

Silicon NPN Power Transistors

2N6300 2N6301

DESCRIPTION

- With TO-66 package
- DARLINGTON
- Low collector saturation voltage
- Complement to type 2N6298/6299

APPLICATIONS

- General purpose power amplifier and low frequency switching applications

PINNING (See Fig.2)

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

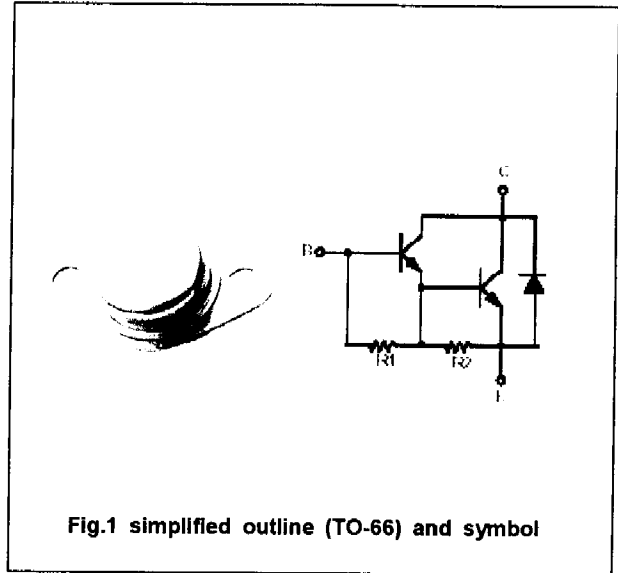


Fig.1 simplified outline (TO-66) and symbol

Absolute maximum ratings(Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|---------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | 2N6300 | 60 | V |
| | | 2N6301 | 80 | |
| V _{CEO} | Collector-emitter voltage | 2N6300 | 60 | V |
| | | 2N6301 | 80 | |
| V _{EBO} | Emitter-base voltage | Open collector | 5 | V |
| I _C | Collector current | | 8 | A |
| I _{CM} | Collector current-peak | | 16 | A |
| I _B | Base current | | 0.12 | A |
| P _T | Total power dissipation | T _C =25°C | 75 | W |
| T _J | Junction temperature | | 200 | °C |
| T _{stg} | Storage temperature | | -65~200 | °C |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|--------------------|--|------|------|
| R _{thj-c} | Thermal resistance from junction to case | 2.33 | °C/W |

NJ Semi-Conductors reserves the right to change test conditions, parameters limits and package dimensions without notice information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.



Silicon NPN Power Transistors

2N6300 2N6301

CHARACTERISTICS

T_j=25 °C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|---|--|------|------------|------|
| V _{CE0(SUS)} | Collector-emitter sustaining voltage | 2N6300 | I _C =0.1A; I _B =0 | | | V |
| | | 2N6301 | | | | |
| V _{CEsat-1} | Collector-emitter saturation voltage | I _C =4A; I _B =16mA | | | 2.0 | V |
| V _{CEsat-2} | Collector-emitter saturation voltage | I _C =8A; I _B =80mA | | | 3.0 | V |
| V _{BEsat} | Base-emitter saturation voltage | I _C =8A; I _B =80mA | | | 4.0 | V |
| V _{BE} | Base -emitter on voltage | I _C =4A; V _{CE} =3V | | | 2.8 | V |
| I _{CEX} | Collector cut-off current | 2N6300 | V _{CE} =60V; V _{BE(off)} =1.5V T _C =150L | | 0.5 5.0 | mA |
| | | 2N6301 | | | | |
| I _{CEO} | Collector cut-off current | 2N6300 | V _{CE} =30V; I _B =0 | | 0.5 | mA |
| | | 2N6301 | | | | |
| I _{EBO} | Emitter cut-off current | V _{EB} =5V; I _C =0 | | | 2.0 | mA |
| h _{FE-1} | DC current gain | I _C =4A; V _{CE} =3V | 750 | | 18000 | |
| h _{FE-2} | DC current gain | I _C =8A; V _{CE} =3V | 100 | | | |
| C _{OB} | Output capacitance | I _E =0; V _{CB} =10V; f=0.1MHz | | | 200 | pF |