

Silicon NPN Power Transistors

2SD1585

**DESCRIPTION**

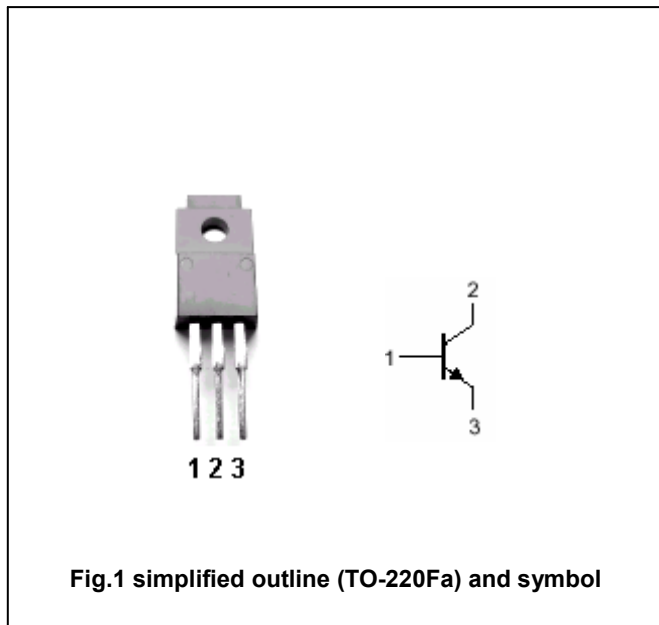
- With TO-220Fa package
- $V_{CEO} \geq 60V; V_{EBO} \geq 7V; I_{C(DC)} \leq 3.0A$
- Complement to type 2SB1094

**APPLICATIONS**

- For use in audio frequency power amplifier and general purpose applications

**PINNING**

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



**Absolute maximum ratings(Ta=25°C)**

| SYMBOL    | PARAMETER                   | CONDITIONS       | VALUE   | UNIT |
|-----------|-----------------------------|------------------|---------|------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter     | 60      | V    |
| $V_{CEO}$ | Collector -emitter voltage  | Open base        | 60      | V    |
| $V_{EBO}$ | Emitter-base voltage        | Open collector   | 7       | V    |
| $I_C$     | Collector current           |                  | 3       | A    |
| $I_{CM}$  | Collector current-Peak      |                  | 5       | A    |
| $I_B$     | Base current                |                  | 0.6     | A    |
| $P_C$     | Collector power dissipation | $T_a=25^\circ C$ | 2.0     | W    |
|           |                             | $T_C=25^\circ C$ | 15      |      |
| $T_j$     | Junction temperature        |                  | 150     | °C   |
| $T_{stg}$ | Storage temperature         |                  | -55~150 | °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  | I <sub>C</sub> =30mA; I <sub>B</sub> =0   | 60  |      |     | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =2A; I <sub>B</sub> =0.2A  |     |      | 1.5 | V    |
| V <sub>BEsat</sub>   | Base-emitter saturation voltage      | I <sub>C</sub> =2A; I <sub>B</sub> =0.2A  |     |      | 2.0 | 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> =7V; I <sub>C</sub> =0    |     |      | 10  | μA   |
| h <sub>FE-1</sub>    | DC current gain                      | I <sub>C</sub> =50mA; V <sub>CE</sub> =5V | 20  |      |     |      |
| h <sub>FE-2</sub>    | DC current gain                      | I <sub>C</sub> =0.5A; V <sub>CE</sub> =5V | 40  |      | 200 |      |
| f <sub>T</sub>       | Transition frequency                 | I <sub>C</sub> =0.1A; V <sub>CE</sub> =5V |     | 16   |     | MHz  |
| C <sub>OB</sub>      | Collector output capacitance         | f=1MHz; V <sub>CB</sub> =10V              |     | 48   |     | pF   |

◆ h<sub>FE-2</sub> Classifications

| M     | L      | K       |
|-------|--------|---------|
| 40-80 | 60-120 | 100-200 |

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PACKAGE OUTLINE

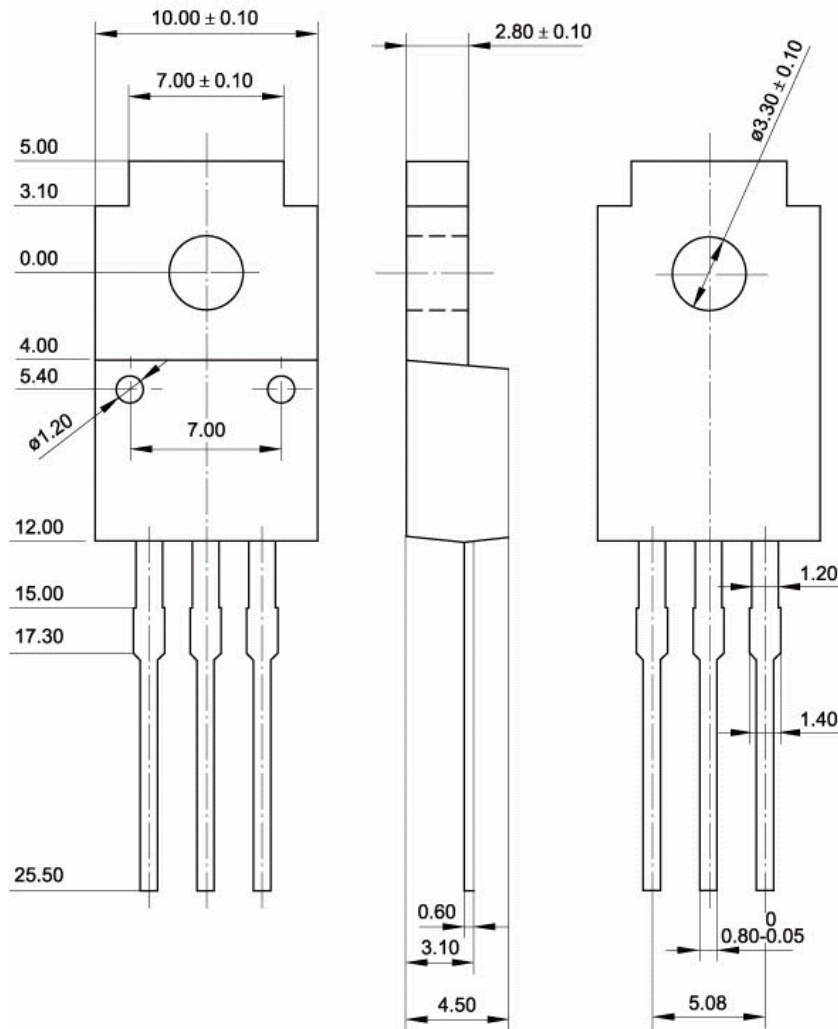


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.15$  mm)