# Silicon PNP Power Transistors 2N4898 2N4899 2N4900

## DESCRIPTION

·With TO-66 package
·Low collector saturation voltage
·Excellent safe operating area
·2N4900 complement to type 2N4912

## APPLICATIONS

·Designed for driver circuits,switching and amplifier applications

## PINNING

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


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

## ABSOLUTE MAXIMUM RATINGS(Ta=25□)

| SYMBOL | PARAMETER | | CONDITIONS | VALUE | UNIT |
|---|---|---|---|---|---|
| $V_{CBO}$ | Collector-base voltage | 2N4898 | Open emitter | -40 | V |
| | | 2N4899 | | -60 | |
| | | 2N4900 | | -80 | |
| $V_{CEO}$ | Collector-emitter voltage | 2N4898 | Open base | -40 | V |
| | | 2N4899 | | -60 | |
| | | 2N4900 | | -80 | |
| $V_{EBO}$ | Emitter-base voltage | | Open collector | -5 | V |
| $I_C$ | Collector current | | | -1.0 | A |
| $I_{CM}$ | Collector current-peak | | | -4.0 | A |
| $I_B$ | Base current | | | -1.0 | A |
| $P_D$ | Total Power Dissipation | | $T_C$=25□ | 25 | W |
| $T_j$ | Junction temperature | | | 150 | □ |
| $T_{stg}$ | Storage temperature | | | -65~200 | □ |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $R_{(th)\,jc}$ | Thermal resistance junction to case | 7.0 | □/W |

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**CHARACTERISTICS**

**Tj=25□ unless otherwise specified**

| SYMBOL | PARAMETER | | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-emitter sustaining voltage | 2N4898 | $I_C$=-0.1A ;$I_B$=0 | -40 | | | V |
| | | 2N4899 | | -60 | | | |
| | | 2N4900 | | -80 | | | |
| $V_{CE(sat)}$ | Collector-emitter saturation voltage | | $I_C$=-1A; $I_B$=-0.1A | | | -0.6 | V |
| $V_{BE(sat)}$ | Base-emitter saturation voltage | | $I_C$=-1A ;$I_B$=-0.1A | | | -1.3 | V |
| $V_{BE(on)}$ | Base-emitter on voltage | | $I_C$=-1A ; $V_{CE}$=-1V | | | -1.3 | V |
| $I_{CEO}$ | Collector cut-off current | 2N4898 | $V_{CE}$=-20V; $I_B$=0 | | | -0.5 | mA |
| | | 2N4899 | $V_{CE}$=-30V; $I_B$=0 | | | | |
| | | 2N4900 | $V_{CE}$=-40V; $I_B$=0 | | | | |
| $I_{CEX}$ | Collector cut-off current | | $V_{CE}$=Rated $V_{CEO}$; $V_{BE(off)}$=1.5V<br>$T_C$=150□ | | | -0.1<br>-1.0 | mA |
| $I_{CBO}$ | Collector cut-off current | | $V_{CB}$=Rated $V_{CBO}$; $I_E$=0 | | | -0.1 | mA |
| $I_{EBO}$ | Emitter cut-off current | | $V_{EB}$=-5V; $I_C$=0 | | | -1.0 | mA |
| $h_{FE-1}$ | DC current gain | | $I_C$=-50mA ; $V_{CE}$=-1V | 40 | | | |
| $h_{FE-2}$ | DC current gain | | $I_C$=-500mA ; $V_{CE}$=-1V | 20 | | 100 | |
| $h_{FE-3}$ | DC current gain | | $I_C$=-1.0A ; $V_{CE}$=-1V | 10 | | | |
| $C_{OB}$ | Output capacitance | | $I_E$=0;$V_{CB}$=-10V;f=1MHz | | | 100 | pF |
| $f_T$ | Transition frequency | | $I_C$=-250mA;$V_{CE}$=-10V | 3.0 | | | MHz |

**PACKAGE OUTLINE**

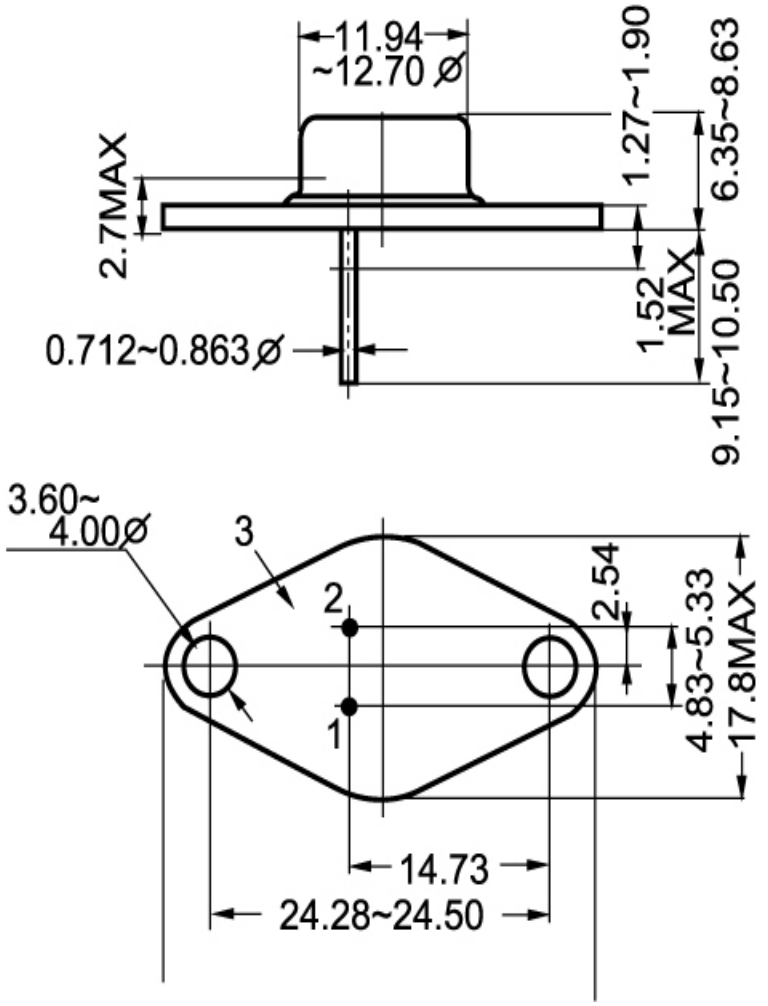


**Fig.2 outline dimensions**