

## Silicon NPN Power Transistors

2SD531

## DESCRIPTION

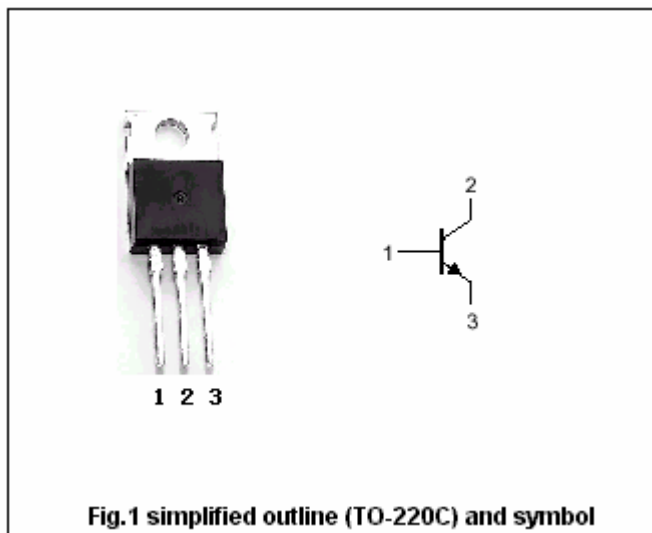
- With TO-220C package
- High current capability

## APPLICATIONS

- For audio frequency power amplifier applications

## PINNING

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

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

| SYMBOL    | PARAMETER                   | CONDITIONS             | VALUE   | UNIT             |
|-----------|-----------------------------|------------------------|---------|------------------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter           | 100     | V                |
| $V_{CEO}$ | Collector-emitter voltage   | Open base              | 90      | V                |
| $V_{EBO}$ | Emitter-base voltage        | Open collector         | 8       | V                |
| $I_C$     | Collector current           |                        | 5       | A                |
| $P_C$     | Collector power dissipation | $T_c=25^\circ\text{C}$ | 43      | W                |
| $T_j$     | Junction temperature        |                        | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage temperature         |                        | -55~150 | $^\circ\text{C}$ |

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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> =50mA; R <sub>BE</sub> =∞   | 90  |      |     | V    |
| V <sub>(BR)CBO</sub> | Collector-base breakdown voltage     | I <sub>C</sub> =5mA; I <sub>E</sub> =0     | 100 |      |     | V    |
| V <sub>(BR)EBO</sub> | Emitter-base breakdown voltage       | I <sub>E</sub> =5mA; I <sub>C</sub> =0     | 8   |      |     | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =4A; I <sub>B</sub> =0.4 A  |     |      | 2.0 | V    |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =100V; I <sub>E</sub> =0   |     |      | 0.1 | mA   |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =6V; I <sub>C</sub> =0     |     |      | 0.1 | mA   |
| h <sub>FE</sub>      | DC current gain                      | I <sub>C</sub> =0.1A ; V <sub>CE</sub> =2V | 60  |      |     |      |

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PACKAGE OUTLINE



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