

## Silicon NPN Power Transistors

2N3226

## DESCRIPTION

- With TO-3 package
- Excellent safe operating area
- Low collector saturation voltage

## APPLICATIONS

- For power amplifier and switching circuits applications

## PINNING

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

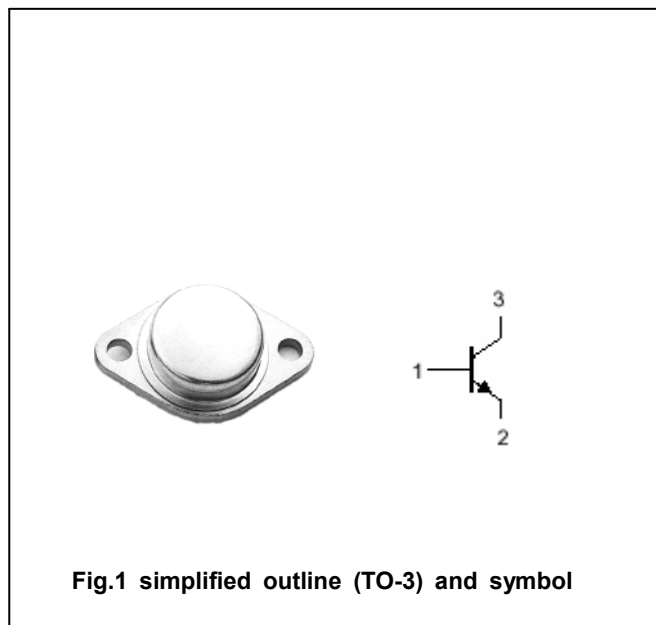


Fig.1 simplified outline (TO-3) and symbol

ABSOLUTE MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ )

| SYMBOL    | PARAMETER                 | CONDITIONS             | VALUE   | UNIT             |
|-----------|---------------------------|------------------------|---------|------------------|
| $V_{CBO}$ | Collector-base voltage    | Open emitter           | 35      | V                |
| $V_{CEO}$ | Collector-emitter voltage | Open base              | 35      | V                |
| $V_{EBO}$ | Emitter-base voltage      | Open collector         | 5       | V                |
| $I_C$     | Collector current         |                        | 5       | A                |
| $P_D$     | Total power dissipation   | $T_C=25^\circ\text{C}$ | 75      | W                |
| $T_j$     | Junction temperature      |                        | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage temperature       |                        | -65~200 | $^\circ\text{C}$ |

## THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                           | VALUE | UNIT                      |
|--------------|-------------------------------------|-------|---------------------------|
| $R_{(th)jc}$ | Thermal resistance junction to case | 1.17  | $^\circ\text{C}/\text{W}$ |

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## CHARACTERISTICS

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

| SYMBOL                 | PARAMETER                            | CONDITIONS                                | MIN | TYP. | MAX | UNIT |
|------------------------|--------------------------------------|---|-----|------|-----|------|
| V <sub>CEQ(SUS)</sub>  | Collector-emitter sustaining voltage | I <sub>C</sub> =0.2A ; I <sub>B</sub> =0  | 35  |      |     | V    |
| V <sub>CE(sat)-1</sub> | Collector-emitter saturation voltage | I <sub>C</sub> =3A ; I <sub>B</sub> =0.3A |     |      | 1.0 | V    |
| V <sub>CE(sat)-2</sub> | Collector-emitter saturation voltage | I <sub>C</sub> =5A ; I <sub>B</sub> =1.0A |     |      | 2.0 | V    |
| V <sub>BE(on)</sub>    | Base-emitter on voltage              | I <sub>C</sub> =3A ; V <sub>CE</sub> =4V  |     |      | 2.0 | V    |
| I <sub>CEO</sub>       | Collector cut-off current            | V <sub>CE</sub> =35V ; I <sub>B</sub> =0  |     |      | 1.0 | mA   |
| I <sub>CBO</sub>       | Collector cut-off current            | V <sub>CB</sub> =35V ; I <sub>E</sub> =0  |     |      | 0.1 | mA   |
| I <sub>EBO</sub>       | Emitter cut-off current              | V <sub>EB</sub> =5V ; I <sub>C</sub> =0   |     |      | 0.1 | mA   |
| h <sub>FE-1</sub>      | DC current gain                      | I <sub>C</sub> =1A ; V <sub>CE</sub> =4V  | 40  |      |     |      |
| h <sub>FE-2</sub>      | DC current gain                      | I <sub>C</sub> =3A ; V <sub>CE</sub> =4V  | 20  |      |     |      |

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PACKAGE OUTLINE

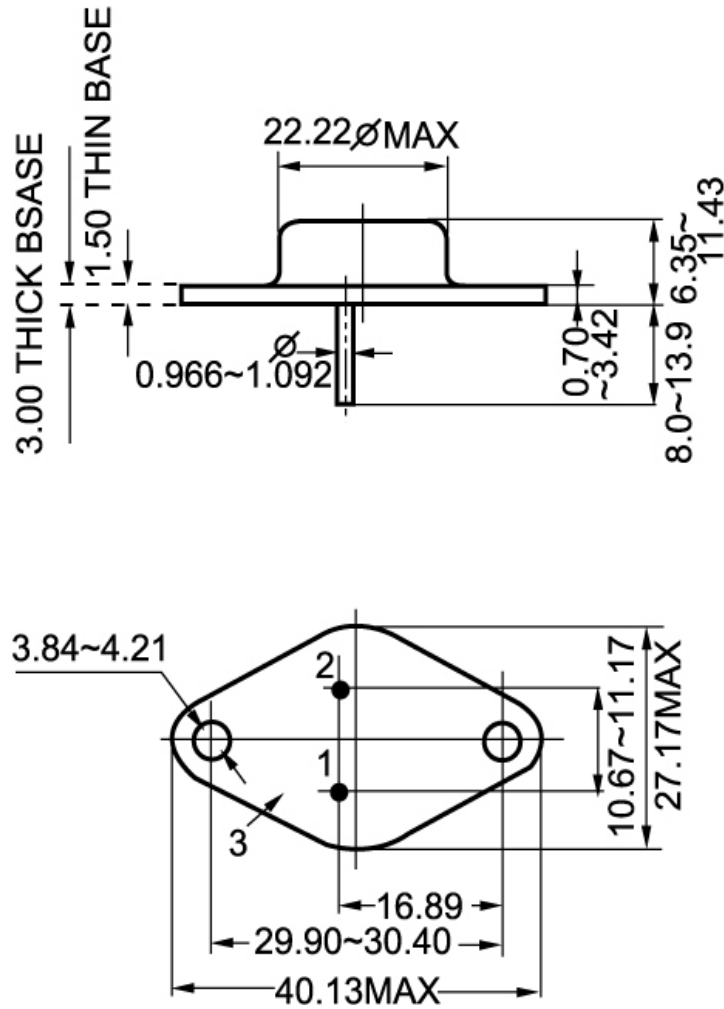


Fig.2 outline dimensions (unindicated tolerance:  $\pm 0.1 \text{ mm}$ )