

Silicon NPN Power Transistors

2SC4762

DESCRIPTION

- With TO-3P(H)IS package
- High speed
- High voltage
- Low saturation voltage
- Built-in damper type

APPLICATIONS

- Horizontal deflection output for medium resolution display

PINNING

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

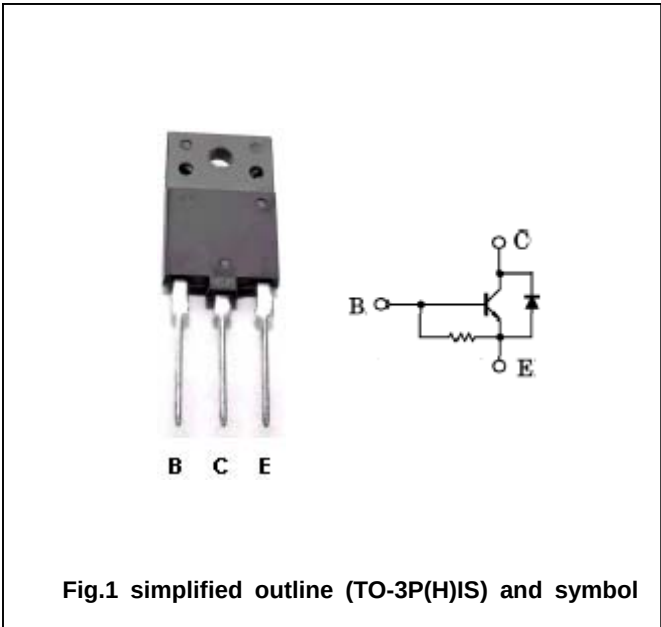


Fig.1 simplified outline (TO-3P(H)IS) and symbol

Absolute maximum ratings(Ta=25°C)

| SYMBOL           | PARAMETER                 | CONDITIONS           | VALUE   | UNIT |
|------------------|---------------------------|----------------------|---------|------|
| V <sub>CBO</sub> | Collector-base voltage    | Open emitter         | 1500    | V    |
| V <sub>CEO</sub> | Collector-emitter voltage | Open base            | 600     | V    |
| V <sub>EBO</sub> | Emitter-base voltage      | Open collector       | 5       | V    |
| I <sub>C</sub>   | Collector current         |                      | ±7      | A    |
| I <sub>CM</sub>  | Collector current-Peak    |                      | ±14     | A    |
| I <sub>B</sub>   | Base current              |                      | 3.5     | A    |
| P <sub>C</sub>   | Total power dissipation   | T <sub>C</sub> =25°C | 50      | W    |
| T <sub>j</sub>   | Junction temperature      |                      | 150     | °C   |
| T <sub>stg</sub> | Storage temperature       |                      | -55~150 | °C   |

## Silicon NPN Power Transistors

## 2SC4762

## CHARACTERISTICS

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

| SYMBOL             | PARAMETER                            | CONDITIONS                                       | MIN | TYP. | MAX | UNIT |
|--------------------|--------------------------------------|--------------------------------------------------|-----|------|-----|------|
| V <sub>EBO</sub>   | Emitter-base breakdown voltage       | I <sub>E</sub> =300mA ; I <sub>C</sub> =0        | 5   |      |     | V    |
| V <sub>CEsat</sub> | Collector-emitter saturation voltage | I <sub>C</sub> =5A I <sub>B</sub> =1A            |     |      | 5   | V    |
| V <sub>BEsat</sub> | Base-emitter saturation voltage      | I <sub>C</sub> =5A I <sub>B</sub> =1A            |     |      | 1.5 | V    |
| I <sub>CBO</sub>   | Collector cut-off current            | V <sub>CB</sub> =1500V; I <sub>E</sub> =0        |     |      | 1   | mA   |
| I <sub>EBO</sub>   | Emitter cut-off current              | V <sub>EB</sub> =5V; I <sub>C</sub> =0           | 83  |      | 250 | mA   |
| h <sub>FE-1</sub>  | DC current gain                      | I <sub>C</sub> =1A ; V <sub>CE</sub> =5V         | 8   | 12   |     |      |
| h <sub>FE-2</sub>  | DC current gain                      | I <sub>C</sub> =5A ; V <sub>CE</sub> =5V         | 5   |      | 9   |      |
| C <sub>ob</sub>    | Collector output capacitance         | I <sub>E</sub> =0 ; V <sub>CB</sub> =10V, f=1MHz |     | 170  |     | pF   |
| V <sub>F</sub>     | Forward voltage(damper diode)        | I <sub>F</sub> =5A                               |     | 1.25 | 1.8 | V    |
| f <sub>T</sub>     | Transition frequency                 | I <sub>E</sub> =0.1A ; V <sub>CE</sub> =10V      | 1   | 3    |     | MHz  |

