

Silicon PNP Power Transistors

2N6031

DESCRIPTION

- With TO-3 package
- Complement to type 2N5631
- High collector sustaining voltage
- High DC current gain
- Low collector saturation voltage

APPLICATIONS

- For high power audio amplifier and high voltage switching regulator circuits applications

PINNING

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

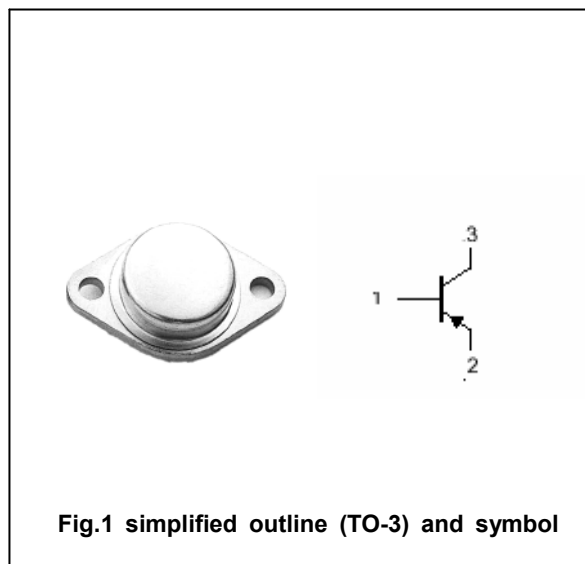


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings(Ta=□)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|---------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | -140 | V |
| V _{CEO} | Collector-emitter voltage | Open base | -140 | V |
| V _{EBO} | Emitter-base voltage | Open collector | -7 | V |
| I _C | Collector current | | -16 | A |
| I _{CM} | Collector current-peak | | -20 | A |
| I _B | Base current | | -5.0 | A |
| P _D | Total Power Dissipation | T _c =25□ | 200 | W |
| T _j | Junction temperature | | 150 | □ |
| T _{stg} | Storage temperature | | -65~200 | □ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | VALUE | UNIT |
|---------------------|-------------------------------------|-------|------|
| R _{th j-c} | Thermal resistance junction to case | 0.875 | □/W |

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|---|--|------|------|------|------|
| V _{CEO(SUS)} | Collector-emitter sustaining voltage | I _C =-0.2A ; I _B =0 | -140 | | | V |
| V _{CEsat-1} | Collector-emitter saturation voltage | I _C =-10A; I _B =-1A | | | -1.0 | V |
| V _{CEsat-2} | Collector-emitter saturation voltage | I _C =-16A ; I _B =-4A | | | -2.0 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =-10A; I _B =-1A | | | -1.8 | V |
| V _{BE} | Base-emitter on voltage | I _C =-8A ; V _{CE} =-2V | | | -1.5 | V |
| I _{CBO} | Collector cut-off current | V _{CB} =ratedV _{CBO} ; I _E =0 | | | -2.0 | mA |
| I _{CEO} | Collector cut-off current | V _{CE} =-70V; I _B =0 | | | -2.0 | mA |
| I _{CEx} | Collector cut-off current (V _{BE(off)} =1.5V) | V _{CE} =ratedV _{CB} | | | -2.0 | mA |
| | | V _{CE} =ratedV _{CB} ; T _C =150 °C | | | -7.0 | |
| I _{EBO} | Emitter cut-off current | V _{EB} =-7V; I _C =0 | | | -5.0 | mA |
| h _{FE-1} | DC current gain | I _C =-8A ; V _{CE} =-2V | 15 | | 60 | |
| h _{FE-2} | DC current gain | I _C =-16A ; V _{CE} =-2V | 4 | | | |
| C _{OB} | Output capacitance | I _E =0 ; V _{CB} =-10V ; f=0.1MHz | | | 1000 | pF |
| f _T | Transition frequency | I _C =-1A ; V _{CE} =-20V ; f=0.5MHz | 1.0 | | | MHz |

