

Silicon NPN Power Transistors

2N5869 2N5870

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 |

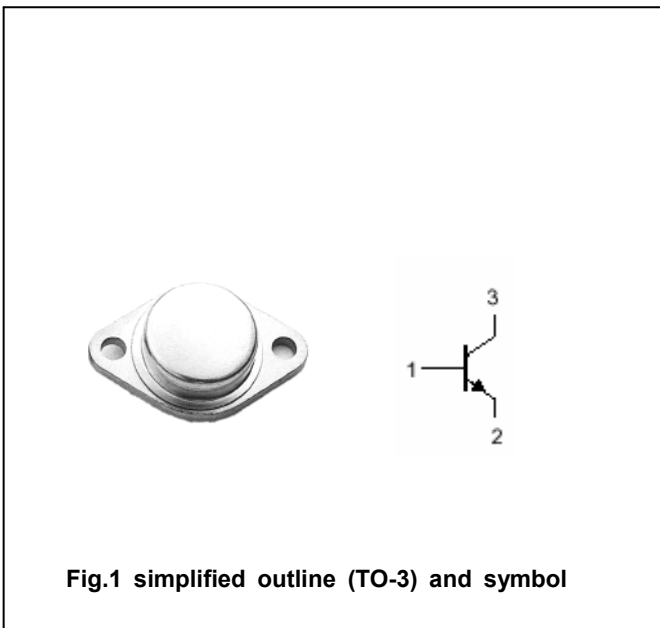


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings(Ta=□)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|---------------------|---------|------|
| V _{CBO} | Collector-base voltage | 2N5869 | 60 | V |
| | | 2N5870 | 80 | |
| V _{CEO} | Collector-emitter voltage | 2N5869 | 60 | V |
| | | 2N5870 | 80 | |
| V _{EBO} | Emitter-base voltage | Open collector | 5 | V |
| I _C | Collector current | | 5 | A |
| P _D | Total Power Dissipation | T _C =25□ | 87.5 | 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 | 1.17 | □/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 | 2N5869 | I _C =0.1A ; I _B =0 | 60 | | | V |
| | | 2N5870 | | 80 | | | |
| V _{CEsat} | Collector-emitter saturation voltage | | I _C =5A; I _B =1A | | | 1.0 | V |
| V _{BEsat} | Base-emitter saturation voltage | | I _C =5A; I _B =1A | | | 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 | 2N5869 | V _{CE} =30V; I _B =0 | | | 2.0 | mA |
| | | 2N5870 | 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 =1.5A ; V _{CE} =4V | 20 | | 100 | |
| f _T | Transistion frequency | | I _C =0.5A ; V _{CE} =10V; f=1MHz | 4 | | | MHz |

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PACKAGE OUTLINE

