

Silicon NPN Power Transistors

BUW49

DESCRIPTION

www.datasheet4u.com

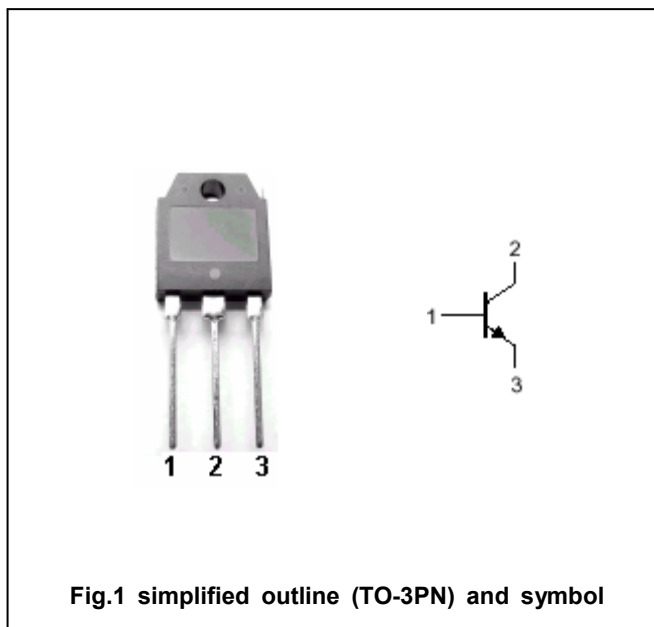
- With TO-3PN package.
- High current capability.
- Fast switching speed.
- Low collector saturation voltage

APPLICATIONS

- Switching regulators.
- Motor control.
- High frequency and efficiency converters

PINNING

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



Absolute maximum ratings (Ta=25°C)

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|------------------|-----------------------------|----------------------|---------|------|
| V _{CBO} | Collector-base voltage | Open emitter | 160 | V |
| V _{CEO} | Collector-emitter voltage | Open base | 80 | V |
| V _{EBO} | Emitter-base voltage | Open collector | 7 | V |
| I _C | Collector current (DC) | | 30 | A |
| I _{CM} | Collector current (Pulse) | | 40 | A |
| I _B | Base current | | 6 | A |
| I _{BM} | Base current (peak) | | 10 | A |
| P _C | Collector power dissipation | T _C =25°C | 150 | W |
| T _j | Junction temperature | | 175 | °C |
| T _{stg} | Storage temperature | | -65~175 | °C |

Silicon NPN Power Transistors

BUW49

CHARACTERISTICS

www.datasheet4u.com

 $T_j=25^\circ\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------|--------------------------------------|---|-----|------|--------|------|
| $V_{(BR)EBO}$ | Emitter-base breakdown voltage | $I_E=50\text{mA}; I_C=0$ | 7 | | | V |
| $V_{CEO(SUS)}$ | Collector-emitter sustaining voltage | $I_C=0.2\text{A}; I_B=0; L=25\text{mH}$ | 80 | | | V |
| $V_{CEsat-1}$ | Collector-emitter saturation voltage | $I_C=40\text{A}; I_B=4\text{A}$ | | | 1.4 | V |
| $V_{CEsat-2}$ | Collector-emitter saturation voltage | $I_C=30\text{A}; I_B=3\text{A}$ | | | 1.2 | V |
| V_{BEsat} | Base-emitter saturation voltage | $I_C=30\text{A}; I_B=3\text{A}$ | | | 2.0 | V |
| I_{CEX} | Collector cut-off current | $V_{CE}=\text{rated}; V_{BE}=-1.5\text{V}$ $T_C=125^\circ\text{C}$ | | | 1 3 | mA |
| I_{EBO} | Emitter cut-off current | $V_{EB}=5\text{V}; I_C=0$ | | | 1 | mA |
| f_T | Transition frequency | $V_{CE}=15\text{V}; f=15\text{MHz}; I_C=1\text{A}$ | | 8 | | |

