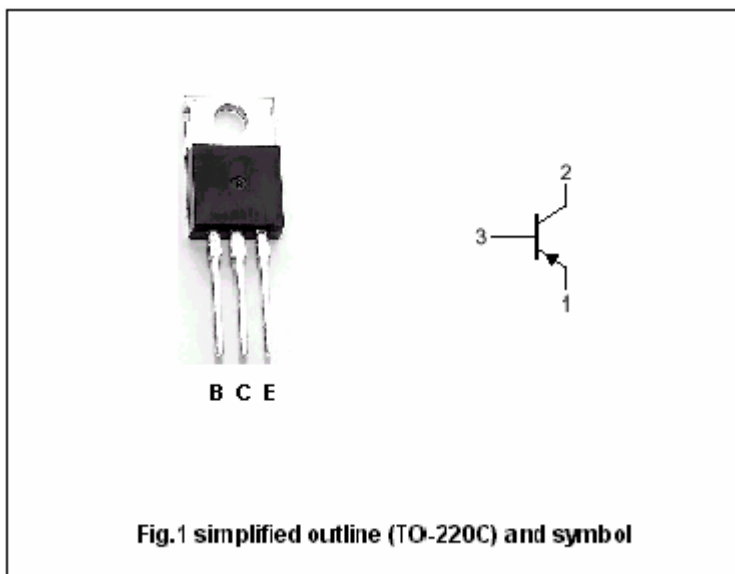
- With TO-220C package
- Complement to type 2SD1133/1134

**APPLICATIONS**

- Low frequency power amplifier

**PINNING**

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



**Absolute maximum ratings(Tc=25°C)**

| SYMBOL           | PARAMETER                   | CONDITIONS           | VALUE   | UNIT |
|------------------|-----------------------------|----------------------|---------|------|
| V <sub>CBO</sub> | Collector-base voltage      | Open emitter         | -70     | V    |
| V <sub>CEO</sub> | Collector-emitter voltage   | 2SB857               | -50     | V    |
|                  |                             | 2SB858               | -60     |      |
| V <sub>EBO</sub> | Emitter-base voltage        | Open collector       | -5      | V    |
| I <sub>C</sub>   | Collector current           |                      | -4      | A    |
| I <sub>CP</sub>  | Collector current-peak      |                      | -8      | A    |
| P <sub>C</sub>   | Collector power dissipation | T <sub>C</sub> =25°C | 40      | W    |
| T <sub>j</sub>   | Junction temperature        |                      | 150     | °C   |
| T <sub>stg</sub> | Storage temperature         |                      | -45~150 | °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)CEO</sub> | Collector-emitter breakdown voltage  | 2SB857                                       | -50 |      |      | V    |
|                      |                                      | 2SB858                                       | -60 |      |      |      |
| V <sub>(BR)CBO</sub> | Collector-base breakdown voltage     | I <sub>C</sub> =-50mA; R <sub>BE</sub> =∞    | -70 |      |      | V    |
| V <sub>(BR)EBO</sub> | Emitter-base breakdown voltage       | I <sub>E</sub> =-10μA; I <sub>C</sub> =0     | -5  |      |      | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =-2 A; I <sub>B</sub> =-0.2 A |     |      | -1.0 | V    |
| V <sub>BE</sub>      | Base-emitter voltage                 | I <sub>C</sub> =-1 A; V <sub>CE</sub> =-4V   |     |      | -1.0 | V    |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =-50V; I <sub>E</sub> =0     |     |      | -1   | μA   |
| h <sub>FE-1</sub>    | DC current gain                      | I <sub>C</sub> =-1 A; V <sub>CE</sub> =-4V   | 60  |      | 320  |      |
| h <sub>FE-2</sub>    | DC current gain                      | I <sub>C</sub> =-0.1 A; V <sub>CE</sub> =-4V | 35  |      |      |      |
| f <sub>T</sub>       | Transition frequency                 | I <sub>C</sub> =-0.5 A; V <sub>CE</sub> =-4V |     | 15   |      | MHz  |

