

## Silicon PNP Power Transistors

2SA969

## DESCRIPTION

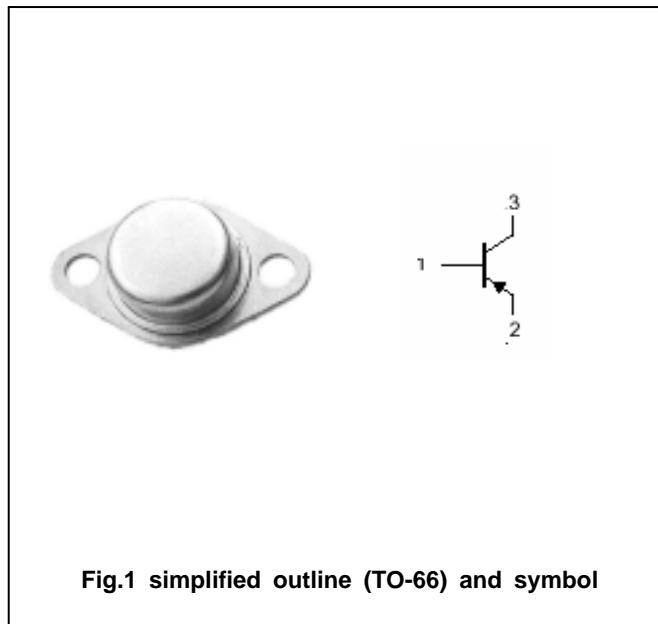
- With TO-66 package
- Complement to type 2SC2239
- High breakdown votage

## APPLICATIONS

- Power amplifier applications
- Driver stage amplifier applications

## PINNING(See Fig.2)

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

Absolute maximum ratings( $T_a=25$  )

| SYMBOL    | PARAMETER                 | CONDITIONS     | VALUE   | UNIT |
|-----------|---------------------------|----------------|---------|------|
| $V_{CBO}$ | Collector-base voltage    | Open emitter   | -160    | V    |
| $V_{CEO}$ | Collector-emitter voltage | Open base      | -160    | V    |
| $V_{EBO}$ | Emitter-base voltage      | Open collector | -5      | V    |
| $I_C$     | Collector current         |                | -1.5    | A    |
| $I_E$     | Emitter current           |                | 1.5     | A    |
| $P_T$     | Total power dissipation   | $T_C=25$       | 25      | W    |
| $T_j$     | Junction temperature      |                | 150     |      |
| $T_{stg}$ | Storage temperature       |                | -55~150 |      |

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## CHARACTERISTICS

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

| SYMBOL               | PARAMETER                            | CONDITIONS  | MIN  | TYP. | MAX  | UNIT |
|----------------------|--------------------------------------|---|------|------|------|------|
| V <sub>(BR)CEO</sub> | Collector-emitter breakdown voltage  | I <sub>C</sub> =-10mA; I <sub>B</sub> =0          | -160 |      |      | V    |
| V <sub>(BR)EBO</sub> | Emitter-base breakdown voltage       | I <sub>E</sub> =-1mA; I <sub>C</sub> =0           | -5   |      |      | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =-500mA; I <sub>B</sub> =-50mA     |      |      | -1.5 | V    |
| V <sub>BE</sub>      | Base-emitter on voltage              | I <sub>C</sub> =-500mA ; V <sub>CE</sub> =-5V     |      |      | -1.0 | V    |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =-160V ; I <sub>E</sub> =0        |      |      | -1.0 | μA   |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =-5V; I <sub>C</sub> =0           |      |      | -1.0 | μA   |
| h <sub>FE</sub>      | DC current gain                      | I <sub>C</sub> =-100mA ; V <sub>CE</sub> =-5V     | 70   |      | 240  |      |
| C <sub>ob</sub>      | Output capacitance                   | I <sub>E</sub> =0 ; V <sub>CB</sub> =-10V, f=1MHz |      | 30   |      | pF   |
| f <sub>T</sub>       | Transition frequency                 | I <sub>C</sub> =-100mA ; V <sub>CE</sub> =10V     |      | 100  |      | MHz  |

◆ h<sub>FE</sub> Classifications

|        |         |
|--------|---------|
| O      | Y       |
| 70-140 | 120-240 |

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PACKAGE OUTLINE

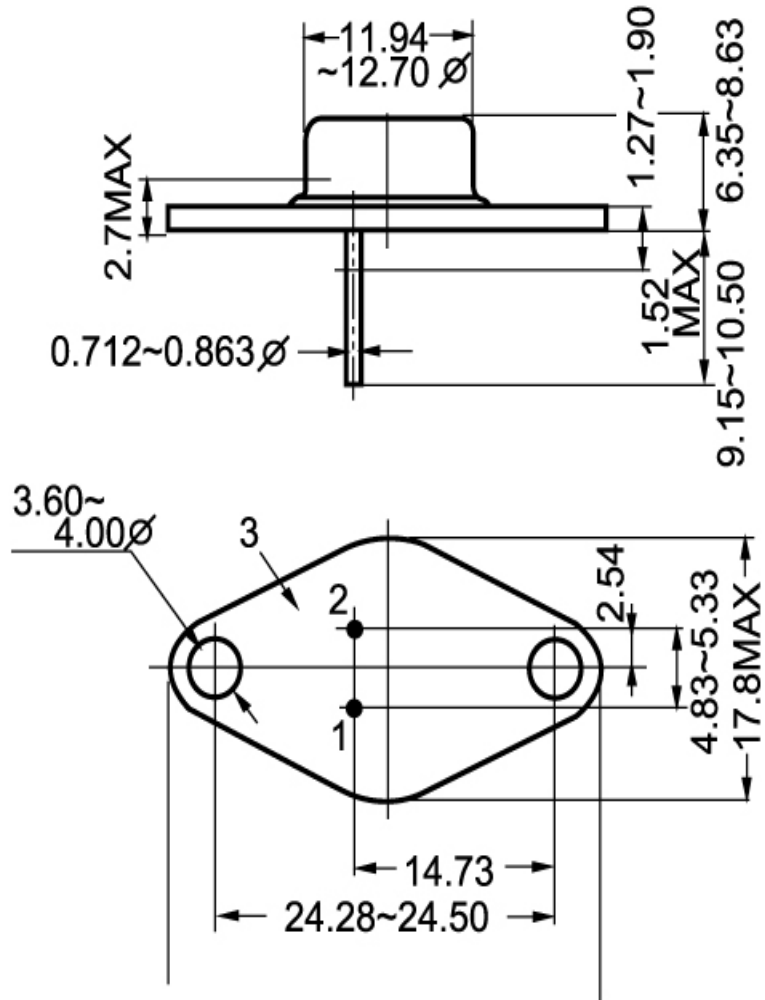


Fig.2 Outline dimensions