

Silicon NPN Power Transistors

2SC4742

DESCRIPTION

- With TO-3PN package
- Built-in damper diode
- High breakdown voltage

APPLICATIONS

- Character display horizontal deflection output applications

PINNING

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

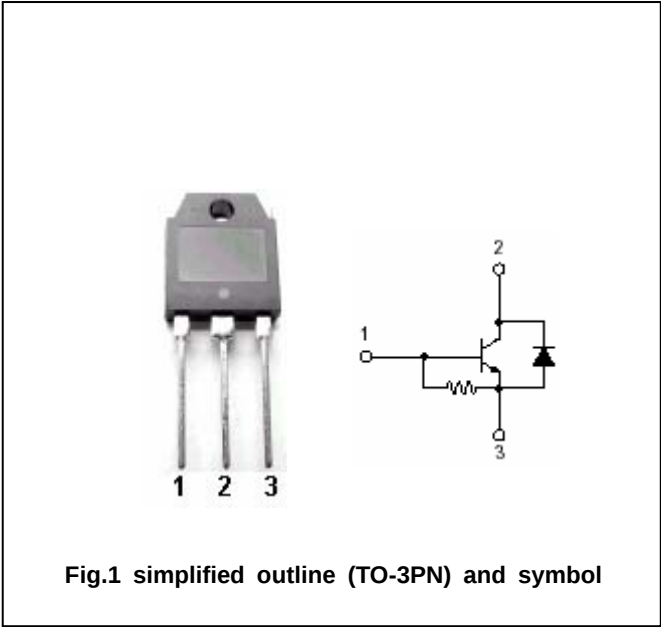


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings(Ta= )

| SYMBOL                | PARAMETER                    | CONDITIONS         | VALUE   | UNIT |
|-----------------------|------------------------------|--------------------|---------|------|
| V <sub>CEO</sub>      | Collector-emitter voltage    | Open base          | 1500    | V    |
| V <sub>EBO</sub>      | Emitter-base voltage         | Open collector     | 6       | V    |
| I <sub>C</sub>        | Collector current            |                    | 6       | A    |
| I <sub>CM</sub>       | Collector current-peak       |                    | 7       | A    |
| I <sub>C(surge)</sub> | Collector current-surge      |                    | 16      | A    |
| I <sub>o</sub>        | C to E diode forward current |                    | 7       | A    |
| P <sub>C</sub>        | Collector power dissipation  | T <sub>C</sub> =25 | 50      | W    |
| T <sub>j</sub>        | Junction temperature         |                    | 150     |      |
| T <sub>stg</sub>      | Storage temperature          |                    | -55~150 |      |