◆ h<sub>FE-1</sub> classifications

| B      | C       | D       |
|--------|---------|---------|
| 60-120 | 100-200 | 160-320 |

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PACKAGE OUTLINE

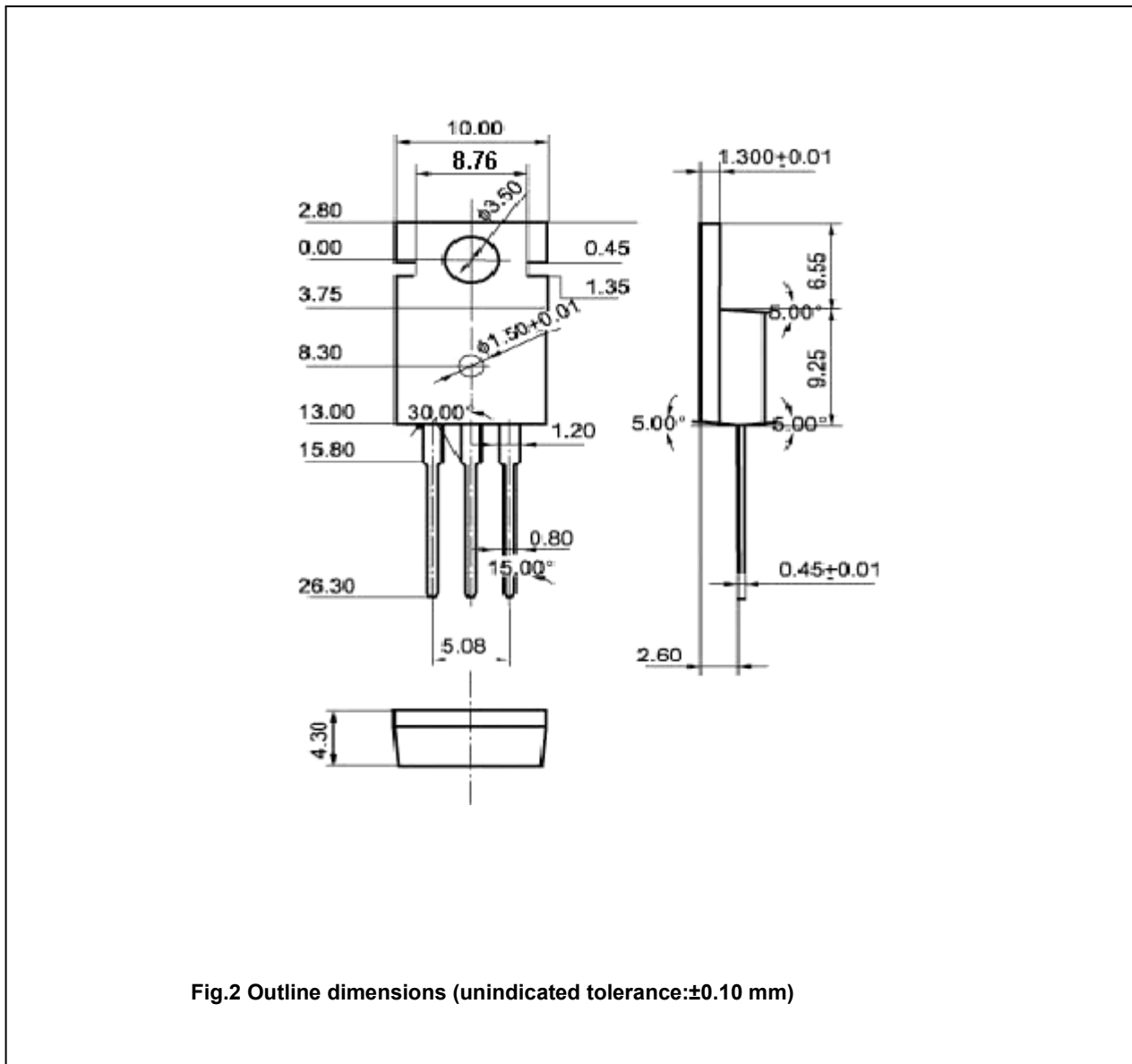


Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)

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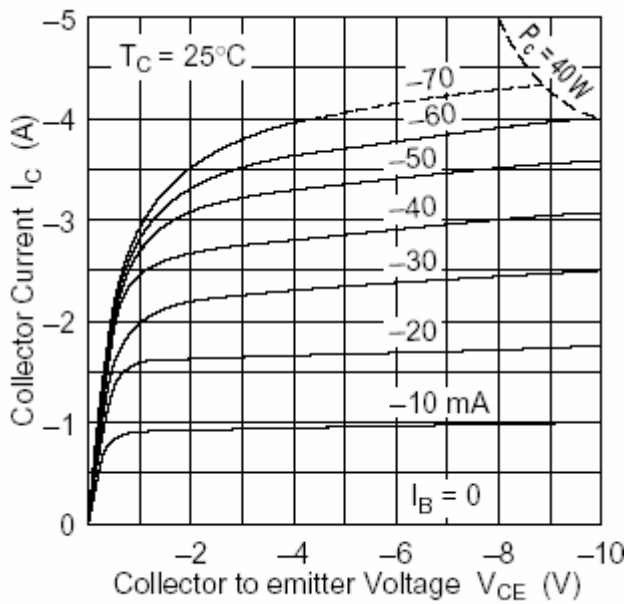


