

Silicon PNP Power Transistors

2SB1230

DESCRIPTION

- With TO-3PN package
- Wide area of safe operation
- Complement to type 2SD1840
- Low collector saturation voltage

APPLICATIONS

- Motor drivers,relay drivers,converters and other general high-current switching applications

PINNING

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

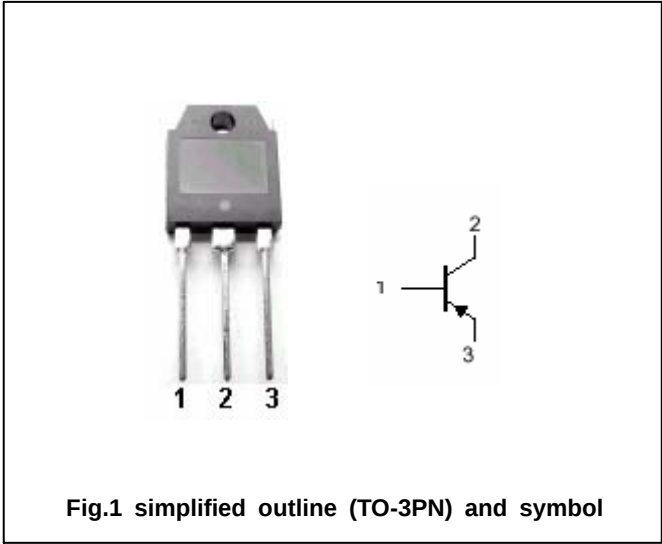


Fig.1 simplified outline (TO-3PN) and symbol

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

| SYMBOL    | PARAMETER                   | CONDITIONS     | VALUE   | UNIT |
|-----------|-----------------------------|----------------|---------|------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter   | -110    | V    |
| $V_{CEO}$ | Collector-emitter voltage   | Open base      | -100    | V    |
| $V_{EBO}$ | Emitter-base voltage        | Open collector | -6      | V    |
| $I_C$     | Collector current           |                | -15     | A    |
| $I_{CM}$  | Collector current -peak     |                | -25     | A    |
| $I_B$     | Base current                |                | -5      | A    |
| $P_C$     | Collector power dissipation | $T_a=25$       | 3.0     | W    |
|           |                             | $T_c=25$       | 100     |      |
| $T_j$     | Junction temperature        |                | 150     |      |
| $T_{stg}$ | Storage temperature         |                | -55~150 |      |

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## CHARACTERISTICS

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

| SYMBOL               | PARAMETER                            | CONDITIONS                                  | MIN  | TYP. | MAX  | UNIT |
|----------------------|--------------------------------------|---------------------------------------------|------|------|------|------|
| V <sub>(BR)CEO</sub> | Collector-emitter breakdown voltage  | I <sub>C</sub> =-5mA; R <sub>BE</sub> =∞    | -100 |      |      | V    |
| V <sub>(BR)CBO</sub> | Collector-base breakdown voltage     | I <sub>C</sub> =-1mA; I <sub>E</sub> =0     | -110 |      |      | V    |
| V <sub>(BR)EBO</sub> | Emitter-base breakdown voltage       | I <sub>E</sub> =-1mA; I <sub>C</sub> =0     | -6   |      |      | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =-6A; I <sub>B</sub> =-0.6A  |      |      | -0.8 | V    |
| V <sub>BE sat</sub>  | Base-emitter saturation voltage      | I <sub>C</sub> =-6A; I <sub>B</sub> =-0.6A  |      |      | -1.5 | V    |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =-100V; I <sub>E</sub> =0   |      |      | -100 | μA   |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =-5V; I <sub>C</sub> =0     |      |      | -100 | μA   |
| h <sub>FE-1</sub>    | DC current gain                      | I <sub>C</sub> =-1.5A; V <sub>CE</sub> =-2V | 50   |      | 140  |      |
| h <sub>FE-2</sub>    | DC current gain                      | I <sub>C</sub> =-6A; V <sub>CE</sub> =-2V   | 20   |      |      |      |

◆ h<sub>FE-1</sub> Classifications

| P      | Q      |
|--------|--------|
| 50-100 | 70-140 |

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