

## Silicon PNP Power Transistors

## TIP514

## DESCRIPTION

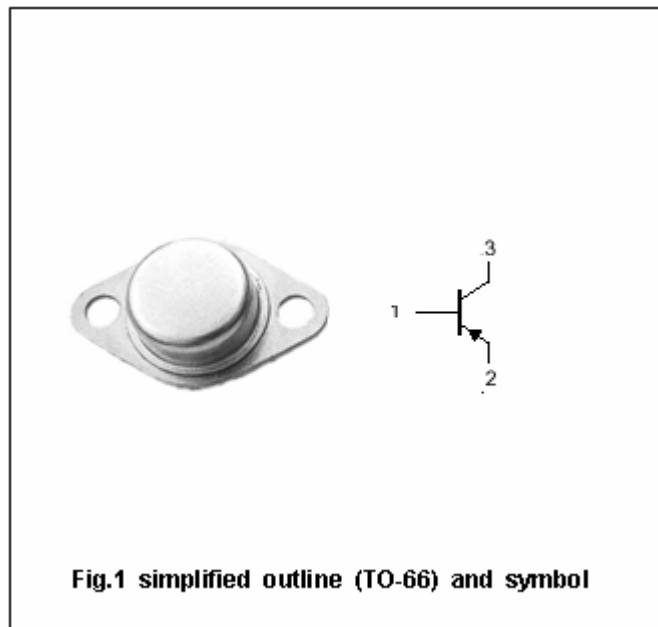
- With TO-66 package
- Low collector saturation voltage
- Wide area of safe operation

## APPLICATIONS

- For use in high-frequency drivers
- In audio amplifiers

## PINNING (See Fig.2)

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

ABSOLUTE MAXIMUM RATINGS( $T_c=25^\circ\text{C}$ )

| SYMBOL    | PARAMETER                 | CONDITIONS              | VALUE   | UNIT             |
|-----------|---------------------------|-------------------------|---------|------------------|
| $V_{CBO}$ | Collector-base voltage    | Open emitter            | -150    | V                |
| $V_{CEO}$ | Collector-emitter voltage | Open base               | -150    | V                |
| $V_{EBO}$ | Emitter-base voltage      | Open collector          | -5      | V                |
| $I_C$     | Collector current         |                         | -5      | A                |
| $P_D$     | Total power dissipation   | $T_c=100^\circ\text{C}$ | 20      | W                |
|           |                           | $T_a=100^\circ\text{C}$ | 2       |                  |
| $T_j$     | Junction temperature      |                         | 175     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage temperature       |                         | -55~175 | $^\circ\text{C}$ |

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## CHARACTERISTICS

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

| SYMBOL                | PARAMETER                            | CONDITIONS                                   | MIN  | TYP. | MAX  | UNIT |
|-----------------------|--------------------------------------|----------------------------------------------|------|------|------|------|
| V <sub>CEO(SUS)</sub> | Collector-emitter sustaining voltage | I <sub>C</sub> =-10mA ; I <sub>B</sub> =0    | -150 |      |      | V    |
| V <sub>(BR)EBO</sub>  | Emitter-base breakdown voltage       | I <sub>E</sub> =-1mA ; I <sub>C</sub> =0     | -5   |      |      | V    |
| V <sub>CE(sat)</sub>  | Collector-emitter saturation voltage | I <sub>C</sub> =-5A; I <sub>B</sub> =-0.5A   |      |      | -2.0 | V    |
| V <sub>BE(sat)</sub>  | Base-emitter saturation voltage      | I <sub>C</sub> =-5A; I <sub>B</sub> =-0.5A   |      |      | -2.5 | V    |
| I <sub>CBO</sub>      | Collector cut-off current            | V <sub>CB</sub> =-150V; I <sub>E</sub> =0    |      |      | -10  | μA   |
| I <sub>CEO</sub>      | Collector cut-off current            | V <sub>CE</sub> =-150V; I <sub>B</sub> =0    |      |      | -100 | μA   |
| I <sub>EBO</sub>      | Emitter cut-off current              | V <sub>EB</sub> =-5V; I <sub>C</sub> =0      |      |      | -10  | μA   |
| h <sub>FE</sub>       | DC current gain                      | I <sub>C</sub> =-2.5A ; V <sub>CE</sub> =-4V | 30   |      | 150  |      |
| f <sub>T</sub>        | Transition frequency                 | I <sub>C</sub> =-0.5A ; V <sub>CE</sub> =-4V | 40   |      |      | MHz  |

