

**Silicon NPN Power Transistors**

**2SD525**

**DESCRIPTION**

- With TO-220C package
- Complement to type 2SB595
- High breakdown voltage : $V_{CEO}=100V$
- Low collector saturation voltage  
:  $V_{CE(sat)}=2.0V(\text{Max})$

**APPLICATIONS**

- Power amplifier applications
- Recommend for 30W high fidelity audio frequency amplifier output stage

**PINNING**

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

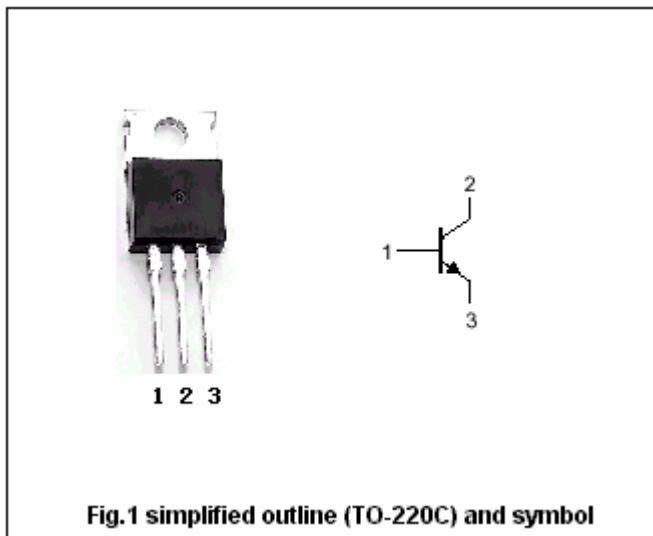


Fig.1 simplified outline (TO-220C) and symbol

**Absolute maximum ratings( $T_c=25^\circ$ )**

| SYMBOL    | PARAMETER                   | CONDITIONS     | VALUE   | UNIT     |
|-----------|-----------------------------|----------------|---------|----------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter   | 100     | V        |
| $V_{CEO}$ | Collector-emitter voltage   | Open base      | 100     | V        |
| $V_{EBO}$ | Emitter-base voltage        | Open collector | 5       | V        |
| $I_C$     | Collector current           |                | 5       | A        |
| $I_E$     | Emitter current             |                | -5      | A        |
| $P_C$     | Collector power dissipation | $T_c=25^\circ$ | 40      | W        |
| $T_j$     | Junction temperature        |                | 150     | $^\circ$ |
| $T_{stg}$ | Storage temperature         |                | -55~150 | $^\circ$ |

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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         | 100 |      |     | V    |
| V <sub>(BR)EBO</sub> | Emitter-base breakdown voltage       | I <sub>E</sub> =10mA; I <sub>C</sub> =0         | 5   |      |     | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =4A; I <sub>B</sub> =0.4 A       |     |      | 2.0 | V    |
| V <sub>BE</sub>      | Base-emitter voltage                 | I <sub>C</sub> =1A; V <sub>CE</sub> =5V         |     |      | 1.5 | V    |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =100V; I <sub>E</sub> =0        |     |      | 100 | μA   |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =5V; I <sub>C</sub> =0          |     |      | 1   | mA   |
| h <sub>FE-1</sub>    | DC current gain                      | I <sub>C</sub> =1A; V <sub>CE</sub> =5V         | 40  |      | 240 |      |
| h <sub>FE-2</sub>    | DC current gain                      | I <sub>C</sub> =4A; V <sub>CE</sub> =5V         | 20  |      |     |      |
| f <sub>T</sub>       | Transition frequency                 | I <sub>C</sub> =1A; 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   |

◆ h<sub>FE-1</sub> classifications

| R     | O      | Y       |
|-------|--------|---------|
| 40-80 | 70-140 | 120-240 |

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PACKAGE OUTLINE

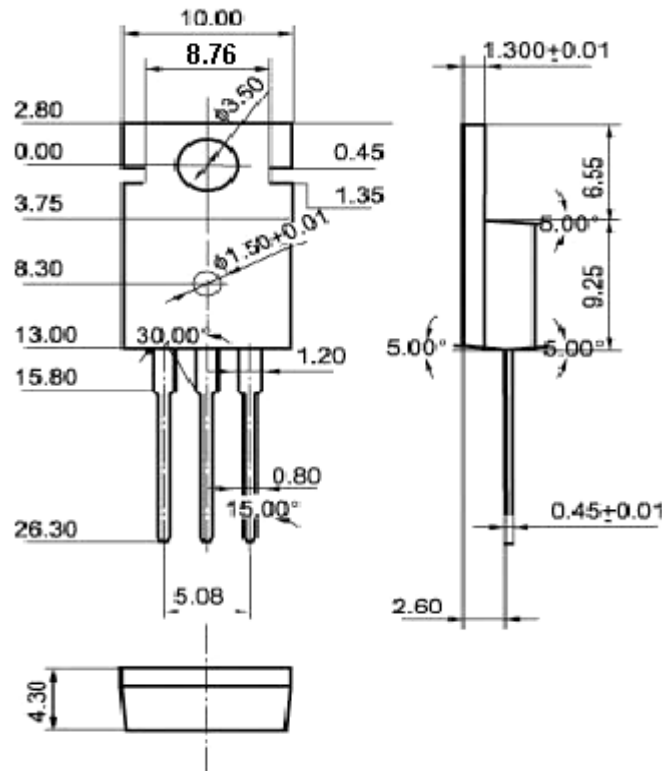


Fig.2 Outline dimensions (unindicated tolerance:±0.10 mm)