

## Silicon NPN Power Transistors

## BUV46 BUV46A

## DESCRIPTION

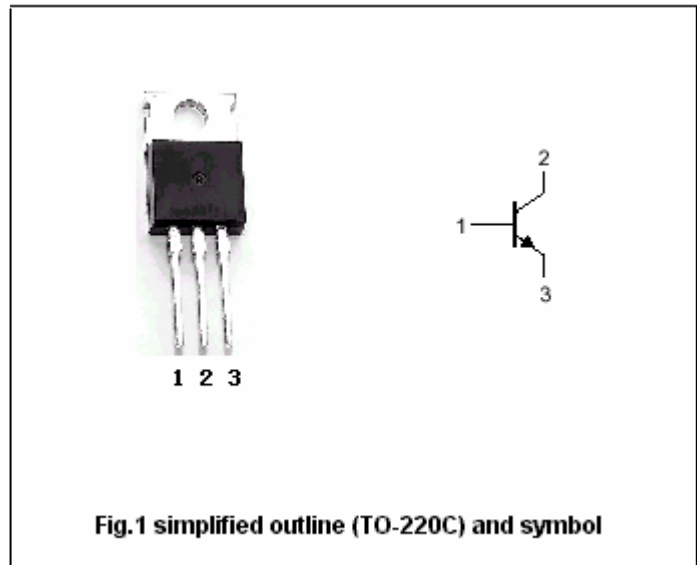
- With TO-220C package
- High voltage
- Fast switching

## APPLICATIONS

- General purpose switching
- Switch mode power supplies
- Electronic ballasts for fluorescent lighting

## PINNING

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

Absolute maximum ratings (T<sub>c</sub>=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	BUV46	850	V
		BUV46A	1000	
V <sub>CEO</sub>	Collector-emitter voltage	BUV46	400	V
		BUV46A	450	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current (DC)		5	A
I <sub>B</sub>	Base current		3	A
P <sub>tot</sub>	Total power dissipation	T <sub>c</sub> =25°C	70	W
T <sub>j</sub>	Max.operating junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-65~150	°C

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-case</sub>	Thermal resistance junction case	1.76	°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>CEQ(SUS)</sub>	Collector-emitter sustaining voltage	BUV46	I <sub>C</sub> =0.1A ; I <sub>B</sub> =0	400		V
		BUV46A		450		
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	BUV46	I <sub>C</sub> =2.5A ; I <sub>B</sub> =0.5A		1.5	V
		BUV46A	I <sub>C</sub> =2A ; I <sub>B</sub> =0.4A			
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	BUV46	I <sub>C</sub> =3.5A ; I <sub>B</sub> =0.7A		5.0	V
		BUV46A	I <sub>C</sub> =3A ; I <sub>B</sub> =0.6A			
V <sub>BEsat</sub>	Base-emitter saturation voltage	BUV46	I <sub>C</sub> =2.5A ; I <sub>B</sub> =0.5A		1.3	V
		BUV46A	I <sub>C</sub> =2A ; I <sub>B</sub> =0.4A			
I <sub>CER</sub>	Collector cut-off current	V <sub>CE</sub> = V <sub>CEX</sub> ; R <sub>BE</sub> = 10 Ω T <sub>C</sub> = 125 °C			0.1 1.0	mA
I <sub>CEx</sub>	Collector cut-off current	V <sub>CE</sub> = V <sub>CEX</sub> ; V <sub>BE</sub> = -2.5 V T <sub>C</sub> = 125 °C			0.3 2.0	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> = 7V; I <sub>C</sub> = 0			1.0	mA

## Switching times

t <sub>on</sub>	Turn-on time	For BUV46 I <sub>C</sub> =2.5A; I <sub>B1</sub> =-I <sub>B2</sub> =0.5A; V <sub>CC</sub> =150V  For BUV46A I <sub>C</sub> =2A; I <sub>B1</sub> =-I <sub>B2</sub> =0.4A; 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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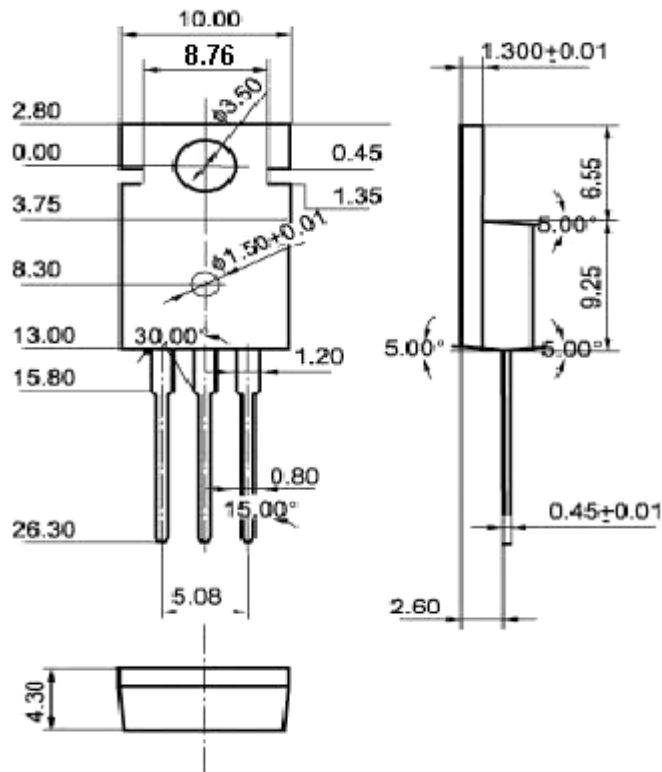


Fig.2 Outline dimensions (unindicated tolerance: 0.1mm)