

SavantIC Semiconductor

Product Specification

Silicon NPN Power Transistors

BD249/A/B/C

DESCRIPTION

- With TO-3PN package
- Complement to type BD250/A/B/C
- 125 W at 25°C case temperature
- 25 A continuous collector current

PINNING

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

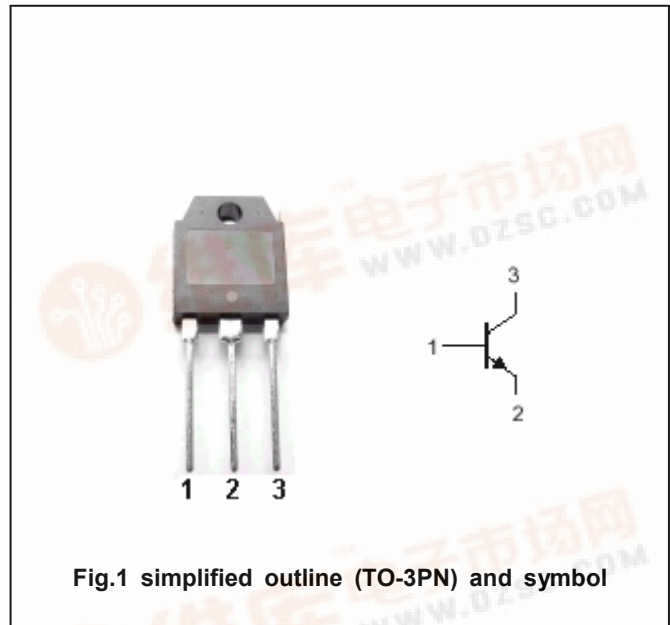


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings(Ta=□)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|-----------------------------|---------------------|---------|------|
| V _{CEO} | Collector-emitter voltage | BD249 | 45 | V |
| | | BD249A | 60 | |
| | | BD249B | 80 | |
| | | BD249C | 100 | |
| V _{CBO} | Collector-base voltage | BD249 | 55 | V |
| | | BD249A | 70 | |
| | | BD249B | 90 | |
| | | BD249C | 115 | |
| V _{EBO} | Emitter-base voltage | Open collector | 5 | V |
| I _C | Collector current | | 25 | A |
| I _{CM} | Collector current-peak | | 40 | A |
| I _B | Base current | | 5 | A |
| P _C | Collector power dissipation | T _C =25□ | 125 | W |
| T _j | Junction temperature | | -65~150 | □ |
| T _{stg} | Storage temperature | | -65~150 | □ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | VALUE | UNIT |
|---------------------|-------------------------------------|-------|------|
| R _{th j-c} | Thermal resistance junction to case | 1.0 | □/W |

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

| SYMBOL | PARAMETER | | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|-------------|--|-----|------|-----|------|
| V _{(BR)CEO} | Collector-emitter breakdown voltage | BD249 | I _C =30mA ; I _B =0 | 45 | | | V |
| | | BD249A | | 60 | | | |
| | | BD249B | | 80 | | | |
| | | BD249C | | 100 | | | |
| V _{CEsat-1} | Collector-emitter saturation voltage | | I _C =15A ; I _B =1.5A | | | 1.8 | V |
| V _{CEsat-2} | Collector-emitter saturation voltage | | I _C =25A ; I _B =5A | | | 4 | V |
| V _{BE-1} | Base-emitter on voltage | | I _C =15A ; V _{CE} =4V | | | 2 | V |
| V _{BE-2} | Base-emitter on voltage | | I _C =25A ; V _{CE} =4V | | | 4 | V |
| I _{CEO} | Collector cut-off current | BD249/249A | V _{CE} =30V; I _B =0 | | | 1 | mA |
| | | BD249B/249C | V _{CE} =60V; I _B =0 | | | | |
| I _{EBO} | Emitter cut-off current | | V _{EB} =5V; I _C =0 | | | 1 | mA |
| h _{FE-1} | DC current gain | | I _C =1.5A ; V _{CE} =4V | 25 | | | |
| h _{FE-2} | DC current gain | | I _C =15A ; V _{CE} =4V | 10 | | | |
| h _{FE-3} | DC current gain | | I _C =25A ; V _{CE} =4V | 5 | | | |

