

Silicon NPN Power Transistors

BUW12 BUW12A

DESCRIPTION

- With TO-3PN package
- High voltage,fast speed
- Low collector saturation voltage

APPLICATIONS

- Specially intended for operating
In industrial applications

PINNING (See Fig.2)

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

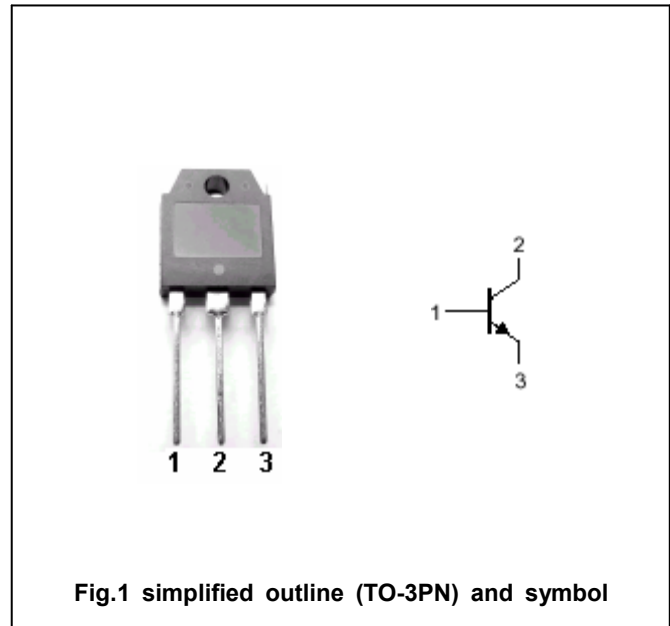


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings($T_a=25^\circ\text{C}$)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|-----------|---------------------------|------------------------|---------|------------------|
| V_{CBO} | Collector-base voltage | BUW12 | 850 | V |
| | | BUW12A | 1000 | |
| V_{CEO} | Collector-emitter voltage | BUW12 | 400 | V |
| | | BUW12A | 450 | |
| V_{EBO} | Emitter-base voltage | Open collector | 9 | V |
| I_C | Collector current | | 8 | A |
| I_{CM} | Collector current-peak | | 20 | A |
| I_B | Base current | | 4 | A |
| P_T | Total power dissipation | $T_C=25^\circ\text{C}$ | 125 | W |
| T_j | Junction temperature | | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage temperature | | -65~175 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--|-----|---------------------------|
| $R_{th\ j-c}$ | Thermal resistance from junction to case | 1.2 | $^\circ\text{C}/\text{W}$ |

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CHARACTERISTICS

T_j=25°C unless otherwise specified

| SYMBOL | PARAMETER | | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|--------|--|-----|------|-----|------|
| V _{CEO(SUS)} | Collector-emitter sustaining voltage | BUW12 | I _C =0.1A ; I _B =0; L=25mH | 400 | | | V |
| | | BUW12A | | 450 | | | |
| V _{CEsat} | Collector-emitter saturation voltage | | I _C =6A; I _B =1.2A | | | 1.5 | V |
| V _{BEsat} | Base-emitter saturation voltage | | I _C =6A; I _B =1.2A | | | 1.5 | V |
| I _{CES} | Collector cut-off current | BUW12 | V _{CE} =850V; V _{BE} =0 | | | 1.0 | mA |
| | | BUW12A | V _{CE} =1000V; V _{BE} =0 | | | | |
| I _{EBO} | Emitter cut-off current | | V _{EB} =9V; I _C =0 | | | 10 | mA |
| h _{FE} | DC current gain | | I _C =1A ; V _{CE} =5V | 15 | | 50 | |

Switching times resistive load

| | | | | | | |
|-----------------|--------------|---|--|--|-----|----|
| t _{on} | Turn-on time | I _C =6A ; I _{B1} =-I _{B2} =1.2A V _{CC} =240V | | | 1.0 | μs |
| t _s | Storage time | | | | 4.0 | μs |
| t _f | Fall time | | | | 0.8 | μs |

