# Silicon NPN Power Transistors 2N5873 2N5874

## DESCRIPTION

·With TO-3 package

·Low collector saturation voltage

## APPLICATIONS

·For medium-speed switching and amplifier applications

**PINNING**

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



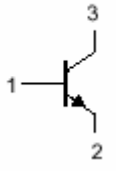



**Fig.1 simplified outline (TO-3) and symbol**

## Absolute maximum ratings(Ta=□)

| SYMBOL | PARAMETER | | CONDITIONS | VALUE | UNIT |
|---|---|---|---|---|---|
| $V_{CBO}$ | Collector-base voltage | 2N5873 | Open emitter | 60 | V |
| | | 2N5874 | | 80 | |
| $V_{CEO}$ | Collector-emitter voltage | 2N5873 | Open base | 60 | V |
| | | 2N5874 | | 80 | |
| $V_{EBO}$ | Emitter-base voltage | | Open collector | 5 | V |
| $I_C$ | Collector current | | | 7 | A |
| $P_D$ | Total Power Dissipation | | $T_C$=25□ | 115 | W |
| $T_j$ | Junction temperature | | | 150 | □ |
| $T_{stg}$ | Storage temperature | | | -65~200 | □ |

## THERMAL CHARACTERISTICS

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

## CHARACTERISTICS

**Tj=25□ unless otherwise specified**

| SYMBOL | PARAMETER | | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-emitter sustaining voltage | 2N5873 | $I_C$=0.1A ;$I_B$=0 | 60 | | | V |
| | | 2N5874 | | 80 | | | |
| $V_{CEsat}$ | Collector-emitter saturation voltage | | $I_C$=5A;$I_B$=0.5A | | | 1.0 | V |
| $V_{BEsat}$ | Base-emitter saturation voltage | | $I_C$=5A; $I_B$=0.5A | | | 1.5 | V |
| $I_{CBO}$ | Collector cut-off current | | $V_{CB}$=rated$V_{CBO}$; $I_B$=0 | | | 1.0 | mA |
| $I_{CEO}$ | Collector cut-off current | 2N5873 | $V_{CE}$=30V; $I_B$=0 | | | 2.0 | mA |
| | | 2N5874 | $V_{CE}$=40V; $I_B$=0 | | | | |
| $I_{EBO}$ | Emitter cut-off current | | $V_{EB}$=5V; $I_C$=0 | | | 1.0 | mA |
| $h_{FE}$ | DC current gain | | $I_C$=2.5A ; $V_{CE}$=4V | 20 | | 100 | |
| $f_T$ | Trainsistion frequency | | $I_C$=0.5A ; $V_{CE}$=10V | 4 | | | MHz |

**PACKAGE OUTLINE**

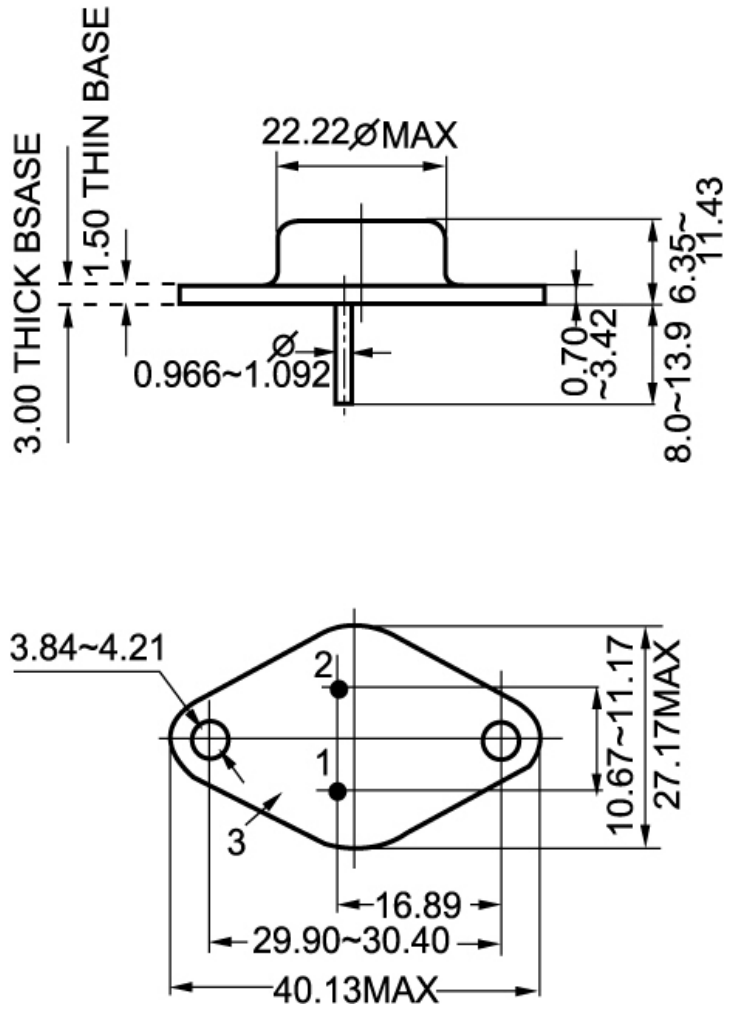



**Fig.2 outline dimensions (unindicated tolerance:±0.10mm)**