

Silicon NPN Power Transistors

BUV47 BUV47B

DESCRIPTION

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- With TO-3PN package.
- High voltage.
- Very high switching speed.

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

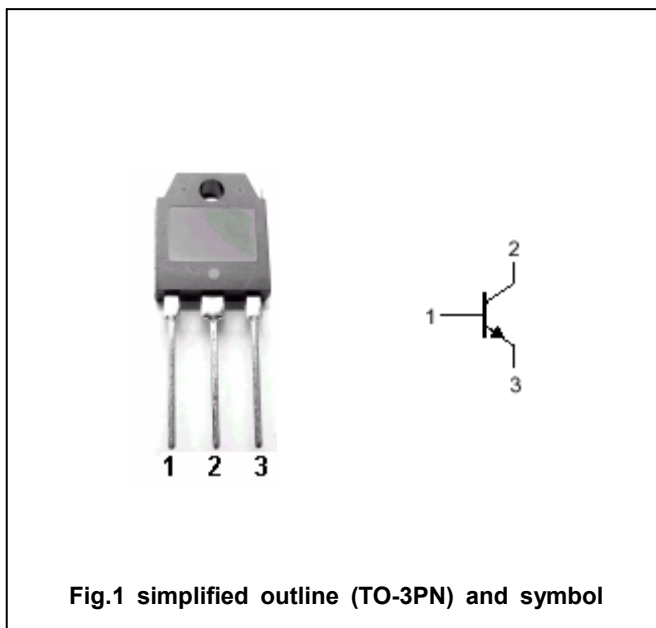


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	850	V
V _{CEO}	Collector-emitter voltage	Open base	400	V
V _{EBO}	Emitter-base voltage	Open collector	7	V
I _C	Collector current		9	A
I _{CM}	Collector current-peak		15	A
I _B	Base current		3	A
P _C	Collector power dissipation	T _C =25°C	90	W
T _j	Junction temperature		-65~150	°C
T _{stg}	Storage temperature		-65~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-case}	Thermal resistance junction case	1.38	°C/W

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CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=10\text{mA}; I_C=0$	10			V
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	$I_C=0.2\text{A}; I_B=0; L=25\text{mH}$	400			V
$V_{CEsat-1}$	Collector-emitter saturation voltage	BUV47	$I_C=5\text{A}; I_B=1\text{A}$		1.5	V
		BUV47B	$I_C=6\text{A}; I_B=1.2\text{A}$			
$V_{CEsat-2}$	Collector-emitter saturation voltage	BUV47	$I_C=8\text{A}; I_B=2.5\text{A}$		3.0	V
		BUV47B	$I_C=9\text{A}; I_B=3\text{A}$			
V_{BEsat}	Base-emitter saturation voltage	BUV47	$I_C=5\text{A}; I_B=1\text{A}$		1.6	V
		BUV47B	$I_C=6\text{A}; I_B=1.2\text{A}$			
I_{CEX}	Collector cut-off current	$V_{CE}=850\text{V}; V_{BE}=-2.5\text{V}$			0.15	mA
I_{EBO}	Emitter cut-off current	$V_{EB}=5\text{V}; I_C=0$			1.0	mA
h_{FE}	DC current gain	$I_C=10\text{A}; V_{CE}=5\text{V}$	7	10	14	

Switching times :

t_{on}	Turn-on time	$I_C=5\text{A}; I_{B1}=-I_{B2}=1.0\text{A}$ $V_{CC}=150\text{V}$			1.0	μs
t_s	Storage time				3.0	μs
t_f	Fall time				0.8	μs

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PACKAGE OUTLINE

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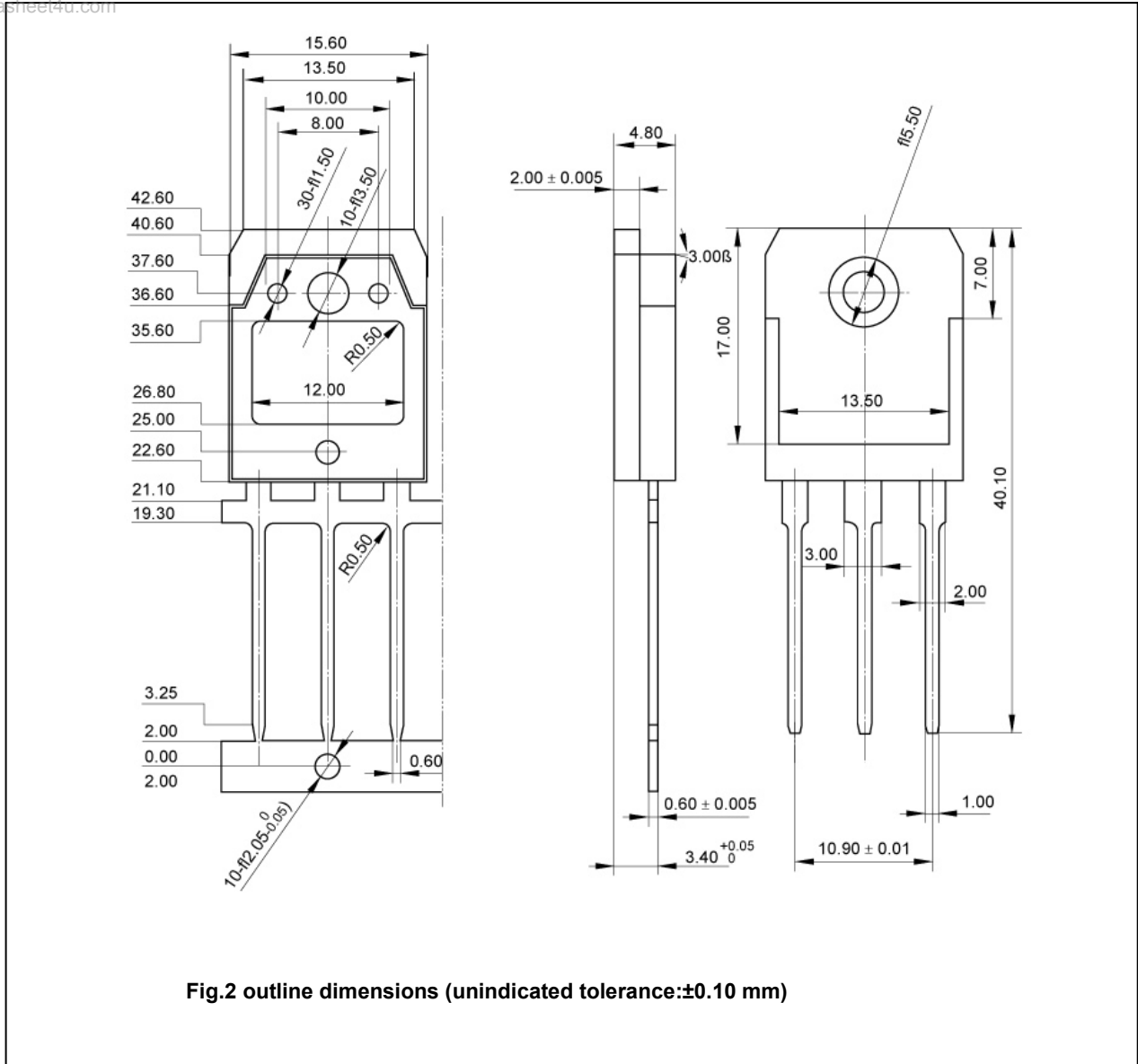


Fig.2 outline dimensions (unindicated tolerance:±0.10 mm)