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## CHARACTERISTICS

Tj=25 unless otherwise specified

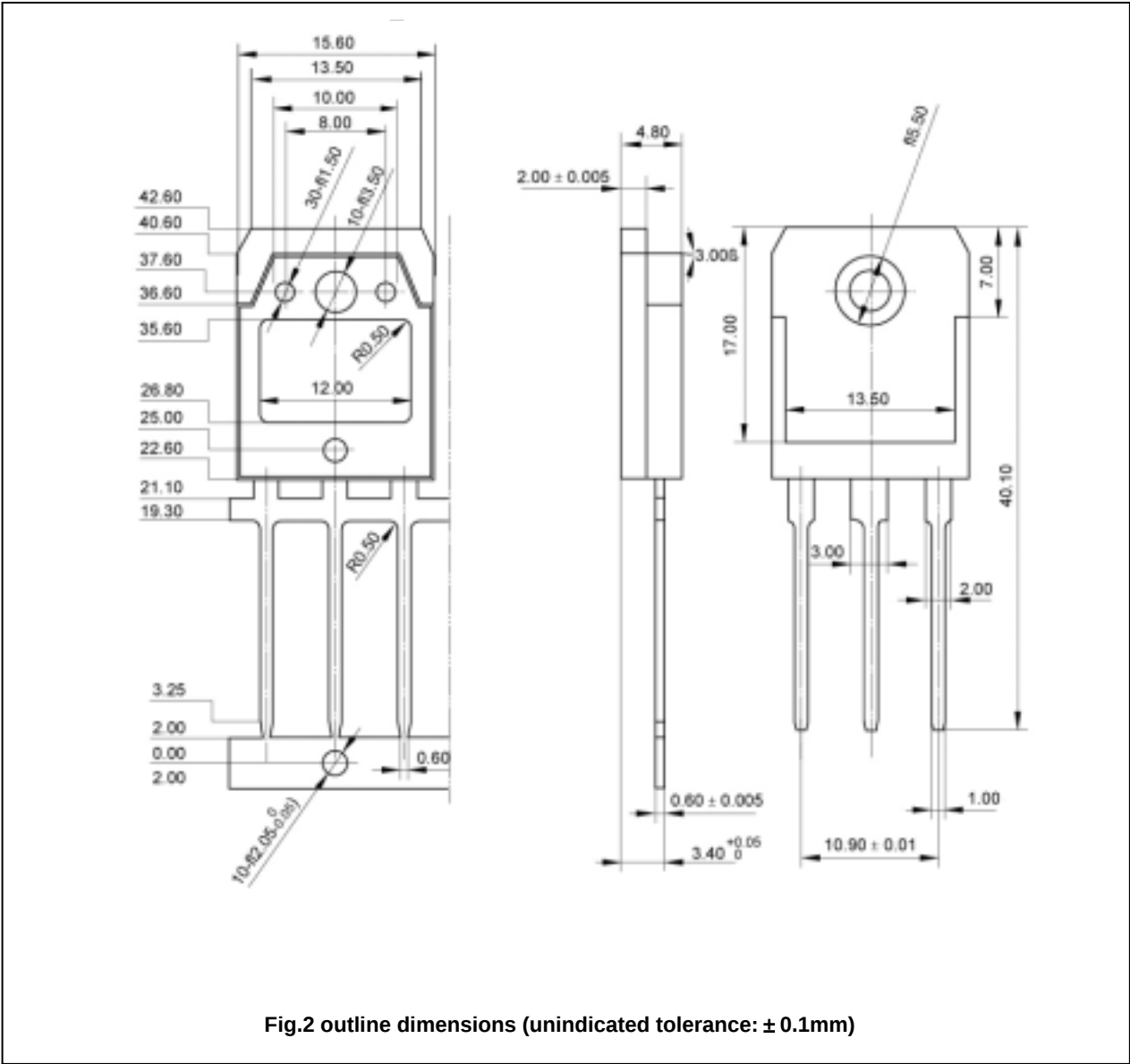
| SYMBOL        | PARAMETER                            | CONDITIONS                                  | MIN | TYP. | MAX | UNIT    |
|---------------|--------------------------------------|---------------------------------------------|-----|------|-----|---------|
| $V_{(BR)EBO}$ | Emitter-base breakdown voltage       | $I_E=400mA$ ; $I_C=0$                       | 6   |      |     | V       |
| $I_{CES}$     | Collector cut-off current            | $V_{CE}=1500V$ ; $R_{BE}=0$                 |     |      | 0.5 | mA      |
| $h_{FE}$      | DC current gain                      | $I_C=1A$ ; $V_{CE}=5V$                      |     |      | 25  |         |
| $V_{CE(sat)}$ | Collector-emitter saturation voltage | $I_C=5A$ ; $I_B=1.25A$                      |     |      | 2.0 | V       |
| $V_{BE(sat)}$ | Base-emitter saturation voltage      | $I_C=5A$ ; $I_B=1.25A$                      |     |      | 1.5 | V       |
| $V_{ECF}$     | Diode forward voltage                | $I_F=6A$                                    |     |      | 2.0 | V       |
| $t_f$         | Fall time                            | $I_{CP}=5A$ ;<br>$I_{B1}=1A$ ; $I_{B2}=-2A$ |     |      | 0.4 | $\mu s$ |