Switching times :

| | | | | | | |
|----------|--------------|---|--|------|------|---------------|
| t_{on} | Turn-on time | $I_C=30\text{A}; I_{B1}=-I_{B2}=4\text{A}$ $V_{CC}=80\text{V}$ | | 0.8 | 1.2 | μs |
| t_s | Storage time | | | 0.6 | 1.1 | μs |
| t_f | Fall time | | | 0.15 | 0.25 | μs |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|------------------|----------------------------------|-----|---------------------------|
| $R_{th\ j-case}$ | Thermal resistance junction case | 1 | $^\circ\text{C}/\text{W}$ |

Silicon NPN Power Transistors

BUW49

PACKAGE OUTLINE

www.datasheet4u.com

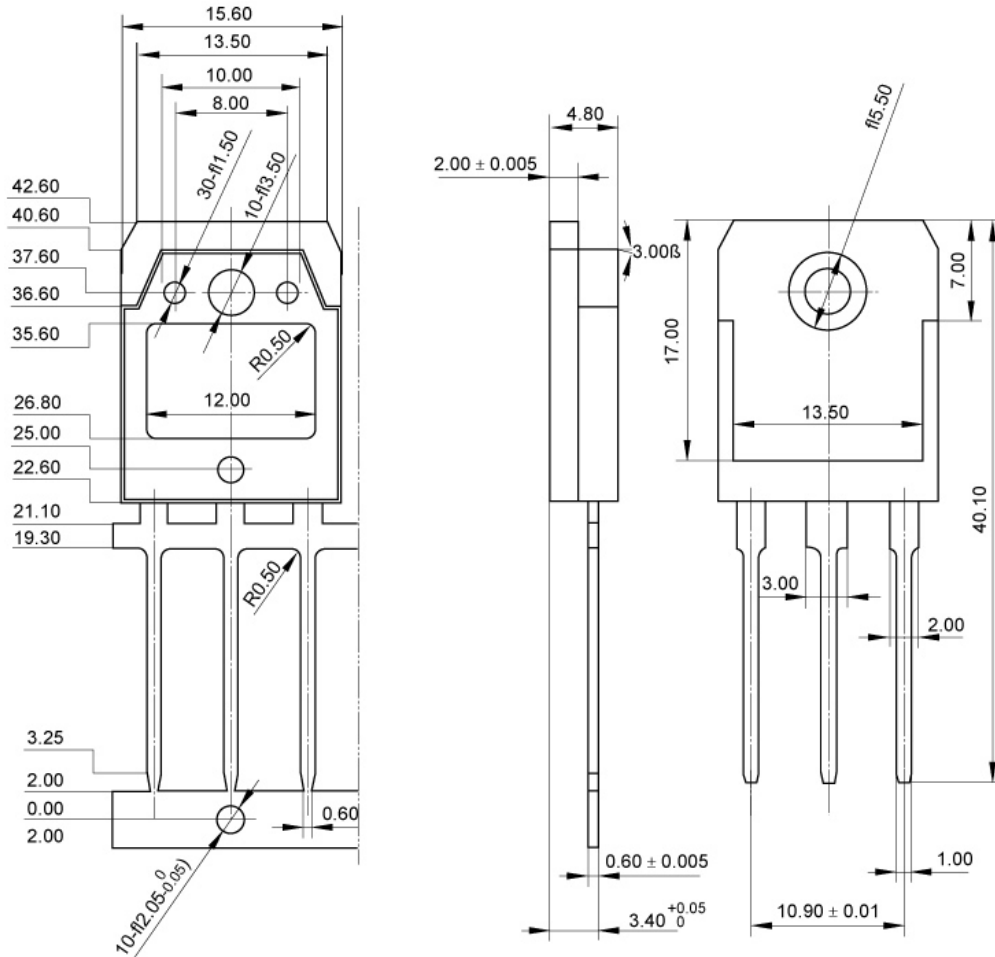


Fig.2 outline dimensions (unindicated tolerance:±0.10 mm)