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PACKAGE OUTLINE

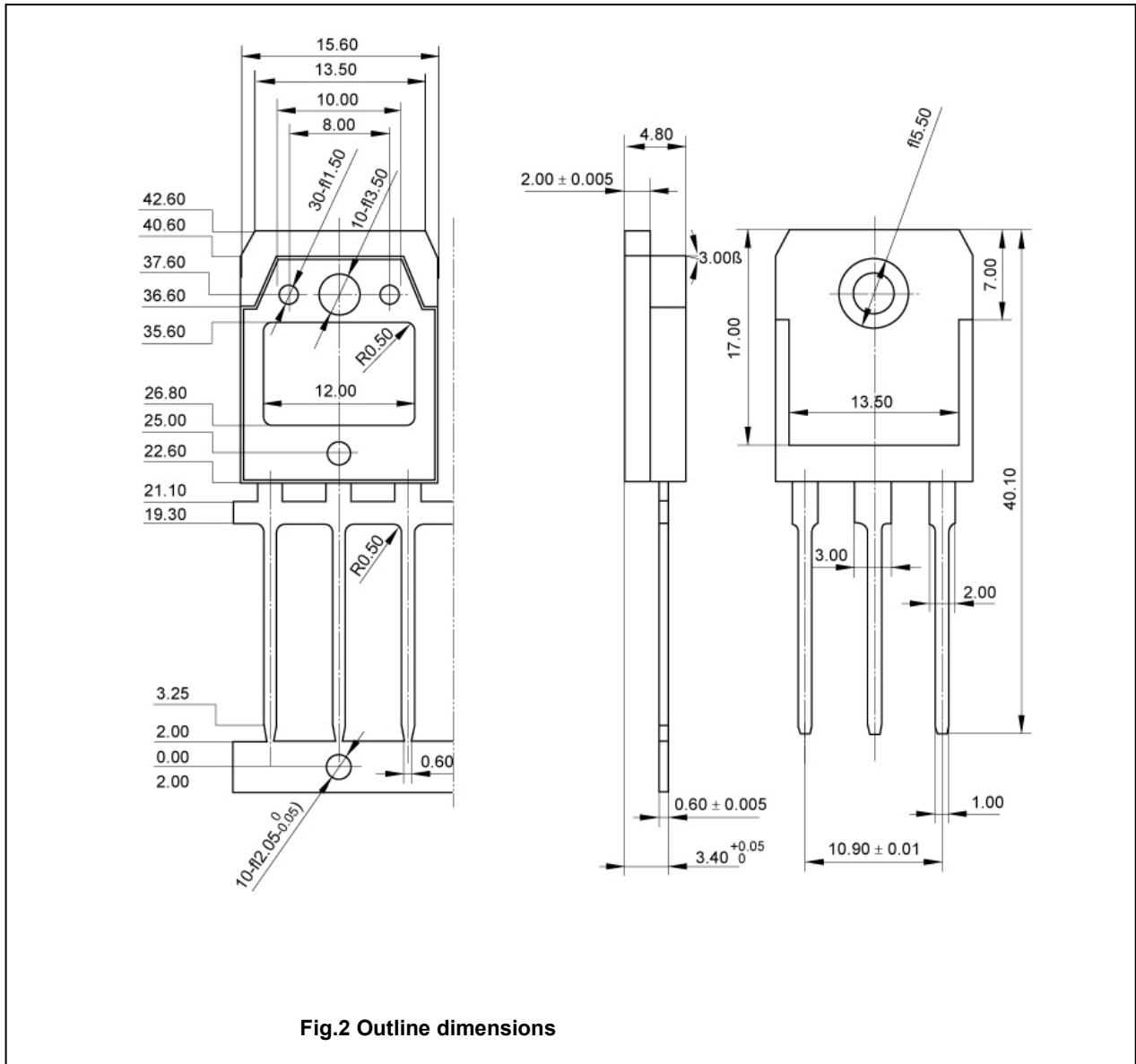


Fig.2 Outline dimensions