

## Silicon PNP Power Transistors

## 2N6298 2N6299

## DESCRIPTION

- With TO-66 package
- DARLINGTON
- Low collector saturation voltage
- Complement to type 2N6300/6301

## APPLICATIONS

- General purpose power amplifier and low frequency switching applications

## PINNING (See Fig.2)

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

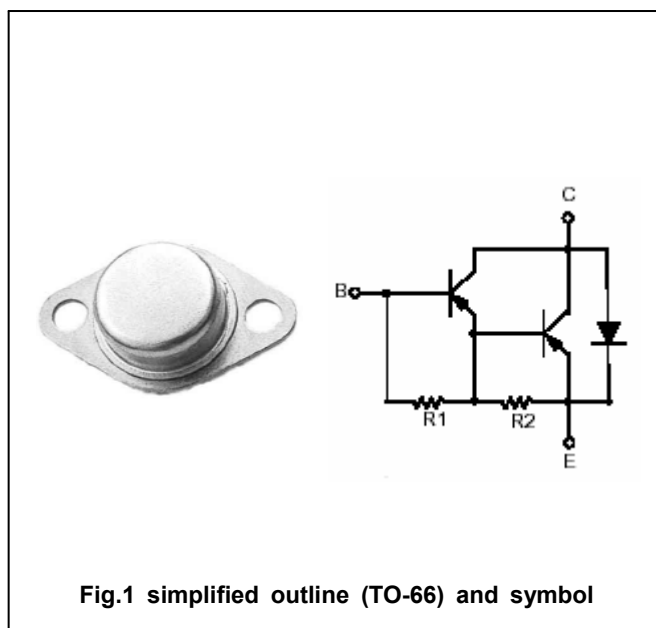


Fig.1 simplified outline (TO-66) and symbol

Absolute maximum ratings( $T_a=25^\circ$ )

| SYMBOL    | PARAMETER                 |                | CONDITIONS     | VALUE   | UNIT     |
|-----------|---------------------------|----------------|----------------|---------|----------|
| $V_{CBO}$ | Collector-base voltage    | 2N6298         | Open emitter   | -60     | V        |
|           |                           | 2N6299         |                | -80     |          |
| $V_{CEO}$ | Collector-emitter voltage | 2N6298         | Open base      | -60     | V        |
|           |                           | 2N6299         |                | -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   | $T_C=25^\circ$ |                | 75      | W        |
| $T_j$     | Junction temperature      |                |                | 200     | $^\circ$ |
| $T_{stg}$ | Storage temperature       |                |                | -65~200 | $^\circ$ |

## THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                                | MAX  | UNIT        |
|---------------|------------------------------------------|------|-------------|
| $R_{th\ j-C}$ | Thermal resistance from junction to case | 2.33 | $^\circ$ /W |

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## CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

