

## Silicon NPN Power Transistors

2N5498

## DESCRIPTION

- With TO-3 package
- High DC current gain and low saturation voltage
- High Safe Operating Area

## APPLICATIONS

- Designed for high power audio, disk head positioners and other linear applications. These devices can also be used in power switching circuits such as relay or solenoid drivers, DC-DC converters or inverters.

## PINNING

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



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

Absolute maximum ratings( $T_a =$  )

| SYMBOL    | PARAMETER                 | CONDITIONS     | VALUE   | UNIT |
|-----------|---------------------------|----------------|---------|------|
| $V_{CBO}$ | Collector-base voltage    | Open emitter   | 150     | V    |
| $V_{CEO}$ | Collector-emitter voltage | Open base      | 130     | V    |
| $V_{EBO}$ | Emitter-base voltage      | Open collector | 7       | V    |
| $I_C$     | Collector current         |                | 15      | A    |
| $I_B$     | Base current              |                | 4       | A    |
| $P_D$     | Total Power Dissipation   | $T_C = 25$     | 200     | 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<sub>j</sub>=25 unless otherwise specified

| SYMBOL               | PARAMETER                            | CONDITIONS                                                               | MIN | TYP. | MAX         | UNIT |
|----------------------|--------------------------------------|--------------------------------------------------------------------------|-----|------|-------------|------|
| V <sub>CEO</sub>     | Collector-emitter breakdwn voltage   | I <sub>C</sub> =0.2A ; I <sub>B</sub> =0                                 | 130 |      |             | V    |
| V <sub>CER</sub>     | Collector-emitter sustaining voltage | I <sub>C</sub> =0.2A ; R <sub>BE</sub> =100Ohm                           | 150 |      |             | V    |
| V <sub>CEsat-1</sub> | Collector-emitter saturation voltage | I <sub>C</sub> =8A; I <sub>B</sub> =0.8A                                 |     |      | 1.4         | V    |
| V <sub>CEsat-2</sub> | Collector-emitter saturation voltage | I <sub>C</sub> =15A ; I <sub>B</sub> =3A                                 |     |      | 4.0         | V    |
| I <sub>CEO</sub>     | Collector cut-off current            | V <sub>CE</sub> =130V; I <sub>B</sub> =0                                 |     |      | 2.0         | mA   |
| I <sub>CEX</sub>     | Collector cut-off current            | V <sub>CE</sub> =130V; V <sub>BE(off)</sub> =1.5V<br>T <sub>C</sub> =150 |     |      | 2.0<br>10.0 | mA   |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =7V; I <sub>C</sub> =0                                   |     |      | 1.0         | mA   |
| h <sub>FE</sub>      | DC current gain                      | I <sub>C</sub> =15A ; V <sub>CE</sub> =5V                                | 10  |      | 50          |      |
| f <sub>T</sub>       | Transition frequency                 | I <sub>C</sub> =1A ; V <sub>CE</sub> =10V                                | 1   |      |             | MHz  |

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PACKAGE OUTLINE

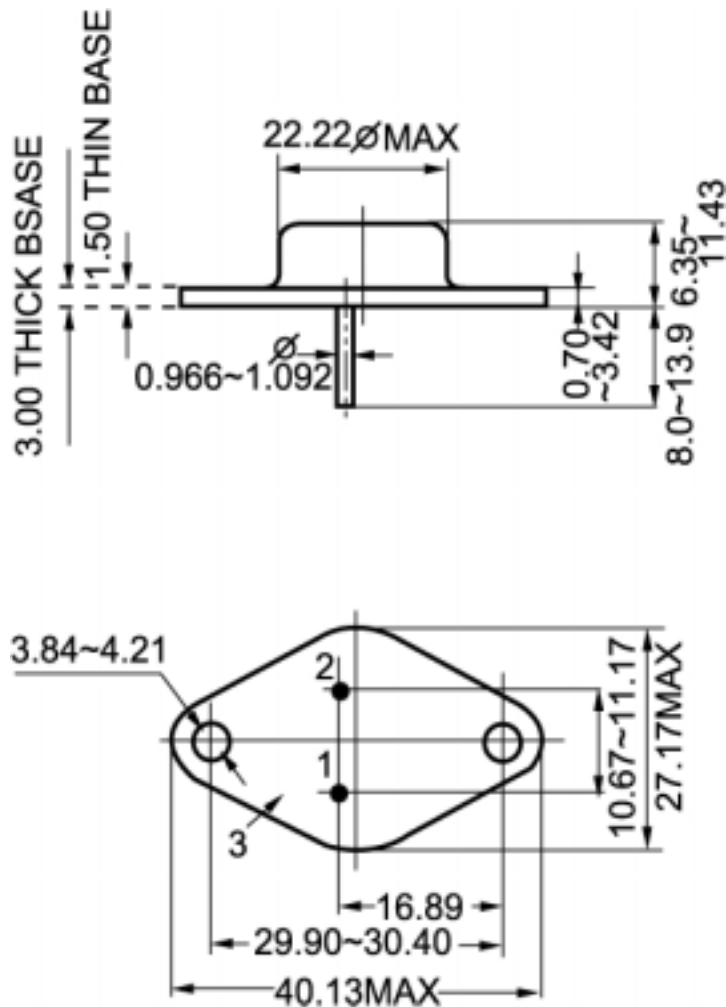


Fig.2 outline dimensions (unindicated tolerance: ± 0.10mm)