# Silicon PNP Power Transistors 2N3196

**DESCRIPTION**

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

**APPLICATIONS**

·For medium-speed switching and amplifier applications

**PINNING**

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




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

**ABSOLUTE MAXIMUM RATINGS(Ta=25□)**

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---|---|---|---|---|
| $V_{CBO}$ | Collector-base voltage | Open emitter | -60 | V |
| $V_{CEO}$ | Collector-emitter voltage | Open base | -60 | V |
| $V_{EBO}$ | Emitter-base voltage | Open collector | -5 | V |
| $I_C$ | Collector current | | -5 | A |
| $P_C$ | Collector power dissipation | $T_C$=25□ | 75 | W |
| $T_j$ | Junction temperature | | 150 | □ |
| $T_{stg}$ | Storage temperature | | -65~200 | □ |

**THERMAL CHARACTERISTICS**

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $R_{(th)\,jc}$ | Thermal resistance junction to case | 1.17 | □/W |

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**CHARACTERISTICS**

**Tj=25□ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-emitter sustaining voltage | $I_C$=-0.2A ;$I_B$=0 | -60 | | | V |
| $V_{CE(sat)}$ | Collector-emitter saturation voltage | $I_C$=-5A; $I_B$=-1A | | | -1.5 | V |
| $V_{BE(on)}$ | Base-emitter on voltage | $I_C$=-5A ; $V_{CE}$=-4V | | | -2.0 | V |
| $I_{CEO}$ | Collector cut-off current | $V_{CE}$=Rated $V_{CEO}$; $I_B$=0 | | | -5.0 | mA |
| $I_{CBO}$ | Collector cut-off current | $V_{CB}$=Rated $V_{CBO}$; $I_E$=0 | | | -0.1 | mA |
| $I_{EBO}$ | Emitter cut-off current | $V_{EB}$=-5V; $I_C$=0 | | | -1.0 | mA |
| $h_{FE-1}$ | DC current gain | $I_C$=-0.3A ; $V_{CE}$=-4V | 30 | | | |
| $h_{FE-2}$ | DC current gain | $I_C$=-3A ; $V_{CE}$=-4V | 15 | | | |

**PACKAGE OUTLINE**

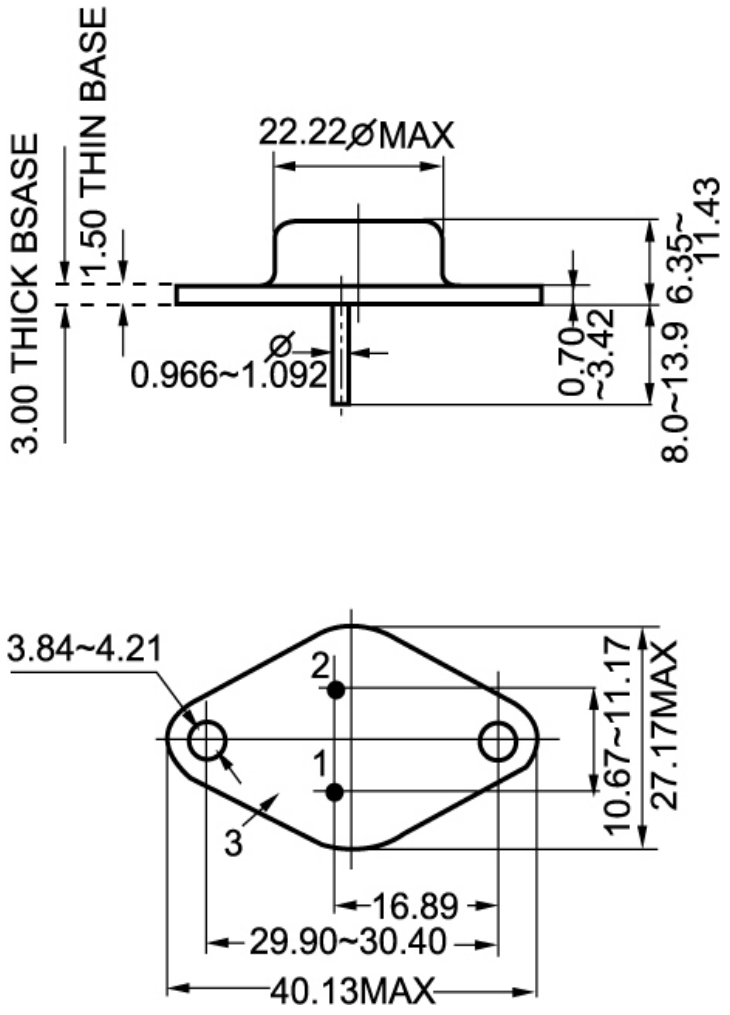



**Fig.2 outline dimensions (unindicated tolerance:±0.1mm)**