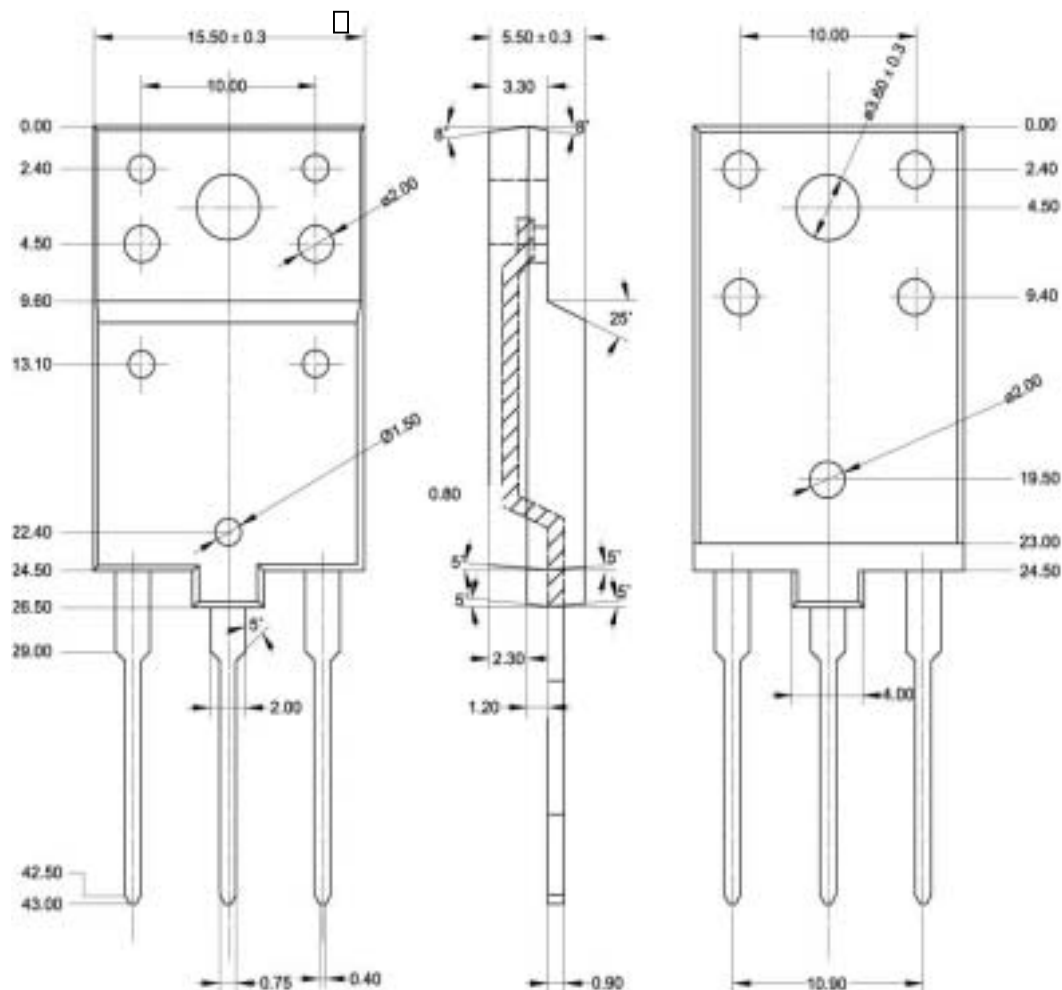
Switching times (inductive load)

|                |              |                                                                          |  |     |     |    |
|----------------|--------------|--------------------------------------------------------------------------|--|-----|-----|----|
| t <sub>s</sub> | Storage time | I <sub>CP</sub> =5A; I <sub>B1(end)</sub> =1A<br>f <sub>H</sub> =31.5kHz |  | 4.0 | 5.5 | μs |
| t <sub>f</sub> | Fall time    |                                                                          |  | 0.2 | 0.5 | μs |

## Silicon NPN Power Transistors

2SC4762

## PACKAGE OUTLINE

Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.20$  mm)