

# Silicon PNP Power Transistors

# 2SB536

## DESCRIPTION

- With TO-220C package
- Complement to type 2SD381
- Low collector saturation voltage

## APPLICATIONS

- Audio frequency power amplifier
- Low speed power switching

## PINNING

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

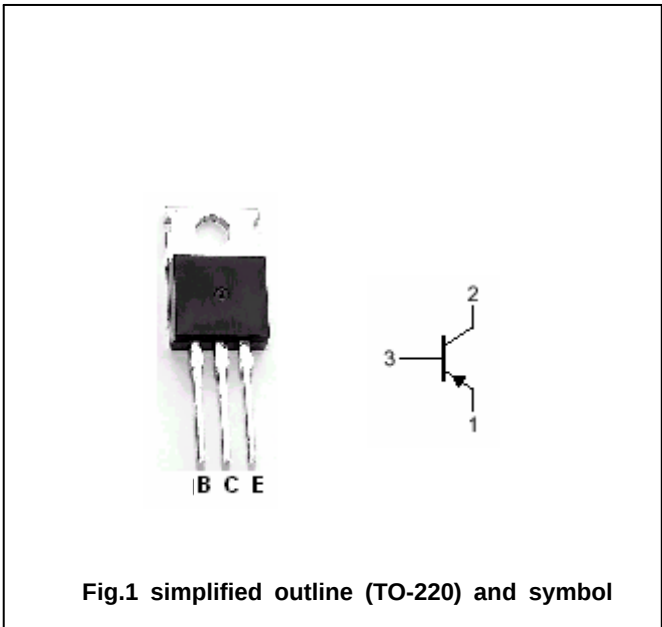


Fig.1 simplified outline (TO-220) and symbol

## Absolute maximum ratings(Ta=25 )

| SYMBOL    | PARAMETER                 | CONDITIONS     | VALUE   | UNIT |
|-----------|---------------------------|----------------|---------|------|
| $V_{CBO}$ | Collector-base voltage    | Open emitter   | -130    | V    |
| $V_{CEO}$ | Collector-emitter voltage | Open base      | -120    | V    |
| $V_{EBO}$ | Emitter-base voltage      | Open collector | -5      | V    |
| $I_C$     | Collector current         |                | -1.5    | A    |
| $I_{CM}$  | Collector current-peak    |                | -3.0    | A    |
| $I_B$     | Base current              |                | -0.3    | A    |
| $P_T$     | Total power dissipation   | $T_a=25$       | 1.5     | W    |
|           |                           | $T_C=25$       | 20      |      |
| $T_j$     | Junction temperature      |                | 150     |      |
| $T_{stg}$ | Storage temperature       |                | -50~150 |      |

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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> =-10mA; I <sub>B</sub> =0         | -120 |      |      | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =-1A; I <sub>B</sub> =-0.1A       |      |      | -2.0 | V    |
| V <sub>BEsat</sub>   | Base-emitter saturation voltage      | I <sub>C</sub> =-1A; I <sub>B</sub> =-0.1A       |      |      | -1.5 | V    |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =-120V; I <sub>E</sub> =0        |      |      | -1.0 | μA   |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =-3V; I <sub>C</sub> =0          |      |      | -1.0 | μA   |
| h <sub>FE-1</sub>    | DC current gain                      | I <sub>C</sub> =-5mA; V <sub>CE</sub> =-5V       | 25   |      |      |      |
| h <sub>FE-2</sub>    | DC current gain                      | I <sub>C</sub> =-0.3A; V <sub>CE</sub> =-5V      | 40   |      | 250  |      |
| C <sub>OB</sub>      | Output capacitance                   | I <sub>E</sub> =0; V <sub>CB</sub> =-10V; f=1MHz |      | 35   |      | pF   |
| f <sub>T</sub>       | Transition frequency                 | I <sub>C</sub> =-0.1A; V <sub>CE</sub> =-5V      |      | 40   |      | MHz  |

◆ h<sub>FE-2</sub> Classifications

| N     | M      | L      | K       |
|-------|--------|--------|---------|
| 40-80 | 60-120 | 80-160 | 120-250 |

**2SB536**

3