固电半导体  
INCHANGE SEMICONDUCTOR

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PACKAGE OUTLINE



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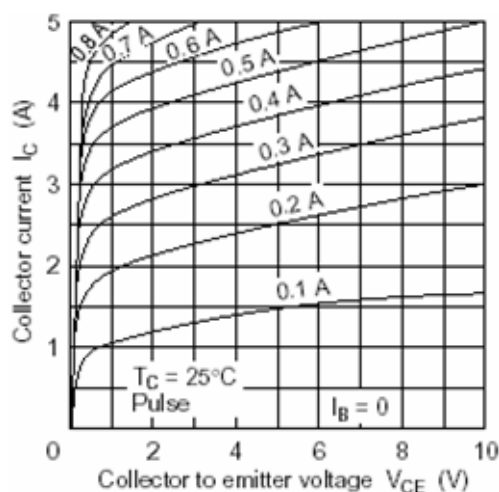


Fig.3 Static Characteristic

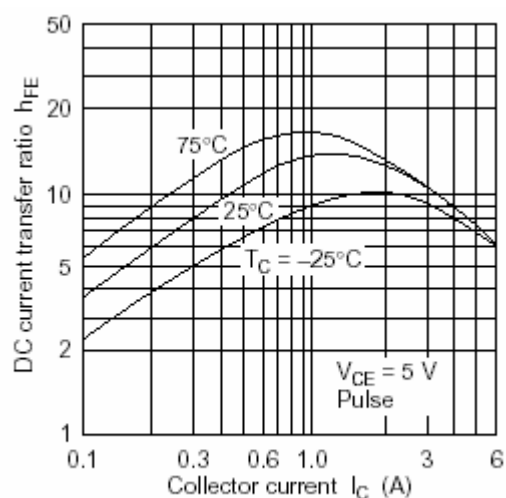


Fig.4 DC current Gain

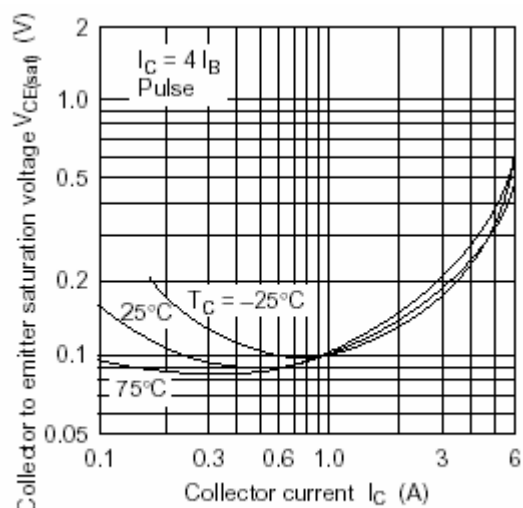


Fig.5 Collector-Emitter Saturation Voltage

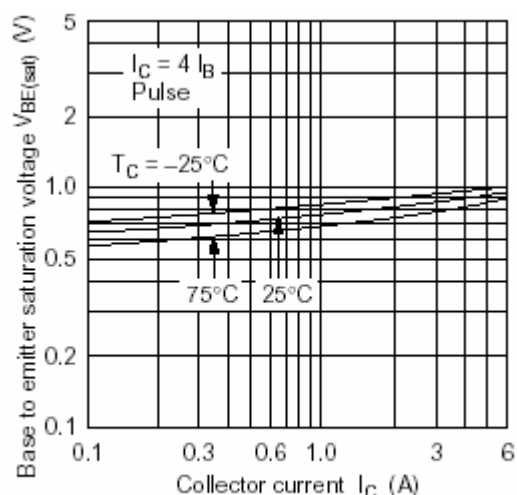


Fig.6 Base-Emitter Saturation Voltage

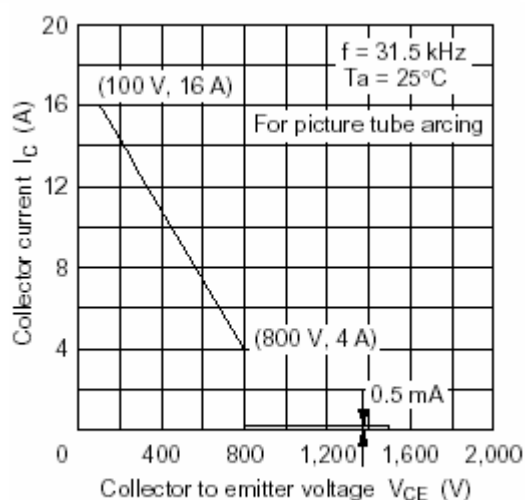


Fig.7 Safe Operating Area