

## Silicon NPN Power Transistors

2SC643

## DESCRIPTION

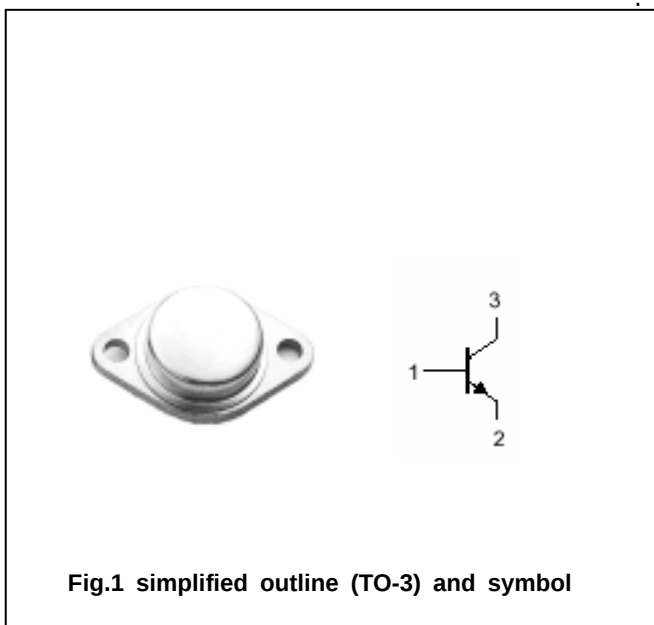
- With TO-3 package
- High voltage, high reliability
- Low collector saturation voltage

## APPLICATIONS

- For color TV horizontal output applications

## PINNING(see fig.2)

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

Absolute maximum ratings( $T_a =$  )

| SYMBOL    | PARAMETER                   | CONDITIONS     | VALUE   | UNIT |
|-----------|-----------------------------|----------------|---------|------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter   | 1100    | V    |
| $V_{CEO}$ | Collector-emitter voltage   | Open base      | 600     | V    |
| $V_{EBO}$ | Emitter-base voltage        | Open collector | 5       | V    |
| $I_C$     | Collector current           |                | 2.5     | A    |
| $P_C$     | Collector power dissipation | $T_C = 25$     | 50      | W    |
| $T_j$     | Junction temperature        |                | 150     |      |
| $T_{stg}$ | Storage temperature         |                | -55~150 |      |

## Silicon NPN Power Transistors

2SC643

## CHARACTERISTICS

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

| SYMBOL                | PARAMETER                            | CONDITIONS                                  | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|---------------------------------------------|-----|------|-----|------|
| V <sub>CEQ(SUS)</sub> | Collector-emitter sustaining voltage | I <sub>C</sub> =100mA; I <sub>B</sub> =0    | 600 |      |     | 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> =2A; I <sub>B</sub> =0.6A    |     |      | 5.0 | V    |
| V <sub>BEsat</sub>    | Base-emitter saturation voltage      | I <sub>C</sub> =2A; I <sub>B</sub> =0.6A    |     |      | 1.5 | V    |
| I <sub>CBO</sub>      | Collector cut-off current            | V <sub>CB</sub> =500V; I <sub>E</sub> =0    |     |      | 10  | 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> =15V   | 7   |      |     |      |
| f <sub>T</sub>        | Transition frequency                 | I <sub>C</sub> =0.1A ; V <sub>CE</sub> =10V |     | 2    |     | MHz  |

## Silicon NPN Power Transistors

2SC643

## PACKAGE OUTLINE

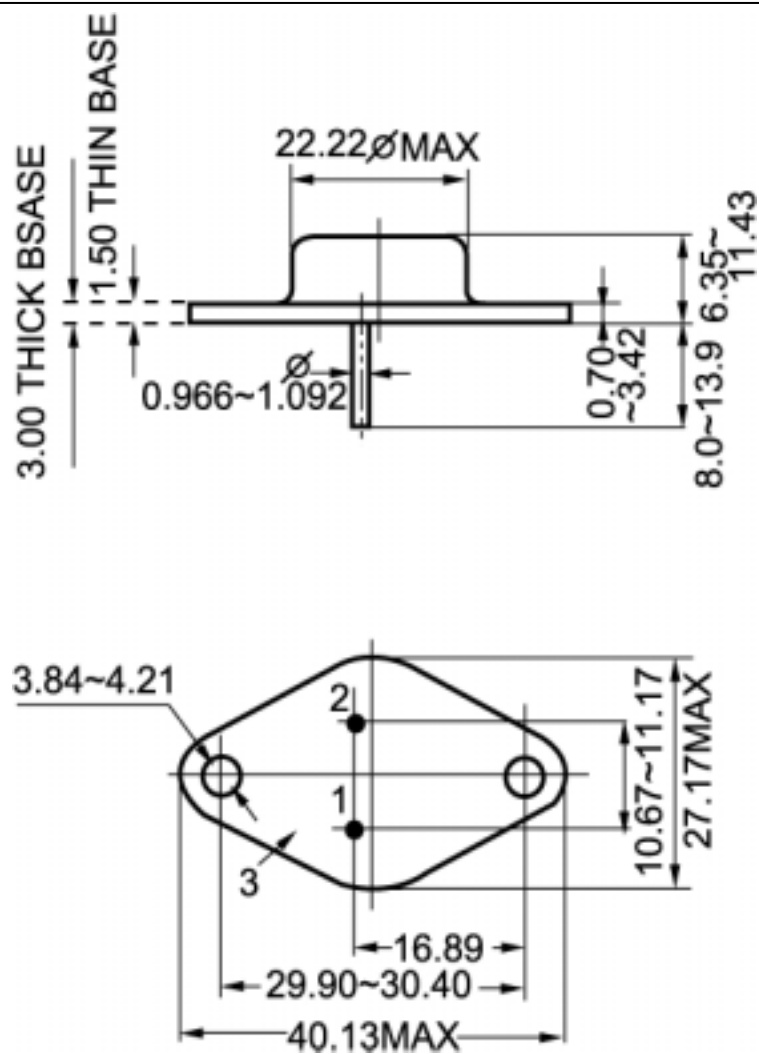


Fig.2 Outline dimensions