

Silicon NPN Power Transistors

BUV47A

DESCRIPTION

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- With TO-3PN package
- High breakdown voltage
- Fast switching time

APPLICATIONS

- Suited for 220V switchmode power supply,DC and AC motor control

PINNING

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

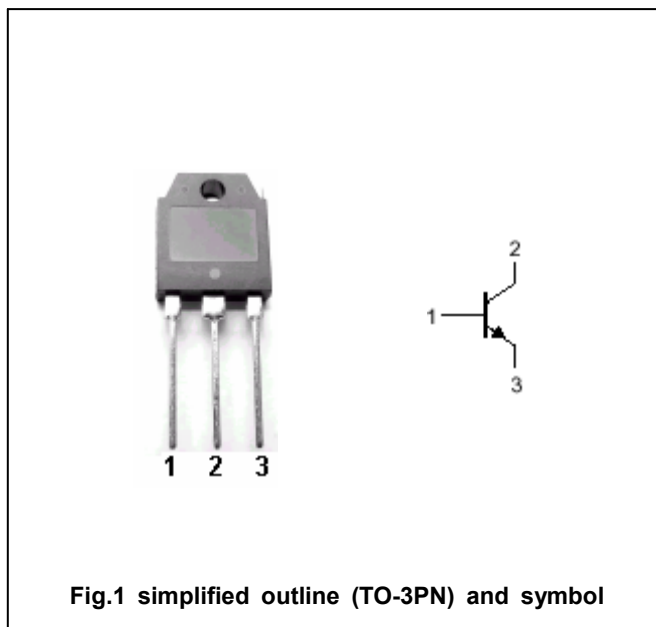


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings (Tc=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	1000	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	450	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current		9	A
I <sub>CM</sub>	Collector current-peak		15	A
I <sub>B</sub>	Base current		3	A
I <sub>BM</sub>	Base current -peak		6	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	120	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-65~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal resistance junction to case	1.0	°C/W

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## CHARACTERISTICS

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

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =0.2A ; L=25mH	450			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =50mA ; I <sub>C</sub> =0	7		30	V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =1.0A			1.5	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =8A; I <sub>B</sub> =2.5A			3.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =5A; I <sub>B</sub> =1.0A			1.6	V
I <sub>CES</sub>	Collector cut-off current	V <sub>CE</sub> =1000V; V <sub>BE</sub> =0 T <sub>C</sub> =125°C			0.15 1.5	mA
I <sub>CER</sub>	Collector cut-off current	V <sub>CB</sub> =1000V; R <sub>BE</sub> =10Ω T <sub>C</sub> =125°C			0.4 3.0	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			1	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =1A ; V <sub>CE</sub> =5V	15		50	
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =10V; f=1MHz		8		MHz
C <sub>OB</sub>	Output capacitance	I <sub>C</sub> =0 ; V <sub>CB</sub> =20V; f=0.1MHz		105		pF

Switching times resistive load

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =5A; I <sub>B1</sub> =-I <sub>B2</sub> =1A V <sub>CC</sub> =150V			1.0	μs
t <sub>s</sub>	Storage time				3.0	μs
t <sub>f</sub>	Fall time				0.8	μs

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PACKAGE OUTLINE

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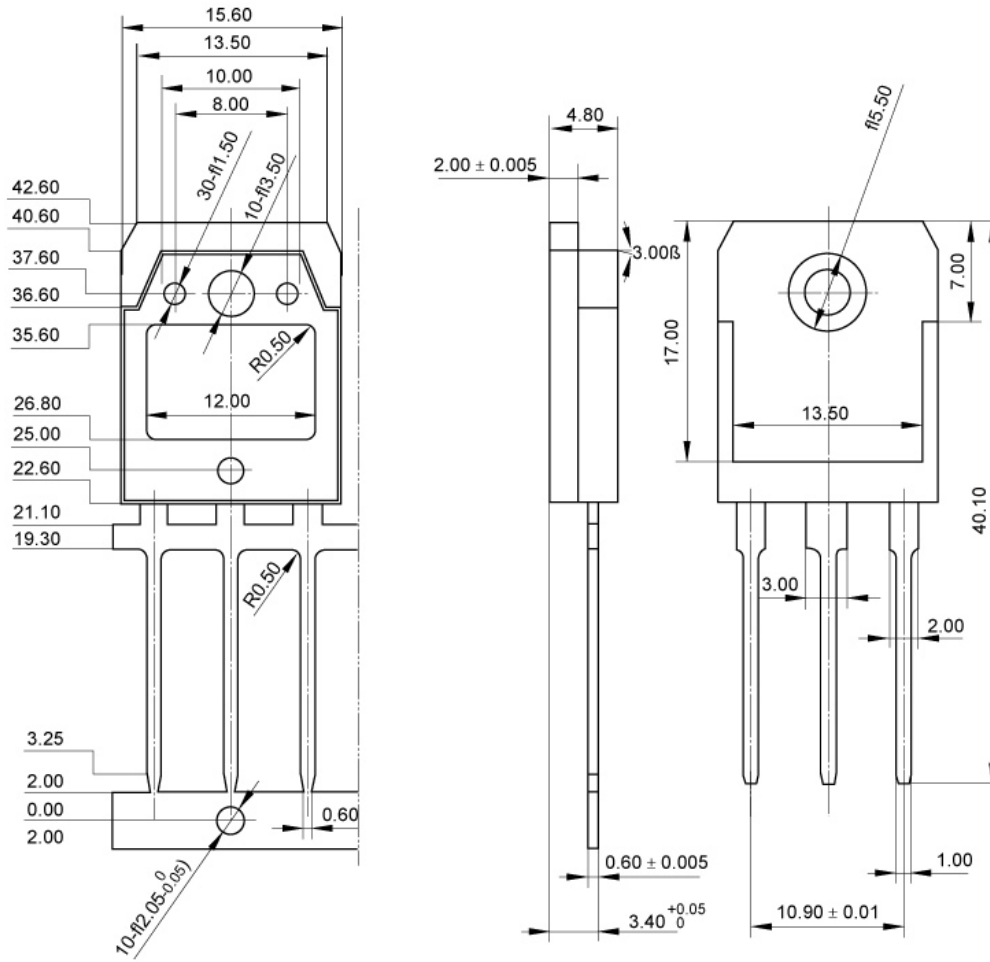


Fig.2 outline dimensions