

Silicon NPN Power Transistors

2SC2625

DESCRIPTION

- With TO-3PN package
- High voltage,high speed switching
- High reliability

APPLICATIONS

- Switching regulators
- Ultrasonic generators
- High frequency inverters
- General purpose power amplifiers

PINNING

| PIN | DESCRIPTION                          |
|-----|--------------------------------------|
| 1   | Base                                 |
| 2   | Collector;connected to mounting base |
| 3   | Emitter                              |

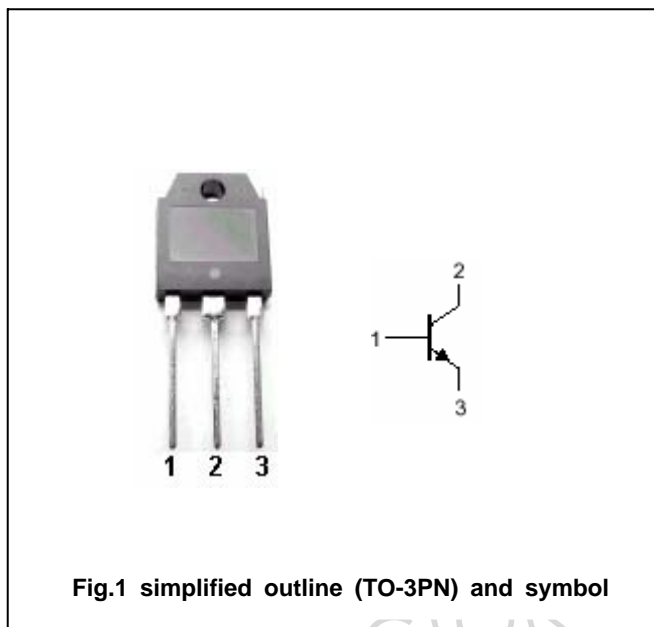


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings (Tc=25 )

| SYMBOL    | PARAMETER                   | CONDITIONS     | VALUE   | UNIT |
|-----------|-----------------------------|----------------|---------|------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter   | 450     | V    |
| $V_{CEO}$ | Collector-emitter voltage   | Open base      | 400     | V    |
| $V_{EBO}$ | Emitter-base voltage        | Open collector | 7       | V    |
| $I_C$     | Collector current           |                | 10      | A    |
| $I_B$     | Base current                |                | 3       | A    |
| $P_C$     | Collector power dissipation | $T_C=25$       | 80      | W    |
| $T_j$     | Junction temperature        |                | 150     |      |
| $T_{stg}$ | Storage temperature         |                | -55~150 |      |

THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                           | MAX  | UNIT |
|--------------|-------------------------------------|------|------|
| $R_{th j-c}$ | Thermal resistance junction to case | 1.55 | /W   |

## Silicon NPN Power Transistors

## 2SC2625

## 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  | 400 |      |     | V    |
| V <sub>CEO(SUS)</sub> | Collector-emitter sustaining voltage | I <sub>C</sub> =1A ; I <sub>B</sub> =0    | 400 |      |     | V    |
| V <sub>(BR)CBO</sub>  | Collector-base breakdown voltage     | I <sub>C</sub> =1mA ; I <sub>E</sub> =0   | 450 |      |     | V    |
| V <sub>(BR)EBO</sub>  | Emitter-base breakdown voltage       | I <sub>E</sub> =0.1mA ; I <sub>C</sub> =0 | 7   |      |     | V    |
| V <sub>CEsat</sub>    | Collector-emitter saturation voltage | I <sub>C</sub> =4A; I <sub>B</sub> =0.8A  |     |      | 1.2 | V    |
| V <sub>BEsat</sub>    | Emitter-base saturation voltage      | I <sub>C</sub> =4A ; I <sub>B</sub> =0.8A |     |      | 1.5 | V    |
| I <sub>CBO</sub>      | Collector cut-off current            | V <sub>CB</sub> =450V I <sub>E</sub> =0   |     |      | 1.0 | mA   |
| I <sub>EBO</sub>      | Emitter cut-off current              | V <sub>EB</sub> =7V; I <sub>C</sub> =0    |     |      | 0.1 | mA   |
| h <sub>FE</sub>       | DC current gain                      | I <sub>C</sub> =4A ; V <sub>CE</sub> =5V  | 10  |      |     |      |

