

## Silicon NPN Power Transistors

2SD844

## DESCRIPTION

www.datasheet4u.com

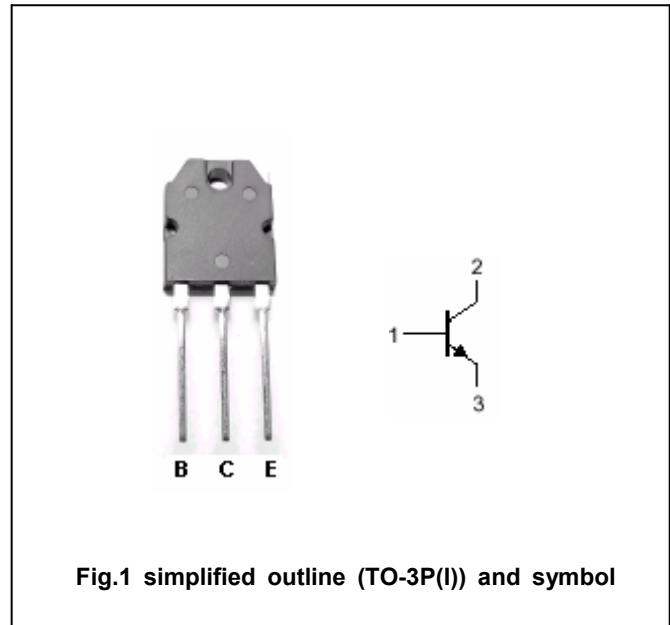
- With TO-3P(I) package
- Complement to type 2SB754
- High collector current : $I_C=7A$
- Low collector saturation voltage
- High power dissipation

## APPLICATIONS

- High current switching applications
- Power amplifier applications

## PINNING

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

Absolute maximum ratings( $T_a=25^\circ$ )

| SYMBOL    | PARAMETER                   | CONDITIONS     | VALUE   | UNIT     |
|-----------|-----------------------------|----------------|---------|----------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter   | 50      | V        |
| $V_{CEO}$ | Collector-emitter voltage   | Open base      | 50      | V        |
| $V_{EBO}$ | Emitter-base voltage        | Open collector | 5       | V        |
| $I_C$     | Collector current           |                | 7       | A        |
| $I_E$     | Emitter current             |                | -7      | A        |
| $P_C$     | Collector power dissipation | $T_a=25^\circ$ | 2.5     | W        |
|           |                             | $T_C=25^\circ$ | 60      |          |
| $T_j$     | Junction temperature        |                | 150     | $^\circ$ |
| $T_{stg}$ | Storage temperature         |                | -55~150 | $^\circ$ |

## Silicon NPN Power Transistors

## 2SD844

## CHARACTERISTICS

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

www.datasheet4u.com

| SYMBOL               | PARAMETER                            | CONDITIONS                                 | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|--|-----|------|-----|------|
| V <sub>(BR)CEO</sub> | Collector-emitter breakdown voltage  | I <sub>C</sub> =50mA ; I <sub>B</sub> =0   | 50  |      |     | V    |
| V <sub>(BR)EBO</sub> | Emitter-base breakdown voltage       | I <sub>E</sub> =10mA; I <sub>C</sub> =0    | 5   |      |     | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =4.0A; I <sub>B</sub> =0.4A |     |      | 0.4 | V    |
| V <sub>BE</sub>      | Base-emitter voltage                 | I <sub>C</sub> =4A ; V <sub>CE</sub> =1V   |     |      | 1.2 | V    |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =50V; I <sub>E</sub> =0    |     |      | 10  | μA   |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =5V; I <sub>C</sub> =0     |     |      | 10  | μA   |
| h <sub>FE-1</sub>    | DC current gain                      | I <sub>C</sub> =1A ; V <sub>CE</sub> =1V   | 70  |      | 240 |      |
| h <sub>FE-2</sub>    | DC current gain                      | I <sub>C</sub> =4A ; V <sub>CE</sub> =1V   | 30  |      |     |      |
| f <sub>T</sub>       | Transition frequency                 | I <sub>C</sub> =1A ; V <sub>CE</sub> =5V   |     | 15   |     | MHz  |
| C <sub>OB</sub>      | Collector output capacitance         | f=1MHz ; V <sub>CB</sub> =10V              |     | 250  |     | pF   |

