

**Silicon NPN Power Transistors**

**BUV48 BUV48A**

**DESCRIPTION**

- With TO-3PN package
- High voltage ,high speed

**APPLICATIONS**

- Switching regulators
- Inverters
- Solenoid and relay drivers
- Deflection circuits

**PINNING (See Fig.2)**

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

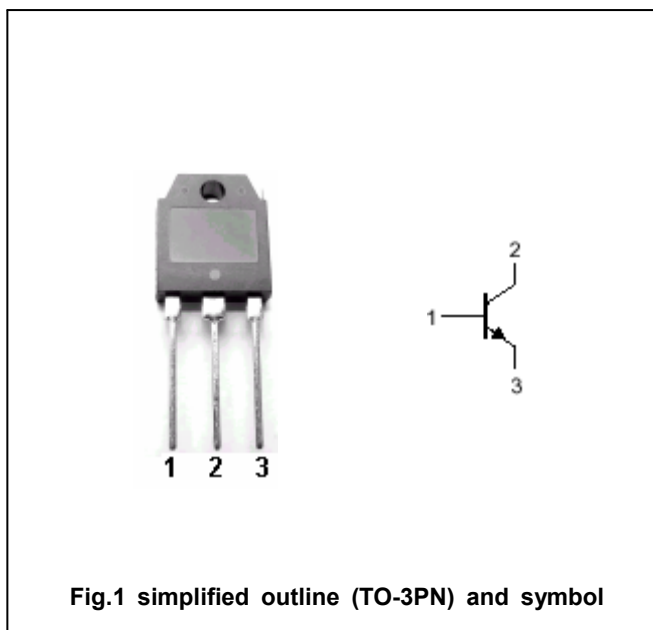


Fig.1 simplified outline (TO-3PN) and symbol

**Absolute maximum ratings(Ta=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	BUV48	850	V
		BUV48A	1000	
V <sub>CEO</sub>	Collector-emitter voltage	BUV48	400	V
		BUV48A	450	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current		15	A
I <sub>CM</sub>	Collector current-peak		30	A
I <sub>B</sub>	Base current		5	A
I <sub>BM</sub>	Base current-peak		20	A
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25°C	150	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-65~175	°C

**THERMAL CHARACTERISTICS**

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

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## CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	BUV48	I <sub>C</sub> =0.2A ; I <sub>B</sub> =0; L=25mH	400			V
		BUV48A		450			
V <sub>EBO(BR)</sub>	Emitter-base breakdown voltage		I <sub>E</sub> =50mA; I <sub>C</sub> =0	7			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	BUV48	I <sub>C</sub> =10A; I <sub>B</sub> =2A T <sub>C</sub> =100 °C			1.5 2.0	V
		BUV48A	I <sub>C</sub> =8A ; I <sub>B</sub> =1.6A T <sub>C</sub> =100 °C			1.5 2.0	
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	BUV48	I <sub>C</sub> =15A ; I <sub>B</sub> =3A			5.0	V
		BUV48A	I <sub>C</sub> =12A ; I <sub>B</sub> =2.4A				
V <sub>BEsat</sub>	Base-emitter saturation voltage	BUV48	I <sub>C</sub> =10A; I <sub>B</sub> =2A T <sub>C</sub> =100 °C			1.6	V
		BUV48A	I <sub>C</sub> =8A ; I <sub>B</sub> =1.6A T <sub>C</sub> =100 °C				
I <sub>CEX</sub>	Collector cut-off current		V <sub>CEX</sub> =rated V <sub>CEs</sub> ; V <sub>BE(off)</sub> =1.5V T <sub>C</sub> =125 °C			0.2 2.0	mA
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =5V; I <sub>C</sub> =0			0.1	mA
h <sub>FE</sub>	DC current gain	BUV48	I <sub>C</sub> =10A ; V <sub>CE</sub> =5V	8			
		BUV48A	I <sub>C</sub> =8A ; V <sub>CE</sub> =5V				
C <sub>OB</sub>	Output capacitance		I <sub>E</sub> =0 ; V <sub>CB</sub> =10V, f=1MHz			350	pF

Switching times resistive load

t <sub>d</sub>	Delay time	for BUV48 I <sub>C</sub> =10A ; I <sub>B1</sub> =2A; V <sub>CC</sub> =300V V <sub>BE(off)</sub> =5V		0.1	0.2	μs
t <sub>r</sub>	Rise time			0.4	0.7	μs
t <sub>s</sub>	Storage time	for BUV48A I <sub>C</sub> =8A ; I <sub>B1</sub> =1.6A; V <sub>CC</sub> =300V V <sub>BE(off)</sub> =5V		1.3	2.0	μs
t <sub>f</sub>	Fall time			0.2	0.4	μs

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PACKAGE OUTLINE