| SYMBOL                | PARAMETER                            |        | CONDITIONS                                                                  | MIN | TYP. | MAX          | UNIT |
|-----------------------|--------------------------------------|--------|-----------------------------------------------------------------------------|-----|------|--------------|------|
| V <sub>CEQ(SUS)</sub> | Collector-emitter sustaining voltage | 2N6298 | I <sub>C</sub> =-0.1A ; I <sub>B</sub> =0                                   | -60 |      |              | V    |
|                       |                                      | 2N6299 |                                                                             | -80 |      |              |      |
| V <sub>CEsat-1</sub>  | Collector-emitter saturation voltage |        | I <sub>C</sub> =-4A; I <sub>B</sub> =-16mA                                  |     |      | -2.0         | V    |
| V <sub>CEsat-2</sub>  | Collector-emitter saturation voltage |        | I <sub>C</sub> =-8A; I <sub>B</sub> =-80mA                                  |     |      | -3.0         | V    |
| V <sub>BEsat</sub>    | Base-emitter saturation voltage      |        | I <sub>C</sub> =-8A; I <sub>B</sub> =-80mA                                  |     |      | -4.0         | V    |
| V <sub>BE</sub>       | Base -emitter on voltage             |        | I <sub>C</sub> =-4A ; V <sub>CE</sub> =-3V                                  |     |      | -2.8         | V    |
| I <sub>CEX</sub>      | Collector cut-off current            | 2N6298 | V <sub>CE</sub> =-60V; V <sub>BE(off)</sub> =-1.5V<br>T <sub>C</sub> =150°C |     |      | -0.5<br>-5.0 | mA   |
|                       |                                      | 2N6299 | V <sub>CE</sub> =-80V; V <sub>BE(off)</sub> =-1.5V<br>T <sub>C</sub> =150°C |     |      | -0.5<br>-5.0 |      |
| I <sub>CEO</sub>      | Collector cut-off current            | 2N6298 | V <sub>CE</sub> =-30V; I <sub>B</sub> =0                                    |     |      | -0.5         | mA   |
|                       |                                      | 2N6299 | V <sub>CE</sub> =-40V; I <sub>B</sub> =0                                    |     |      |              |      |
| I <sub>EBO</sub>      | Emitter cut-off current              |        | V <sub>EB</sub> =-5V; I <sub>C</sub> =0                                     |     |      | -2.0         | mA   |
| h <sub>FE-1</sub>     | DC current gain                      |        | I <sub>C</sub> =-4A ; V <sub>CE</sub> =-3V                                  | 750 |      | 18000        |      |
| h <sub>FE-2</sub>     | DC current gain                      |        | I <sub>C</sub> =-8A ; V <sub>CE</sub> =-3V                                  | 100 |      |              |      |
| C <sub>OB</sub>       | Output capacitance                   |        | I <sub>E</sub> =0 ; V <sub>CB</sub> =-10V; f=0.1MHz                         |     |      | 300          | pF   |

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PACKAGE OUTLINE

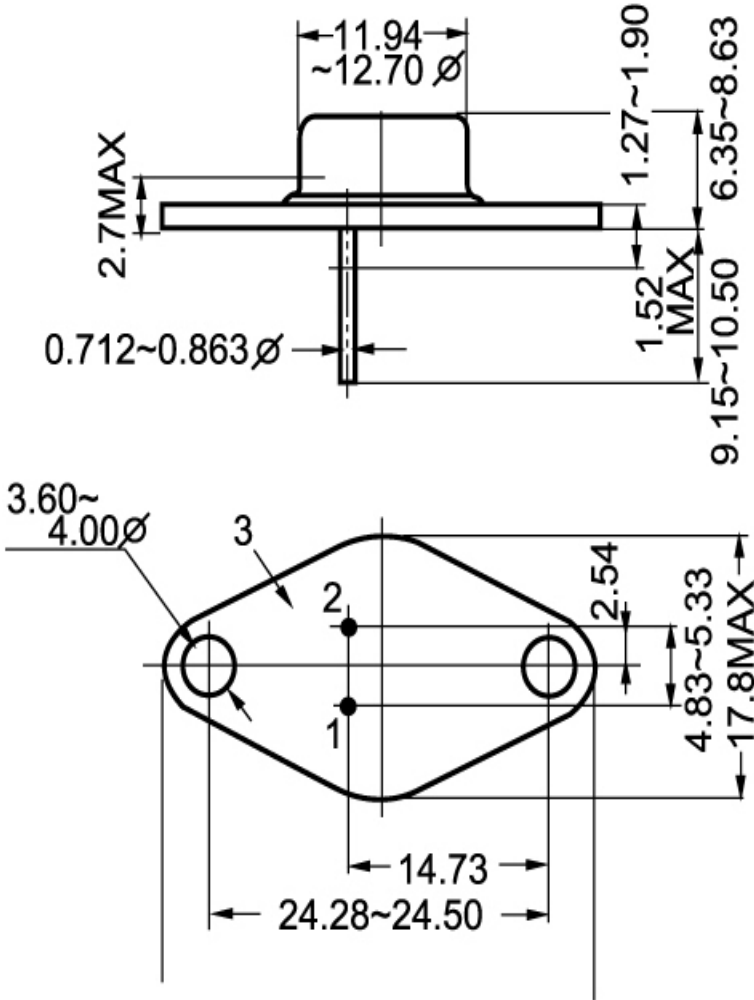


Fig.2 Outline dimensions