

**Silicon NPN Power Transistors**

**BUW49**

**DESCRIPTION**

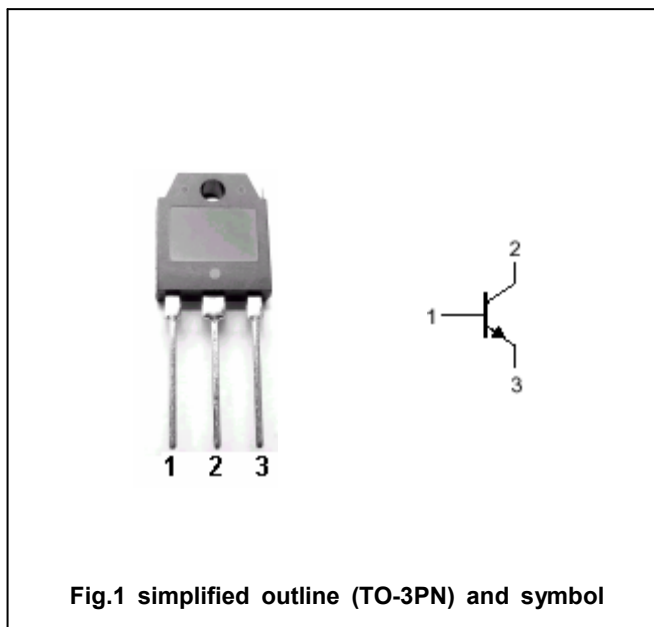
- With TO-3PN package.
- High current capability.
- Fast switching speed.
- Low collector saturation voltage

**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 <sub>CBO</sub>	Collector-base voltage	Open emitter	160	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	80	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current (DC)		30	A
I <sub>CM</sub>	Collector current (Pulse)		40	A
I <sub>B</sub>	Base current		6	A
I <sub>BM</sub>	Base current (peak)		10	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	150	W
T <sub>j</sub>	Junction temperature		175	°C
T <sub>stg</sub>	Storage temperature		-65~175	°C

## Silicon NPN Power Transistors

## BUW49

## CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =50mA; I <sub>C</sub> =0	7			V
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =0.2A; I <sub>B</sub> =0; L=25mH	80			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =40A; I <sub>B</sub> =4A			1.4	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =30A; I <sub>B</sub> =3A			1.2	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =30A; I <sub>B</sub> =3A			2.0	V
I <sub>CEX</sub>	Collector cut-off current	V <sub>CE</sub> =rated ; V <sub>BE</sub> =-1.5V T <sub>C</sub> =125°C			1 3	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			1	mA
f <sub>T</sub>	Transition frequency	V <sub>CE</sub> =15V; f=15MHz; I <sub>C</sub> =1A		8		

Switching times :

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =30A; I <sub>B1</sub> =- I <sub>B2</sub> =4A V <sub>CC</sub> =80V		0.8	1.2	μs
t <sub>s</sub>	Storage time			0.6	1.1	μs
t <sub>f</sub>	Fall time			0.15	0.25	μs

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-case</sub>	Thermal resistance junction case	1	°C/W

Silicon NPN Power Transistors

BUW49

PACKAGE OUTLINE

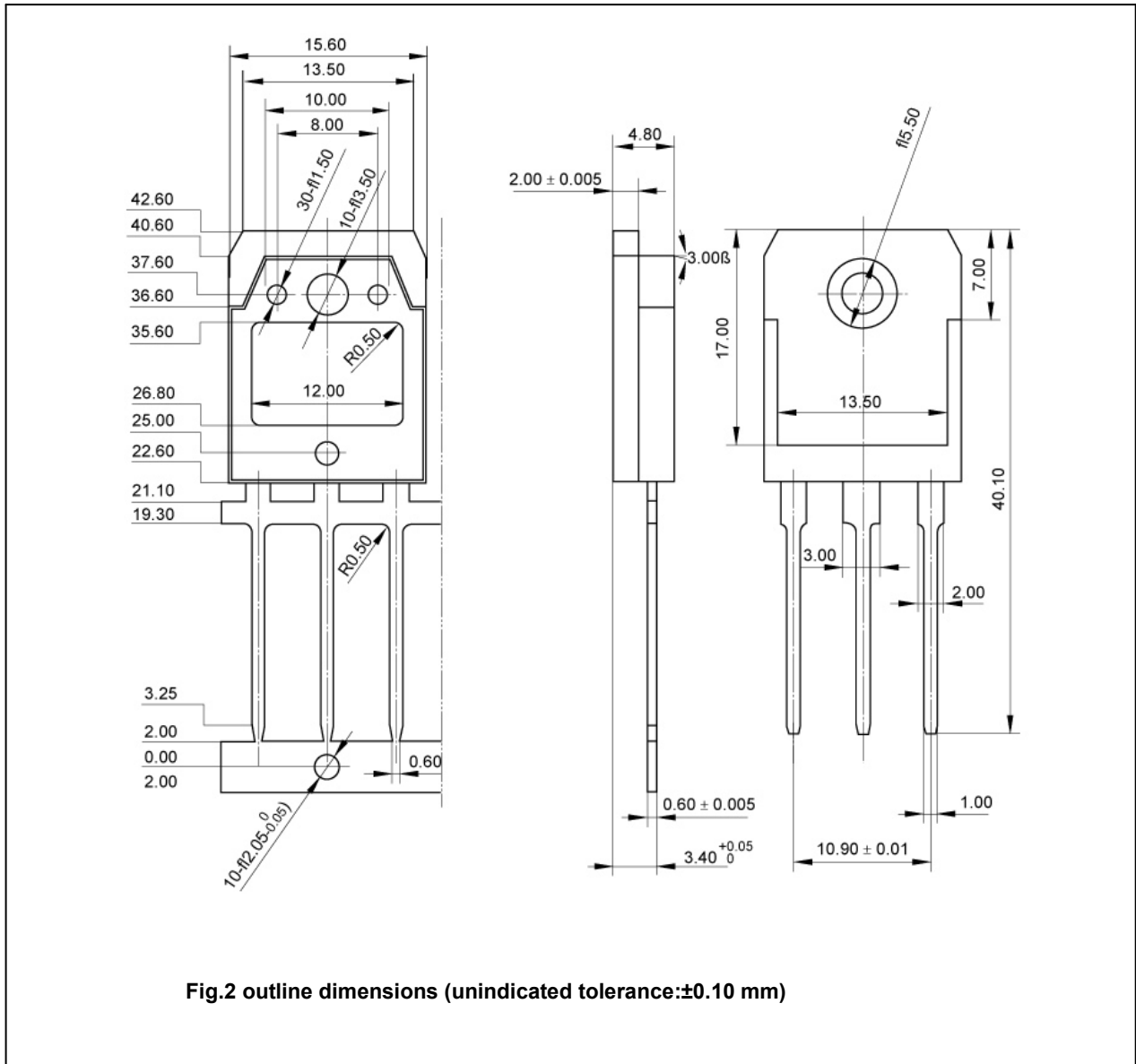


Fig.2 outline dimensions (unindicated tolerance:  $\pm$ 0.10 mm)