Switching times

| | | | | | | |
|------------------|---------------|--|--|-----|--|----|
| t _{on} | Turn-on time | I _C =1A; I _{B1} =-I _{B2} =0.5A R _L =5Ω | | 0.3 | | μs |
| t _{off} | Turn-off time | | | 0.9 | | μs |

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PACKAGE OUTLINE

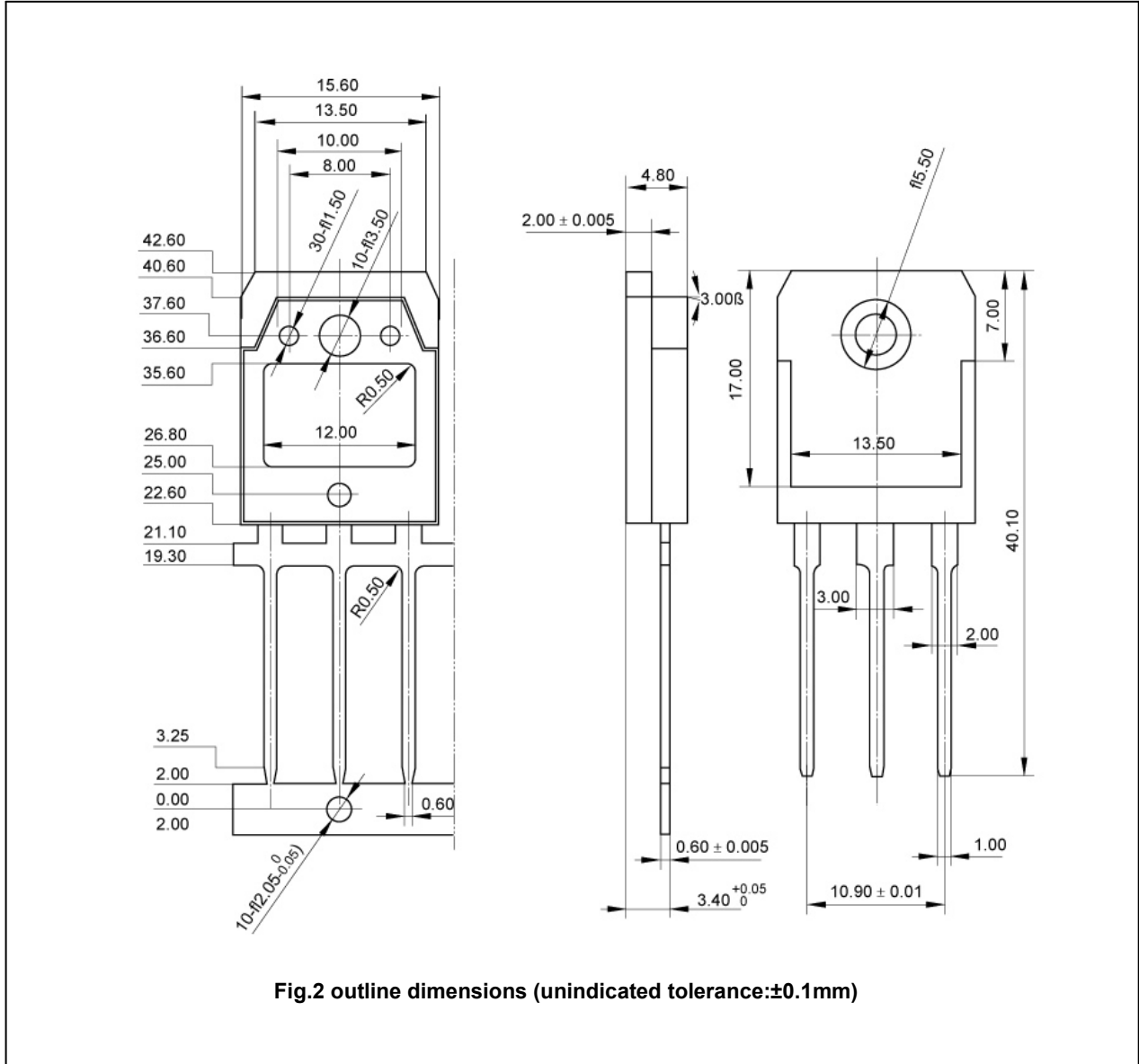


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)