

## Silicon NPN Power Transistors

2SC1316

## DESCRIPTION

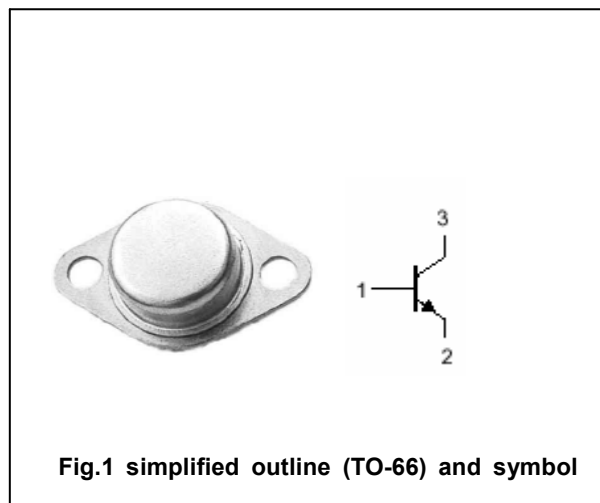
- With TO-66 package
- High breakdown voltage

## APPLICATIONS

- Suitable for switching power supplies in TV sets

## PINNING

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

Absolute maximum ratings ( $T_a=25^\circ\text{C}$ )

| SYMBOL    | PARAMETER                   | CONDITIONS             | VALUE   | UNIT             |
|-----------|-----------------------------|------------------------|---------|------------------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter           | 750     | V                |
| $V_{CEO}$ | Collector-emitter voltage   | Open base              | 750     | V                |
| $V_{EBO}$ | Emitter-base voltage        | Open collector         | 5       | V                |
| $I_C$     | Collector current           |                        | 2       | A                |
| $P_C$     | Collector power dissipation | $T_C=25^\circ\text{C}$ | 23      | W                |
| $T_j$     | Junction temperature        |                        | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage temperature         |                        | -55~150 | $^\circ\text{C}$ |

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## CHARACTERISTICS

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

| SYMBOL               | PARAMETER                            | CONDITIONS                                  | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|---|-----|------|-----|------|
| V <sub>(BR)CEO</sub> | Collector-emitter breakdown voltage  | I <sub>C</sub> =10mA ; I <sub>B</sub> =0    | 750 |      |     | 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> =1A ; I <sub>B</sub> =0.2A   |     |      | 3.0 | V    |
| V <sub>BEsat</sub>   | Base-emitter saturation voltage      | I <sub>C</sub> =1A ; I <sub>B</sub> =0.2A   |     |      | 1.2 | V    |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =750V ; I <sub>E</sub> =0   |     |      | 100 | μA   |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =5V ; I <sub>C</sub> =0     |     |      | 100 | μA   |
| h <sub>FE</sub>      | DC current gain                      | I <sub>C</sub> =2A ; V <sub>CE</sub> =3V    | 4   |      | 14  |      |
| f <sub>T</sub>       | Transition frequency                 | I <sub>C</sub> =0.5A ; V <sub>CE</sub> =10V |     | 8.5  |     | MHz  |

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PACKAGE OUTLINE

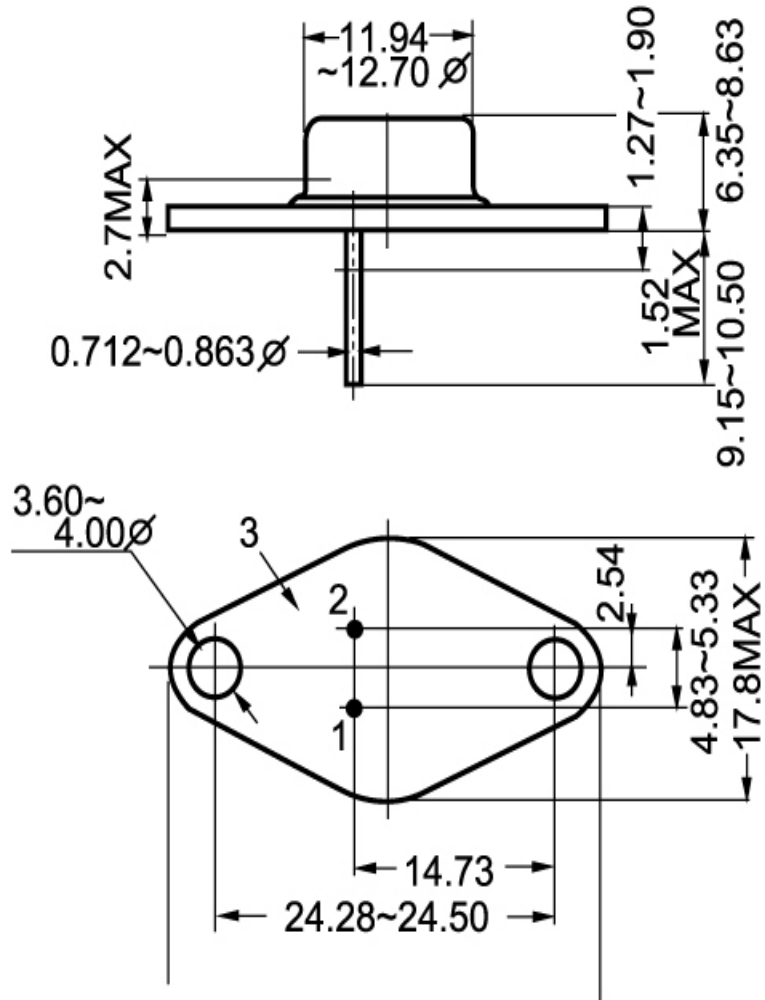


Fig.2 outline dimensions (unindicated tolerance:±0.10 mm)