

## Silicon NPN Power Transistors

2N5241

## DESCRIPTION

- With TO-3 package
- High breakdown voltage

## APPLICATIONS

- Switching regulator
- Inverters
- Solenoid and relay drivers
- Motor controls

## PINNING (See Fig.2)

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

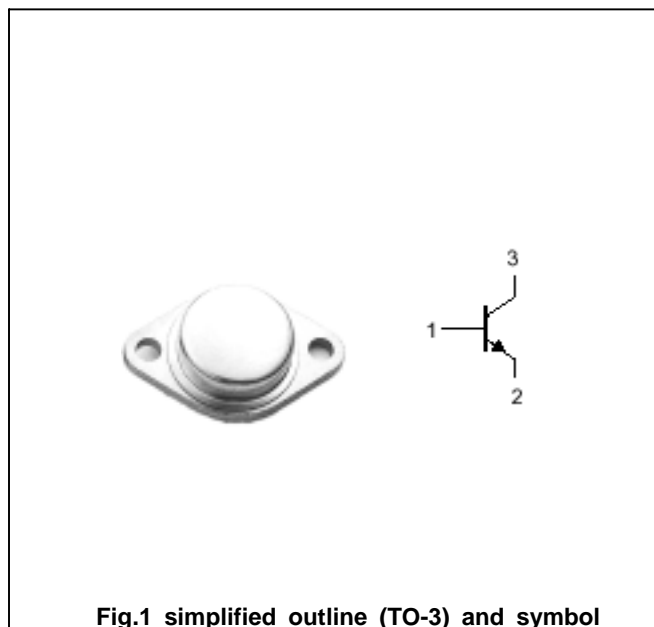


Fig.1 simplified outline (TO-3) and symbol

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

| SYMBOL    | PARAMETER                 | CONDITIONS     | VALUE   | UNIT |
|-----------|---------------------------|----------------|---------|------|
| $V_{CB0}$ | Collector-base voltage    | Open emitter   | 400     | V    |
| $V_{CE0}$ | Collector-emitter voltage | Open base      | 400     | V    |
| $V_{EB0}$ | Emitter-base voltage      | Open collector | 5       | V    |
| $I_C$     | Collector current         |                | 5       | A    |
| $P_T$     | Total power dissipation   | $T_c=25$       | 125     | W    |
| $T_j$     | Junction temperature      |                | 165     |      |
| $T_{stg}$ | Storage temperature       |                | -65~200 |      |

## THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                                | MAX  | UNIT |
|--------------|--|------|------|
| $R_{th-j-c}$ | Thermal resistance from junction to case | 1.46 | /W   |

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## 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 | I <sub>C</sub> =0.1A ; I <sub>B</sub> =0                        | 400 |      |            | V    |
| V <sub>CEsat</sub>    | Collector-emitter saturation voltage | I <sub>C</sub> =2A; I <sub>B</sub> =0.4A                        |     |      | 2.0        | V    |
| V <sub>BEsat</sub>    | Base-emitter saturation voltage      | I <sub>C</sub> =2A; I <sub>B</sub> =0.4A                        |     |      | 2.0        | V    |
| I <sub>CBO</sub>      | Collector cut-off current            | V <sub>CB</sub> =400V; I <sub>E</sub> =0<br>T <sub>C</sub> =125 |     |      | 0.2<br>2.0 | mA   |
| I <sub>CEO</sub>      | Collector cut-off current            | V <sub>CE</sub> =400V; I <sub>B</sub> =0                        |     |      | 5.0        | mA   |
| I <sub>EBO</sub>      | Emitter cut-off current              | V <sub>EB</sub> =5V; I <sub>C</sub> =0                          |     |      | 1.0        | mA   |
| h <sub>FE</sub>       | DC current gain                      | I <sub>C</sub> =2.5A ; V <sub>CE</sub> =5V                      | 15  |      | 35         |      |

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PACKAGE OUTLINE

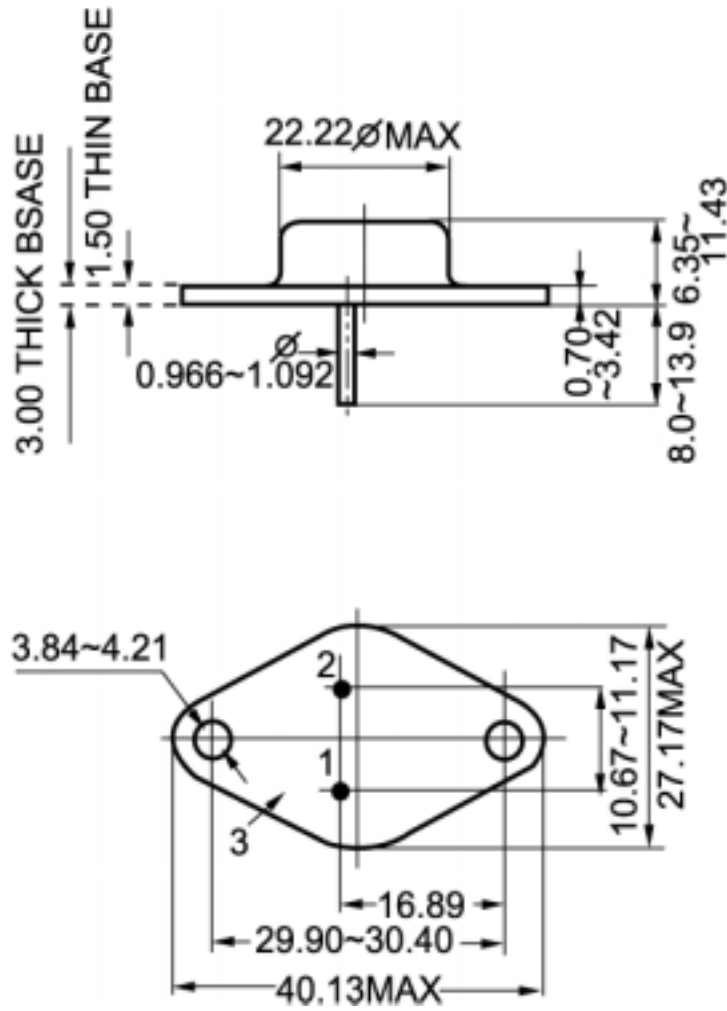


Fig.2 Outline dimensions