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PACKAGE OUTLINE

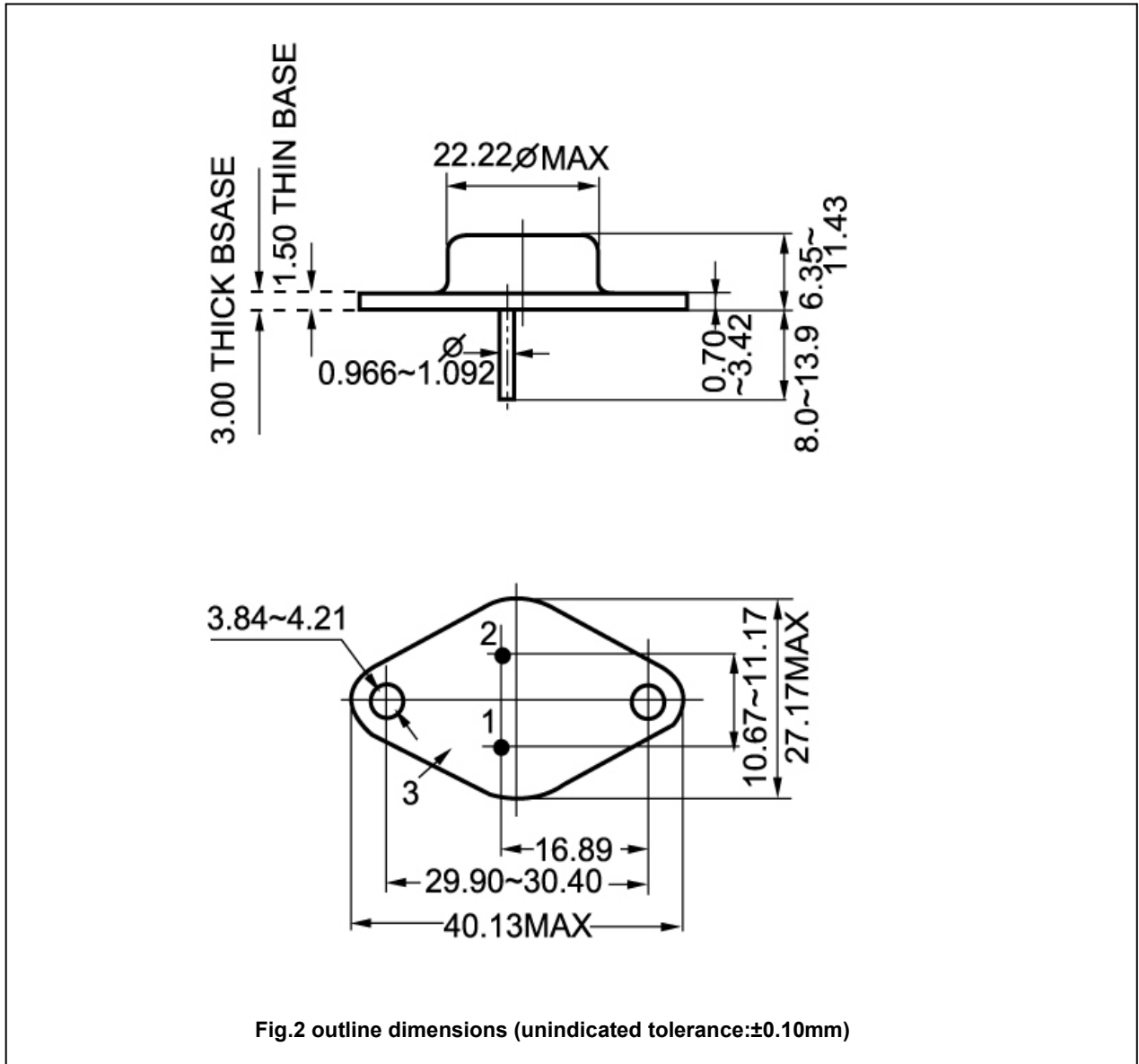


Fig.2 outline dimensions (unindicated tolerance:±0.10mm)