# Silicon NPN Power Transistors 2N6671 2N6672 2N6673



## DESCRIPTION

·With TO-3 package
·Low saturation voltage
·Fast switching speed
·High voltage ratings

## APPLICATIONS

·Off-line power supplies
·High-voltage inverters
·Switching regulators

**PINNING**

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

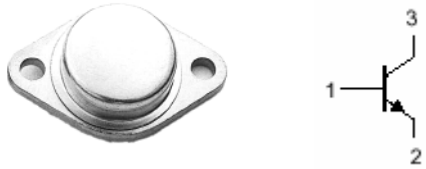


**Fig.1 simplified outline (TO-3) and symbol**

## Absolute maximum ratings(Ta=□)

| SYMBOL | PARAMETER | | CONDITIONS | VALUE | UNIT |
|---|---|---|---|---|---|
| $V_{CBO}$ | Collector-base voltage | 2N6671 | Open emitter | 450 | V |
| | | 2N6672 | | 550 | |
| | | 2N6673 | | 650 | |
| $V_{CEO}$ | Collector-emitter voltage | 2N6671 | Open base | 300 | V |
| | | 2N6672 | | 350 | |
| | | 2N6673 | | 400 | |
| $V_{EBO}$ | Emitter-base voltage | | Open collector | 8 | V |
| $I_C$ | Collector current | | | 8 | A |
| $I_{CM}$ | Collector current-peak | | | 10 | A |
| $I_B$ | Base current | | | 4 | A |
| $P_D$ | Total Power Dissipation | | $T_C$=25□ | 150 | W |
| $T_j$ | Junction temperature | | | 200 | □ |
| $T_{stg}$ | Storage temperature | | | -65~200 | □ |

## CHARACTERISTICS

**Tj=25□ unless otherwise specified**

| SYMBOL | PARAMETER | | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-emitter sustaining voltage | 2N6671 | $I_C$=0.2A ;$I_B$=0 | 300 | | | V |
| | | 2N6672 | | 350 | | | |
| | | 2N6673 | | 400 | | | |
| $V_{CEsat-1}$ | Collector-emitter saturation voltage | | $I_C$=5A; $I_B$=1A | | | 1.0 | V |
| $V_{CEsat-2}$ | Collector-emitter saturation voltage | | $I_C$=8A ;$I_B$=4A | | | 2.0 | V |
| $V_{BEsat}$ | Base-emitter saturation voltage | | $I_C$=5A; $I_B$=1A | | | 1.6 | V |
| $I_{CEV}$ | Collector cut-off current | 2N6671 | $V_{CE}$=450V; $V_{BE(off)}$=-1.5V | | | 0.1 | mA |
| | | 2N6672 | $V_{CE}$=550V; $V_{BE(off)}$=-1.5V | | | | |
| | | 2N6673 | $V_{CE}$=650V; $V_{BE(off)}$=-1.5V | | | | |
| $I_{EBO}$ | Emitter cut-off current | | $V_{EB}$=8V; $I_C$=0 | | | 2.0 | mA |
| $h_{FE}$ | DC current gain | | $I_C$=5A ; $V_{CE}$=3V | 10 | | 40 | |
| $C_{OB}$ | Output capacitance | | $I_E$=0 ; $V_{CB}$=10V;f=0.1MHz | | | 300 | pF |
| $f_T$ | Transition frequency | | $I_C$=0.2A ; $V_{CE}$=10V | 15 | | 60 | MHz |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal resistance junction to case | 1.17 | □/W |

**PACKAGE OUTLINE**

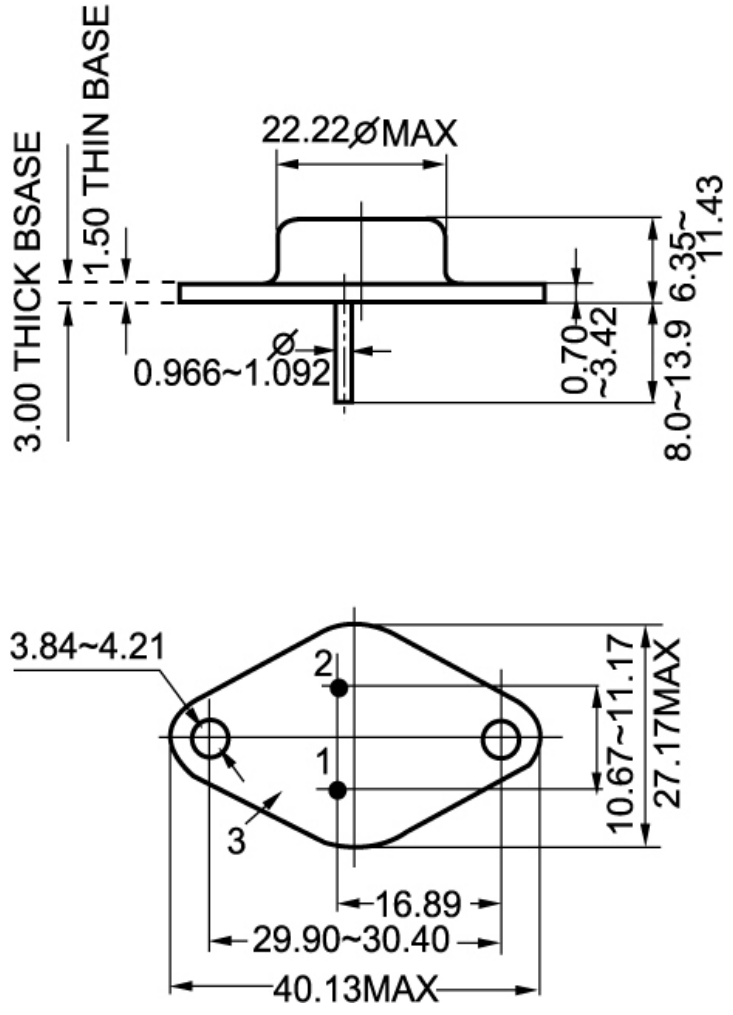


**Fig.2 outline dimensions (unindicated tolerance:±0.10mm)**