## Switching times

|                 |              |  |  |  |     |    |
|-----------------|--------------|--|--|--|-----|----|
| t <sub>on</sub> | Turn-on time | I <sub>C</sub> =7.5A; I <sub>B1</sub> =-I <sub>B2</sub> =1.5A<br>R <sub>L</sub> =20 Ω, Pw=20 μs<br>Duty 2% |  |  | 1.0 | μs |
| t <sub>s</sub>  | Storage time |  |  |  | 2.0 | μs |
| t <sub>f</sub>  | Fall time    |  |  |  | 1.0 | μs |

Silicon NPN Power Transistors

2SC2625

PACKAGE OUTLINE

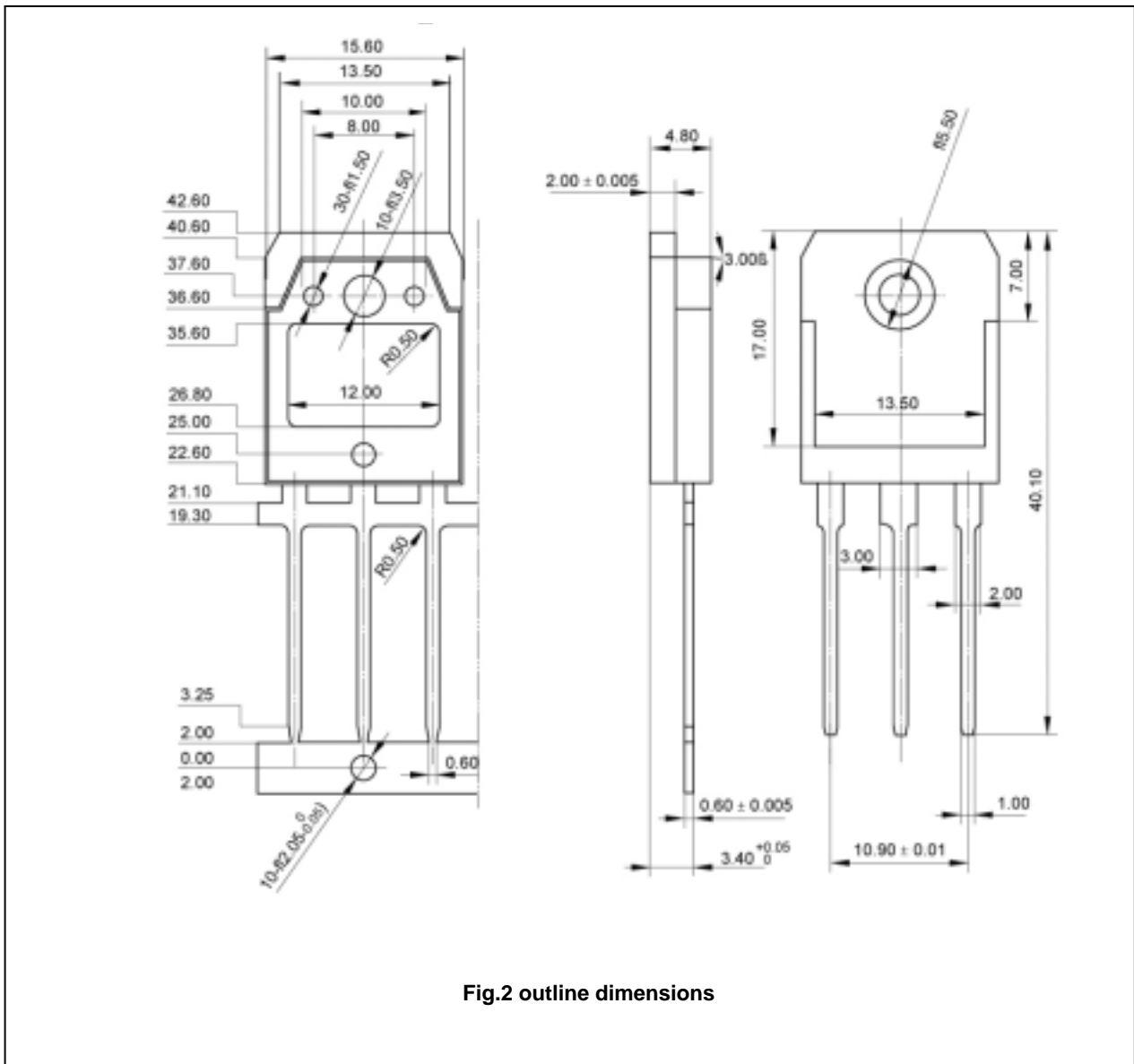


Fig.2 outline dimensions

Silicon NPN Power Transistors

2SC2625

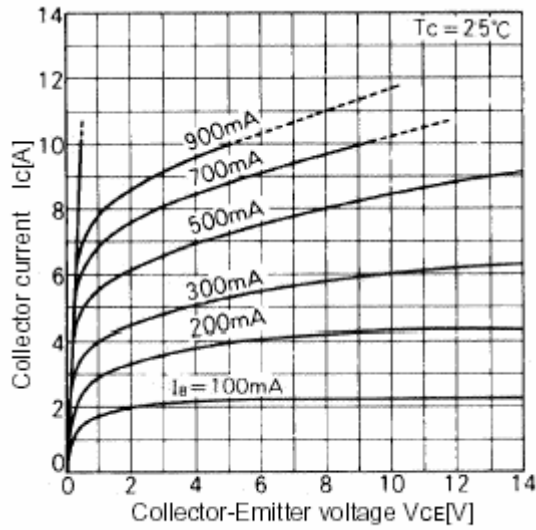


Fig.3 Static Characteristic

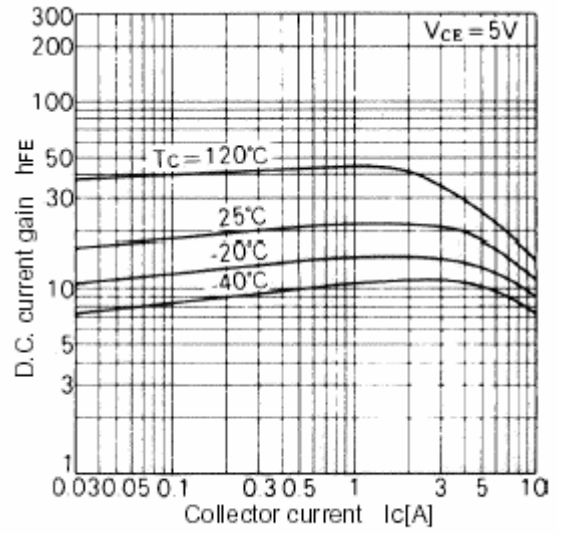


Fig.4 DC current Gain

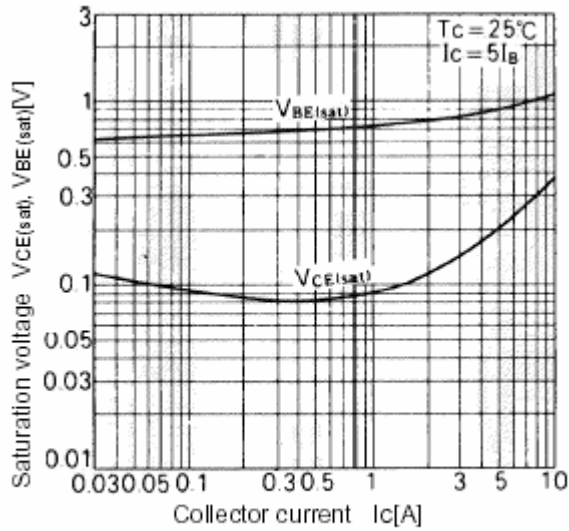


Fig.5 Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

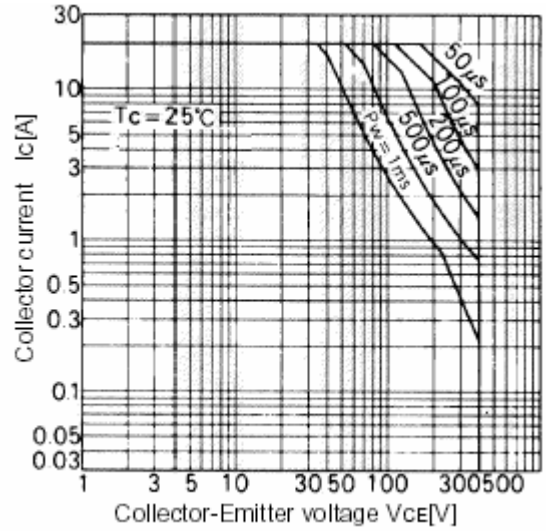


Fig.6 Safe Operating Area