

## Silicon PNP Power Transistors

## 2SA1227 2SA1227A

## DESCRIPTION

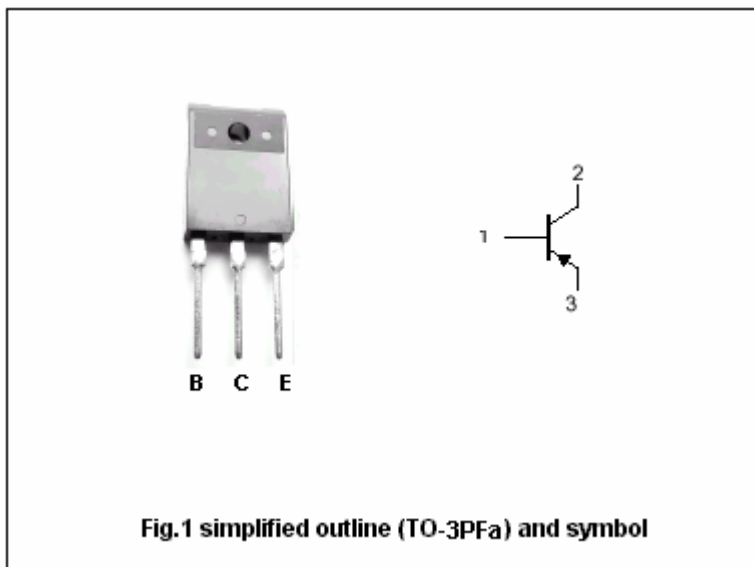
- With TO-3PFa package
- Complement to type 2SC2987/2987A
- High power dissipation

## APPLICATIONS

- For use in audio frequency power amplifier applications

## PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Base        |
| 2   | Collector   |
| 3   | Emitter     |

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

| SYMBOL    | PARAMETER                 |          | CONDITIONS             | VALUE   | UNIT             |
|-----------|---------------------------|----------|------------------------|---------|------------------|
| $V_{CBO}$ | Collector-base voltage    | 2SA1227  | Open emitter           | -140    | V                |
|           |                           | 2SA1227A |                        | -160    |                  |
| $V_{CEO}$ | Collector-emitter voltage | 2SA1227  | Open base              | -140    | V                |
|           |                           | 2SA1227A |                        | -160    |                  |
| $V_{EBO}$ | Emitter-base voltage      |          | Open collector         | -5      | V                |
| $I_C$     | Collector current         |          |                        | -12     | A                |
| $I_{CM}$  | Collector current-peak    |          |                        | -20     | A                |
| $P_T$     | Total power dissipation   |          | $T_C=25^\circ\text{C}$ | 120     | 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℃ unless otherwise specified

| SYMBOL             | PARAMETER                            | CONDITIONS                                        | MIN | TYP. | MAX  | UNIT |
|--------------------|--------------------------------------|---------------------------------------------------|-----|------|------|------|
| V <sub>CEsat</sub> | Collector-emitter saturation voltage | I <sub>C</sub> =-5A ; I <sub>B</sub> =-0.5A       |     | -0.8 | -1.5 | V    |
| V <sub>BEsat</sub> | Base-emitter saturation voltage      | I <sub>C</sub> =-5A ; I <sub>B</sub> =-0.5A       |     | -1.5 | -2.0 | V    |
| I <sub>CBO</sub>   | Collector cut-off current            | V <sub>CB</sub> =-140V; I <sub>E</sub> =0         |     |      | -50  | μA   |
| I <sub>EBO</sub>   | Emitter cut-off current              | V <sub>EB</sub> =-3V; I <sub>C</sub> =0           |     |      | -50  | μA   |
| h <sub>FE-1</sub>  | DC current gain                      | I <sub>C</sub> =-2A ; V <sub>CE</sub> =-5V        | 60  |      | 320  |      |
| h <sub>FE-2</sub>  | DC current gain                      | I <sub>C</sub> =-5A ; V <sub>CE</sub> =-5V        | 40  |      |      |      |
| C <sub>OB</sub>    | Output capacitance                   | I <sub>E</sub> =0 ; V <sub>CB</sub> =-10V; f=1MHz |     | 280  |      | pF   |
| f <sub>T</sub>     | Transition frequency                 | I <sub>C</sub> =-1A ; V <sub>CE</sub> =-5V        |     | 60   |      | MHz  |

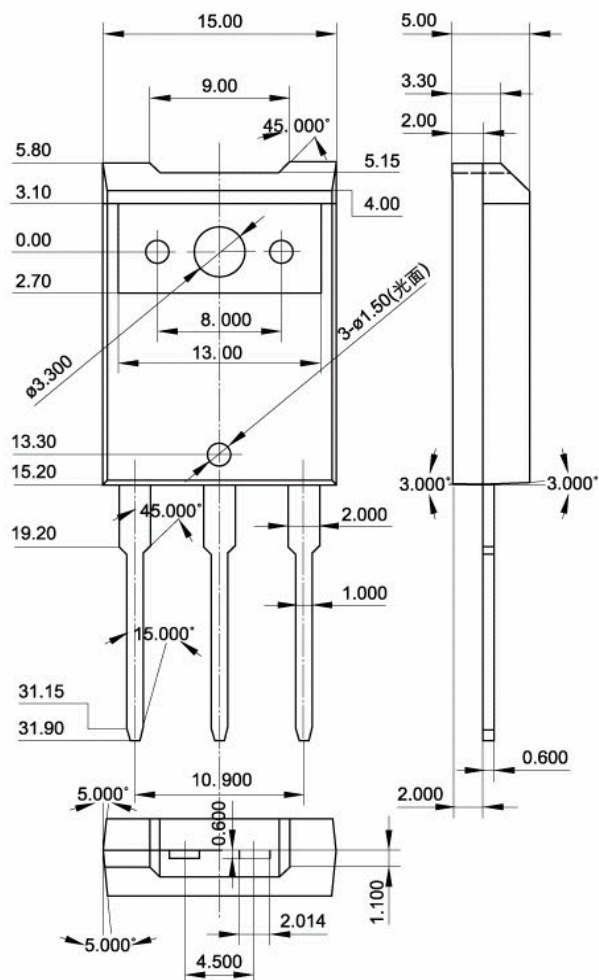
◆ h<sub>FE-1</sub> classifications

| R      | Q       | P       |
|--------|---------|---------|
| 60-120 | 100-200 | 160-320 |

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## PACKAGE OUTLINE

Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.30\text{mm}$ )