

## Silicon NPN Power Transistors

## 2SC2527

**DESCRIPTION**

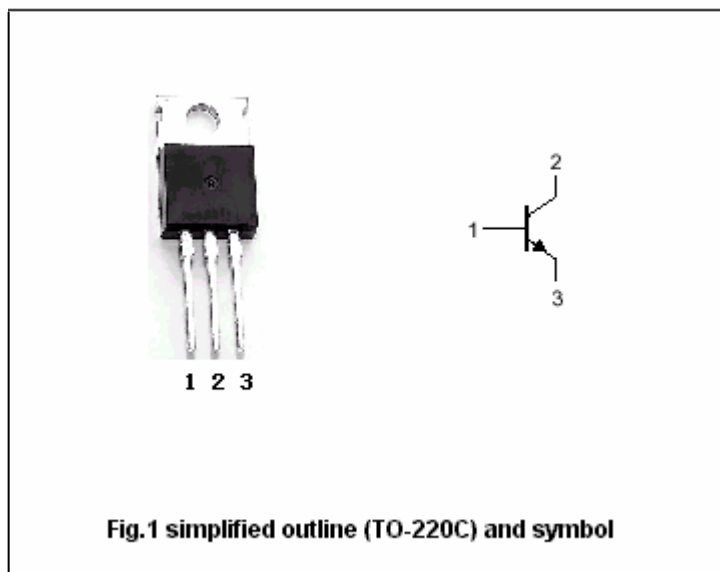
- With TO-220C package
- Complement to type 2SA1077
- Fast switching speed
- Excellent safe operating area

**APPLICATIONS**

- High frequency power amplifiers
- Audio power amplifiers
- Switching regulators
- DC-DC converters

**PINNING**

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

**Absolute maximum ratings(Ta=25□)**

| SYMBOL           | PARAMETER                   | CONDITIONS          | VALUE   | UNIT |
|------------------|-----------------------------|---------------------|---------|------|
| V <sub>CBO</sub> | Collector-base voltage      | Open emitter        | 120     | V    |
| V <sub>CEO</sub> | Collector-emitter voltage   | Open base           | 120     | V    |
| V <sub>EBO</sub> | Emitter-base voltage        | Open collector      | 7       | V    |
| I <sub>C</sub>   | Collector current           |                     | 10      | A    |
| P <sub>C</sub>   | Collector power dissipation | T <sub>C</sub> =25□ | 60      | W    |
| T <sub>j</sub>   | Junction temperature        |                     | 150     | □    |
| T <sub>stg</sub> | Storage temperature         |                     | -65~150 | □    |

## Silicon NPN Power Transistors

## 2SC2527

## 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> =1mA ; R <sub>BE</sub> =∞         | 120 |      |     | V    |
| V <sub>(BR)CBO</sub> | Collector-base breakdown voltage     | I <sub>C</sub> =50μA ; I <sub>E</sub> =0         | 120 |      |     | V    |
| V <sub>(BR)EBO</sub> | Emitter-base breakdown voltage       | I <sub>E</sub> =50μA ; I <sub>C</sub> =0         | 7   |      |     | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =5A; I <sub>B</sub> =0.5A         |     |      | 1.8 | V    |
| V <sub>BE</sub>      | Base-emitter on voltage              | I <sub>C</sub> =5 A ; V <sub>CE</sub> =5V        |     |      | 1.7 | V    |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =120V ; I <sub>E</sub> =0        |     |      | 50  | μA   |
| I <sub>CEO</sub>     | Collector cut-off current            | V <sub>CE</sub> =120V; I <sub>B</sub> =0         |     |      | 1   | mA   |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =7V ; I <sub>C</sub> =0          |     |      | 50  | μA   |
| h <sub>FE-1</sub>    | DC current gain                      | I <sub>C</sub> =1 A ; V <sub>CE</sub> =5V        | 60  |      | 200 |      |
| h <sub>FE-2</sub>    | DC current gain                      | I <sub>C</sub> =5 A ; V <sub>CE</sub> =5V        | 40  |      |     |      |
| f <sub>T</sub>       | Transition frequency                 | I <sub>C</sub> =1 A ; V <sub>CE</sub> =10V       |     | 80   |     | MHz  |
| C <sub>OB</sub>      | Output capacitance                   | I <sub>E</sub> =0 ; V <sub>CB</sub> =10V; f=1MHz |     | 180  |     | pF   |

## Switching times

|                |              |   |  |     |  |    |
|----------------|--------------|---|--|-----|--|----|
| t <sub>r</sub> | Rise time    | I <sub>C</sub> =7.5 A; R <sub>L</sub> =4Ω<br>I <sub>B1</sub> =-I <sub>B2</sub> =0.75A |  | 0.3 |  | μs |
| t <sub>s</sub> | Storage time |   |  | 1.3 |  | μs |
| t <sub>f</sub> | Fall time    |   |  | 0.2 |  | μs |

Silicon NPN Power Transistors

2SC2527

PACKAGE OUTLINE



Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10$  mm)