

Silicon NPN Power Transistors

2N6121 2N6122 2N6123

DESCRIPTION

- With TO-220 package
- Complement to PNP type :
2N6124 ;2N6125 ;2N6126

APPLICATIONS

- For use in power amplifier and switching circuit applications

PINNING

| PIN | DESCRIPTION |
|-----|--------------------------------------|
| 1 | Base |
| 2 | Collector;connected to mounting base |
| 3 | Emitter |

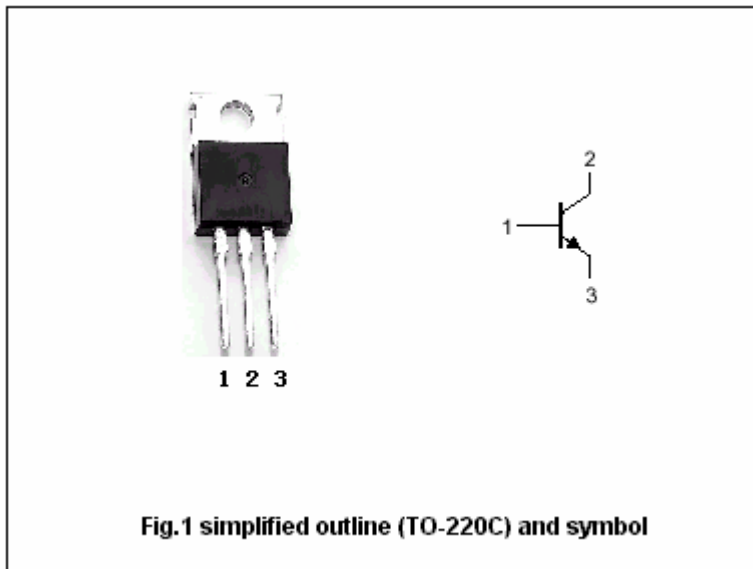


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | 2N6121 | 45 | V |
| | | 2N6122 | 60 | |
| | | 2N6123 | 80 | |
| V _{CEO} | Collector-emitter voltage | 2N6121 | 45 | V |
| | | 2N6122 | 60 | |
| | | 2N6123 | 80 | |
| V _{EBO} | Emitter-base voltage | Open collector | 5 | V |
| I _C | Collector current | | 4 | A |
| I _{CM} | Collector current-peak | | 8 | A |
| I _B | Base current | | 1 | A |
| P _T | Total power dissipation | T _C =25°C | 40 | W |
| T _j | Junction temperature | | 150 | °C |
| T _{stg} | Storage temperature | | -65~150 | °C |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------------|--|-------|------|
| R _{th j-c} | Thermal resistance from junction to case | 3.125 | °C/W |

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|---|---|------|-----|------|
| V _{CE0(SUS)} | Collector-emitter sustaining voltage | 2N6121 | I _C =0.1A ; I _B =0 | | | V |
| | | 2N6122 | | | | |
| | | 2N6123 | | | | |
| V _{CEsat-1} | Collector-emitter saturation voltage | I _C =1.5A; I _B =0.15A | | | 0.6 | V |
| V _{CEsat-2} | Collector-emitter saturation voltage | I _C =4.0A; I _B =1.0A | | | 1.4 | V |
| V _{BE} | Base-emitter on voltage | I _C =1.5A ; V _{CE} =2V | | | 1.2 | V |
| I _{CEX} | Collector cut-off current | 2N6121 | V _{CE} =45V; V _{BE} =1.5V T _C =125 °C | | | mA |
| | | 2N6122 | | | | |
| | | 2N6123 | | | | |
| I _{CEO} | Collector cut-off current | 2N6121 | V _{CE} =45V; I _B =0 | | | mA |
| | | 2N6122 | | | | |
| | | 2N6123 | | | | |
| I _{EBO} | Emitter cut-off current | V _{EB} =5V; I _C =0 | | | 1.0 | mA |
| h _{FE-1} | DC current gain | 2N6121 | I _C =1.5A ; V _{CE} =2V | 25 | | 100 |
| | | 2N6122 | | | | |
| | | 2N6123 | | | | |
| h _{FE-2} | DC current gain | 2N6121 | I _C =4A ; V _{CE} =2V | 10 | | |
| | | 2N6122 | | | | |
| | | 2N6123 | | | | |
| f _T | Transition frequency | I _C =1A ; V _{CE} =4V | 2.5 | | | MHz |

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PACKAGE OUTLINE