Fig.3 Static Characteristic

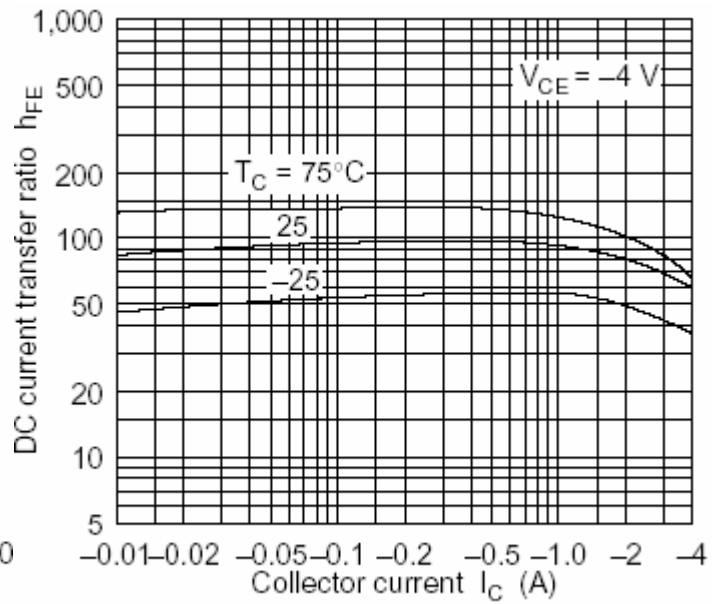


Fig.4 DC current Gain

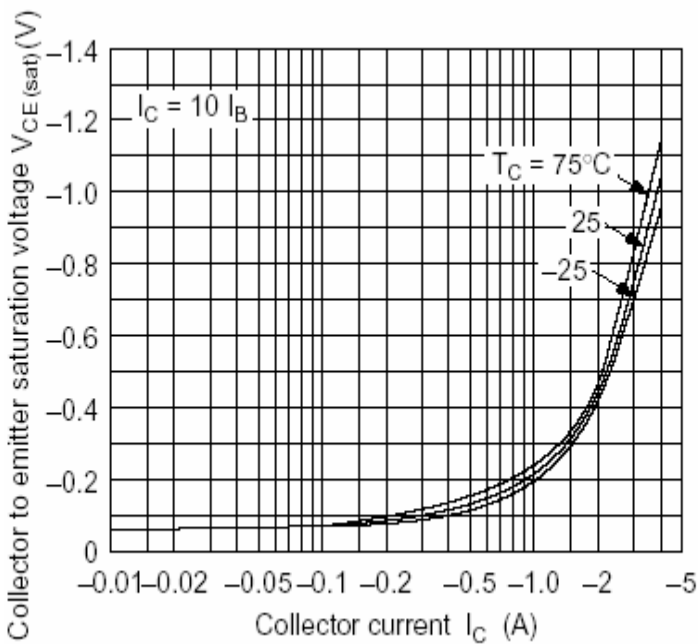


Fig.5 Collector-Emitter Saturation Voltage

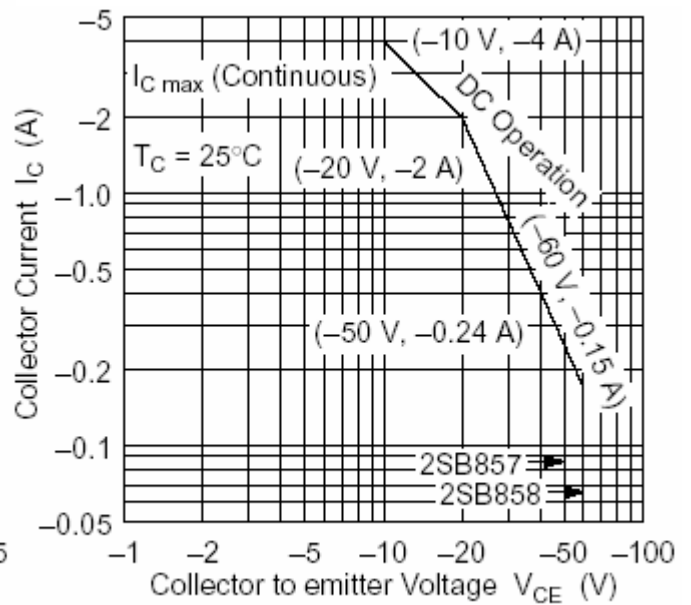


Fig.6 Safe Operating Area