

Silicon NPN Power Transistors

2SC3842

DESCRIPTION

- With TO-3PML package
- High voltage ,high speed
- High current capability

APPLICATIONS

- For use in TV horizontal output and Power switching applications

PINNING

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

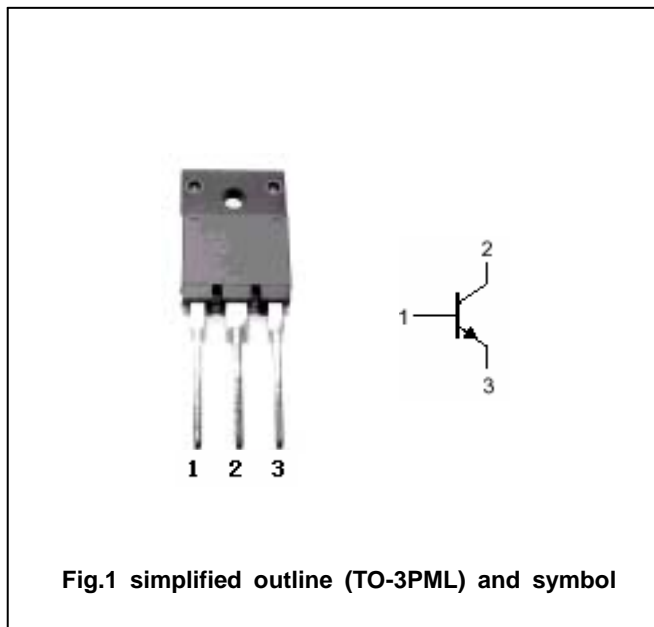


Fig.1 simplified outline (TO-3PML) and symbol

Absolute maximum ratings (Ta=25 )

| SYMBOL    | PARAMETER                 | CONDITIONS     | MAX     | UNIT |
|-----------|---------------------------|----------------|---------|------|
| $V_{CBO}$ | Collector-base voltage    | Open emitter   | 600     | V    |
| $V_{CEO}$ | Collector-emitter voltage | Open base      | 400     | V    |
| $V_{EBO}$ | Emitter-base voltage      | Open collector | 6       | V    |
| $I_C$     | Collector current         |                | 10      | A    |
| $P_C$     | Collector dissipation     | $T_C=25$       | 70      | W    |
| $T_j$     | Junction temperature      |                | 150     |      |
| $T_{stg}$ | Storage temperature       |                | -55~150 |      |

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## 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> =5mA ; 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           | 600 |      |     | V    |
| V <sub>(BR)EBO</sub> | Emitter-base breakdown voltage       | I <sub>E</sub> =1mA ; I <sub>C</sub> =0           | 6   |      |     | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =5A ; I <sub>B</sub> =1A           |     |      | 1.0 | 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> =500V ; I <sub>E</sub> =0         |     |      | 100 | μ A  |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =5V ; I <sub>C</sub> =0           |     |      | 100 | μ A  |
| h <sub>FE</sub>      | DC current gain                      | I <sub>C</sub> =5A ; V <sub>CE</sub> =5V          | 10  |      | 40  |      |
| f <sub>T</sub>       | Transition frequency                 | I <sub>C</sub> =1A ; V <sub>CE</sub> =10V         |     | 32   |     | MHz  |
| C <sub>OB</sub>      | Output capacitance                   | I <sub>E</sub> =0 ; V <sub>CB</sub> =10V ; f=1MHz |     | 100  |     | pF   |

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PACKAGE OUTLINE

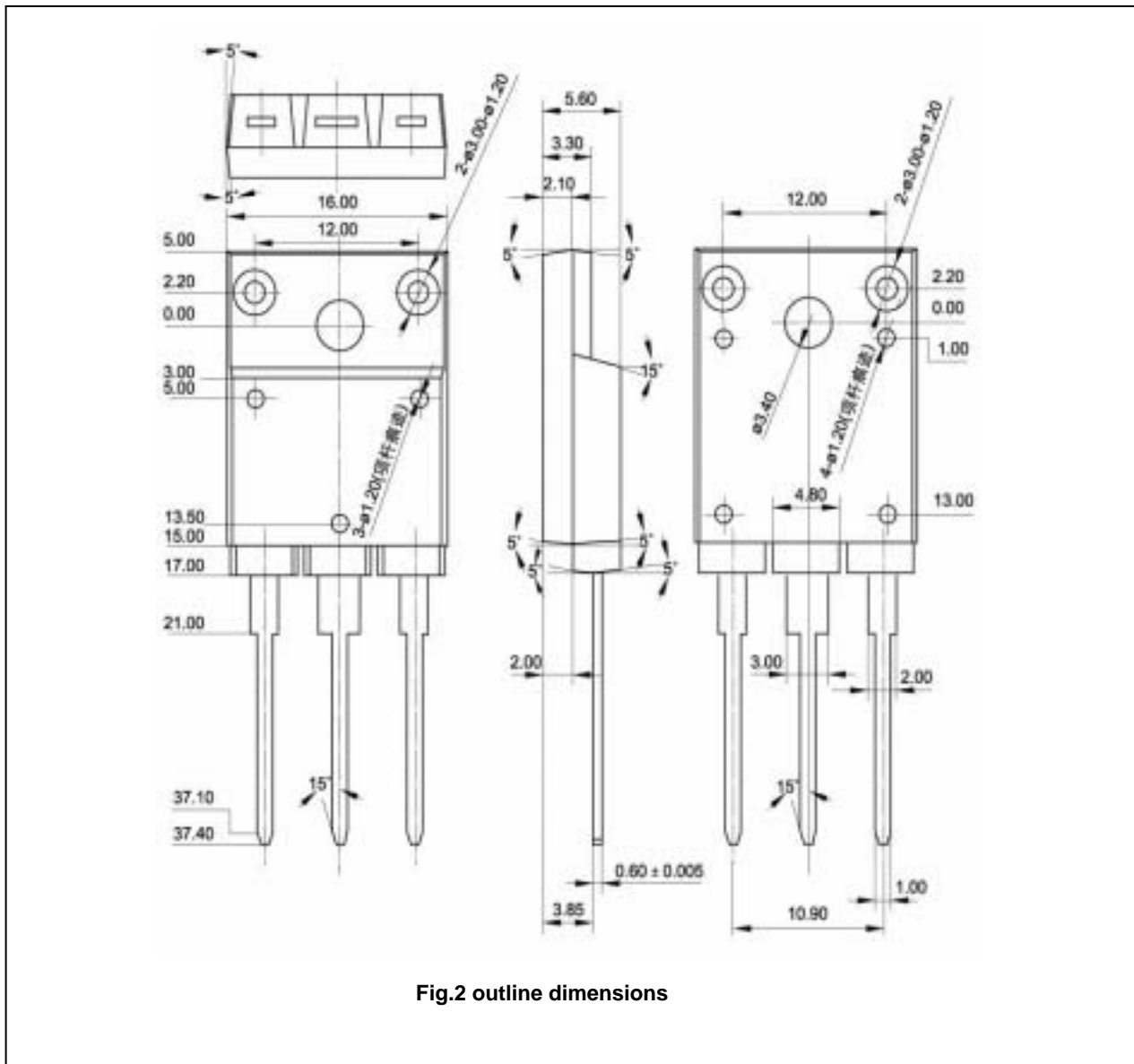


Fig.2 outline dimensions