

Silicon NPN Power Transistors

2SD1457 2SD1457A

DESCRIPTION

- With TO-3PFa package
- High DC current gain
- DARLINGTON
- High  $V_{CBO}$

APPLICATIONS

- For power amplification

PINNING

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

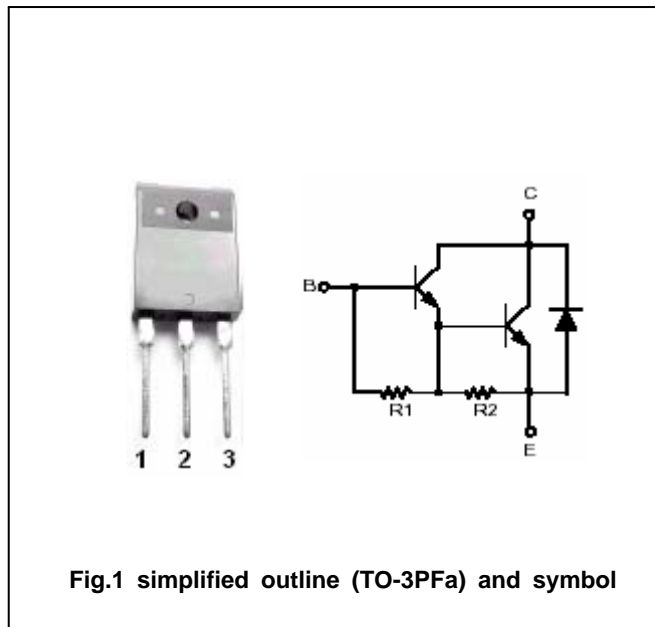


Fig.1 simplified outline (TO-3PFa) and symbol

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

| SYMBOL    | PARAMETER                   | CONDITIONS     | MAX     | UNIT |
|-----------|-----------------------------|----------------|---------|------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter   | 200     | V    |
| $V_{CEO}$ | Collector-emitter voltage   | 2SD1457        | 150     | V    |
|           |                             | 2SD1457A       | 200     |      |
| $V_{EBO}$ | Emitter-base voltage        | Open collector | 5       | V    |
| $I_C$     | Collector current           |                | 6       | A    |
| $I_{CM}$  | Collector current-peak      |                | 10      | A    |
| $P_C$     | Collector power dissipation | $T_C=25$       | 60      | W    |
|           |                             | $T_a=25$       | 3.0     |      |
| $T_j$     | Junction temperature        |                | 150     |      |
| $T_{stg}$ | Storage temperature         |                | -55~150 |      |

## Silicon NPN Power Transistors

## 2SD1457 2SD1457A

## CHARACTERISTICS

T<sub>j</sub>=25 unless otherwise specified

| SYMBOL                | PARAMETER                            |          | CONDITIONS   | MIN | TYP. | MAX   | UNIT |
|-----------------------|--------------------------------------|----------|--|-----|------|-------|------|
| V <sub>CEO(SUS)</sub> | Collector-emitter sustaining voltage | 2SD1457  | I <sub>C</sub> =2A ; L=10mH                          | 150 |      |       | V    |
|                       |                                      | 2SD1457A |  | 200 |      |       |      |
| V <sub>(BR)EBO</sub>  | Emitter-base breakdown voltage       |          | I <sub>E</sub> =0.1A ; I <sub>C</sub> =0             | 5   |      |       | V    |
| V <sub>CEsat</sub>    | Collector-emitter saturation voltage |          | I <sub>C</sub> =3A ; I <sub>B</sub> =60mA            |     |      | 1.5   | V    |
| V <sub>BEsat</sub>    | Base-emitter saturation voltage      |          | I <sub>C</sub> =3A ; I <sub>B</sub> =60mA            |     |      | 2.5   | V    |
| I <sub>CBO</sub>      | Collector cut-off current            |          | V <sub>CB</sub> =200V ; I <sub>E</sub> =0            |     |      | 100   | μA   |
| h <sub>FE</sub>       | DC current gain                      |          | I <sub>C</sub> =2A ; V <sub>CE</sub> =2V             | 700 |      | 10000 |      |
| f <sub>T</sub>        | Transition frequency                 |          | I <sub>C</sub> =0.5A ; V <sub>CE</sub> =10V ; f=1MHz |     | 15   |       | MHz  |

◆ h<sub>FE</sub> Classifications

| Q        | P         | O          |
|----------|-----------|------------|
| 700-2500 | 2000-5000 | 4000-10000 |

