

**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

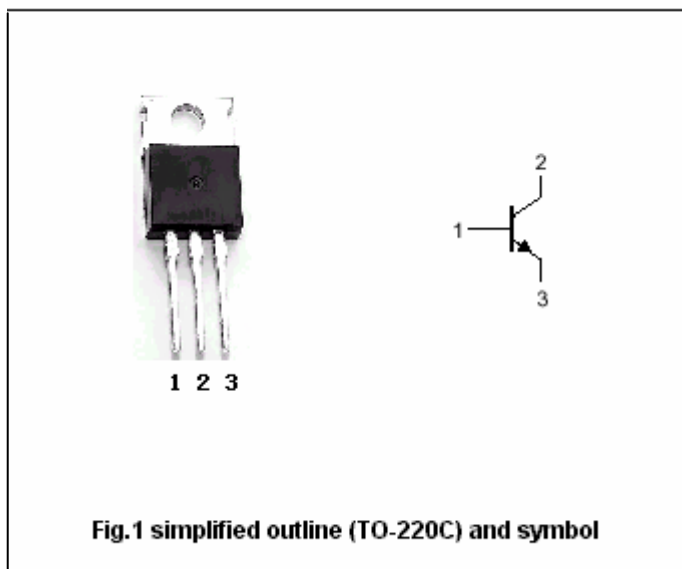


Fig.1 simplified outline (TO-220C) and symbol

**Absolute maximum ratings (Tc=25 )**

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	70	W
T <sub>j</sub>	Max.operating junction temperature		150	
T <sub>stg</sub>	Storage temperature		-65~150	

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-case</sub>	Thermal resistance junction case	1.76	/W

## Silicon NPN Power Transistors

## BUV46 BUV46A

## CHARACTERISTICS

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

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			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			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

Silicon NPN Power Transistors

BUV46 BUV46A

PACKAGE OUTLINE

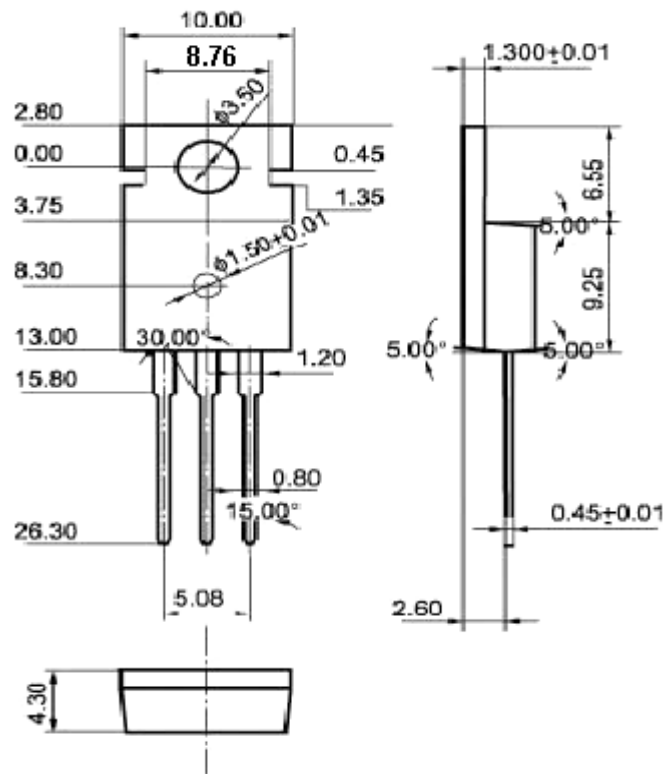


Fig.2 Outline dimensions (unindicated tolerance: 0.1mm)