◆ h<sub>FE-1</sub> Classifications

|        |         |
|--------|---------|
| O      | Y       |
| 70-140 | 120-240 |

Silicon NPN Power Transistors

2SD844

PACKAGE OUTLINE

www.datasheet4u.com

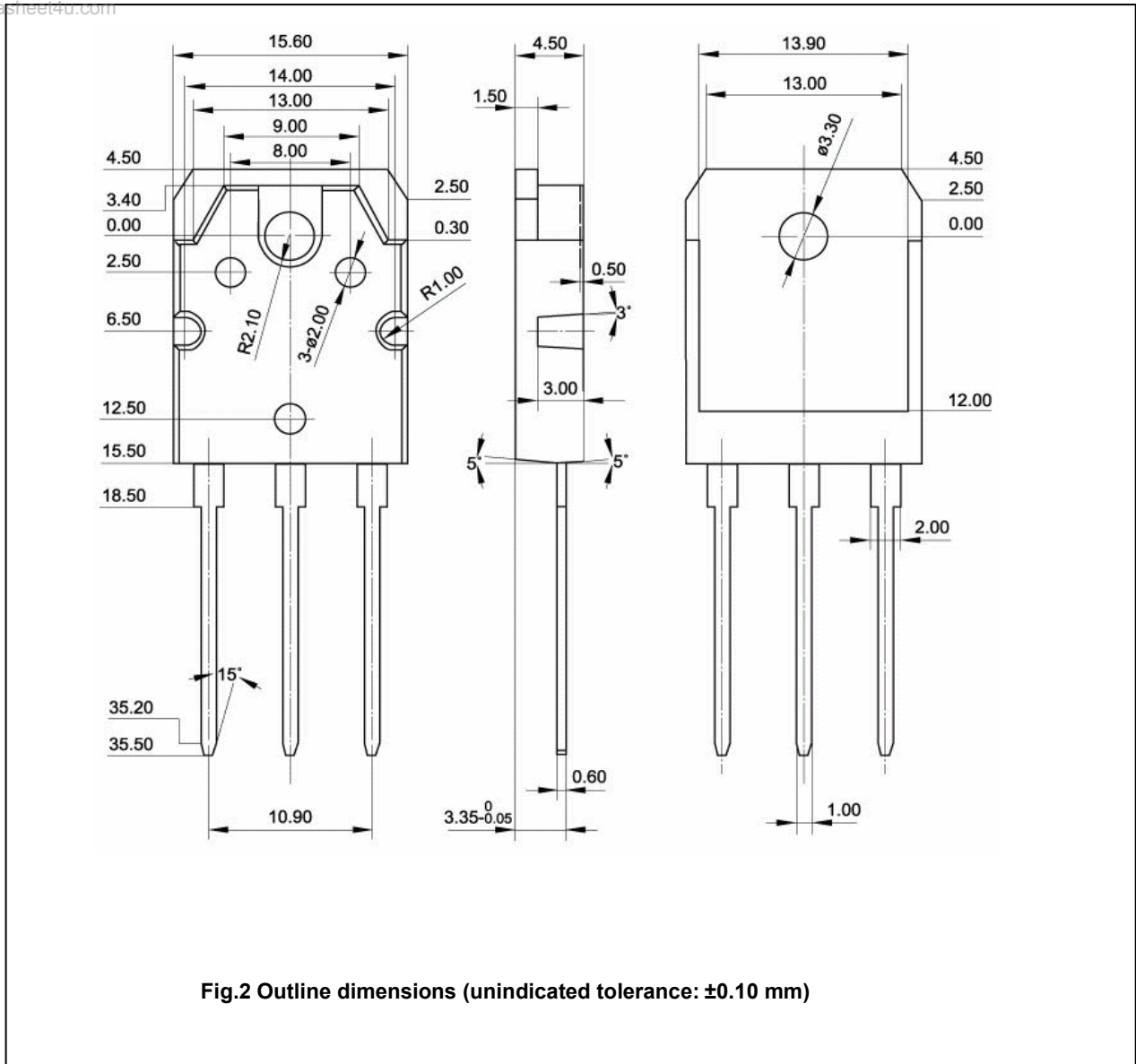


Fig.2 Outline dimensions (unindicated tolerance: ±0.10 mm)