

## Silicon PNP Power Transistors

## 2SB511

## DESCRIPTION

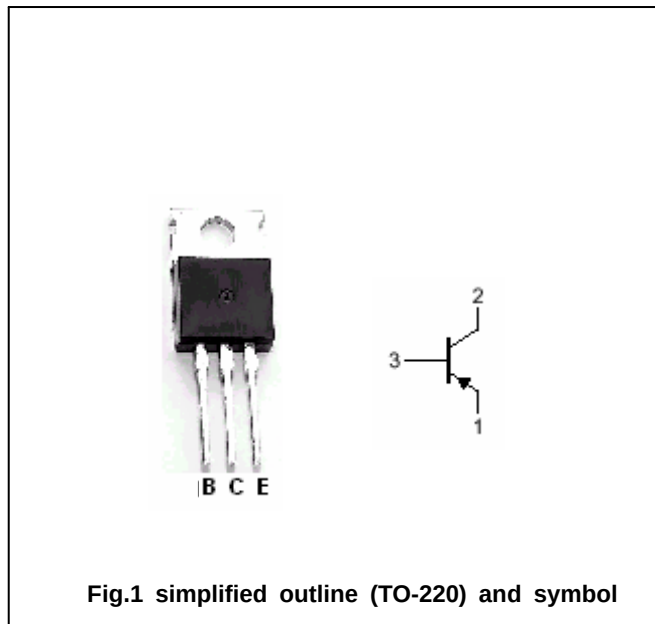
- With TO-220C package
- Complement to type 2SD325
- Low collector saturation voltage

## APPLICATIONS

- Designed for use in low frequency power amplifier applications

## PINNING

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

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

| SYMBOL    | PARAMETER                 | CONDITIONS               | VALUE   | UNIT               |
|-----------|---------------------------|--------------------------|---------|--------------------|
| $V_{CBO}$ | Collector-base voltage    | Open emitter             | -35     | V                  |
| $V_{CEO}$ | Collector-emitter voltage | Open base                | -35     | V                  |
| $V_{EBO}$ | Emitter-base voltage      | Open collector           | -5      | V                  |
| $I_C$     | Collector current (DC)    |                          | -1.5    | A                  |
| $I_{CM}$  | Collector current -peak   |                          | -3.0    | A                  |
| $P_C$     | Collector dissipation     | $T_a=25^{\circ}\text{C}$ | 1.75    | W                  |
|           |                           | $T_C=25^{\circ}\text{C}$ | 10      |                    |
| $T_j$     | Junction temperature      |                          | 150     | $^{\circ}\text{C}$ |
| $T_{stg}$ | Storage temperature       |                          | -50~150 | $^{\circ}\text{C}$ |

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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> =-10mA; I <sub>B</sub> =0      | -35 |      |      | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =-1.5A; I <sub>B</sub> =-0.15A |     |      | -1.0 | V    |
| V <sub>BE</sub>      | Base-emitter on 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> =-20V; I <sub>E</sub> =0      |     |      | -0.1 | mA   |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =-5V; I <sub>C</sub> =0       |     |      | -0.1 | mA   |
| h <sub>FE-1</sub>    | DC current gain                      | I <sub>C</sub> =-1A; V <sub>CE</sub> =-2V     | 40  |      | 320  |      |
| h <sub>FE-2</sub>    | DC current gain                      | I <sub>C</sub> =-0.1A; V <sub>CE</sub> =-2V   | 35  |      |      |      |
| f <sub>T</sub>       | Transition frequency                 | I <sub>C</sub> =-0.5A; V <sub>CE</sub> =-5V   |     | 8    |      | MHz  |

◆ h<sub>FE-1</sub> Classifications

| C     | D      | E       | F       |
|-------|--------|---------|---------|
| 40-80 | 60-120 | 100-200 | 160-320 |

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## PACKAGE OUTLINE

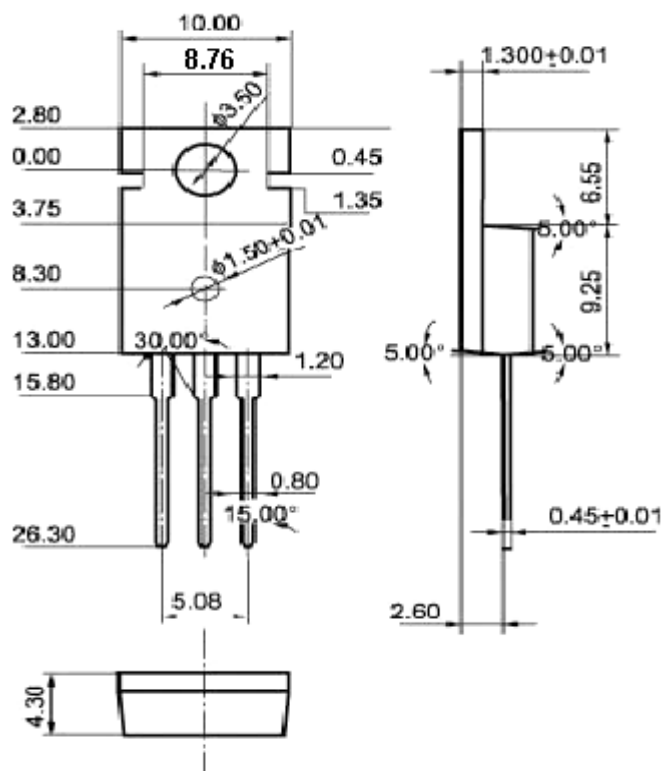


Fig.2 Outline dimensions (unindicated tolerance:±0.10mm)