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## PACKAGE OUTLINE

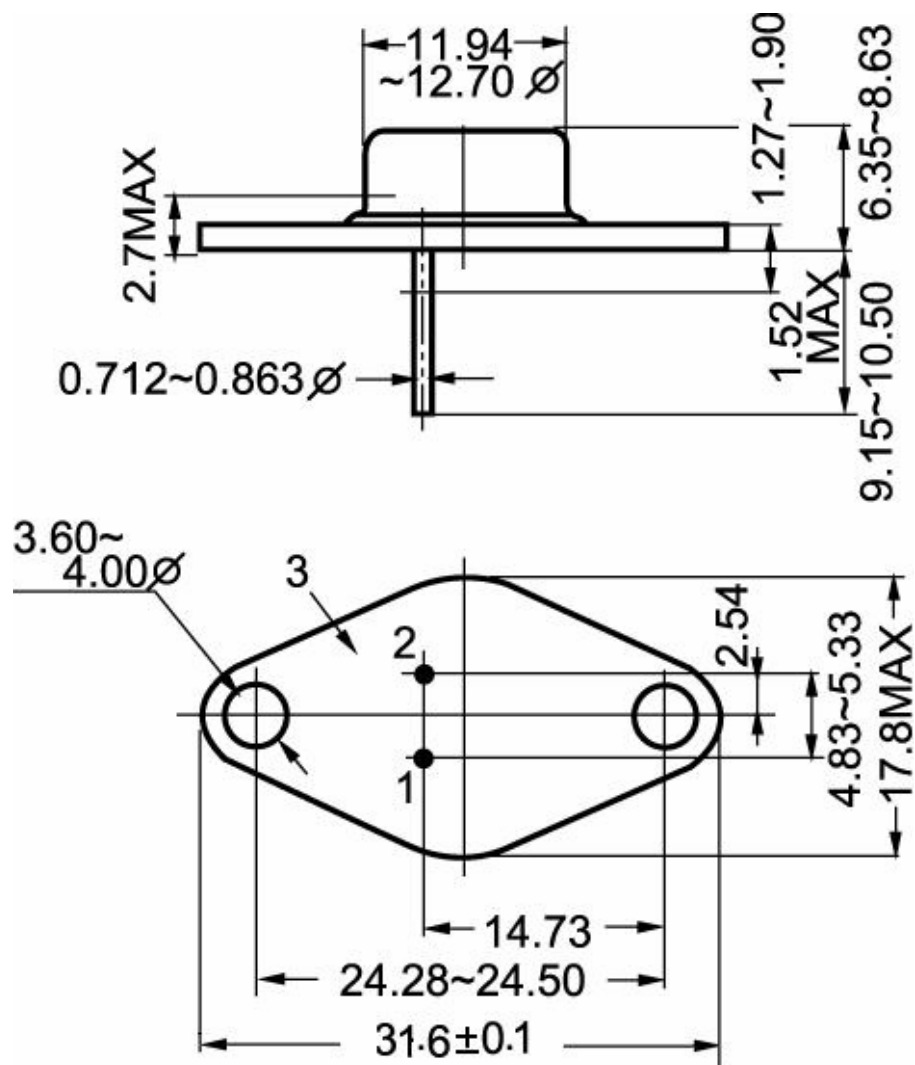


Fig.2 Outline dimensions