

**Silicon NPN Power Transistors**

**BUJ403A**

**DESCRIPTION**

- With TO-220C package
- High voltage,high speed

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**APPLICATIONS**

- Designed for use in high frequency electronic lighting ballast applications, converters,inverters,switching regulators, motor control systems,etc

**PINNING**

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

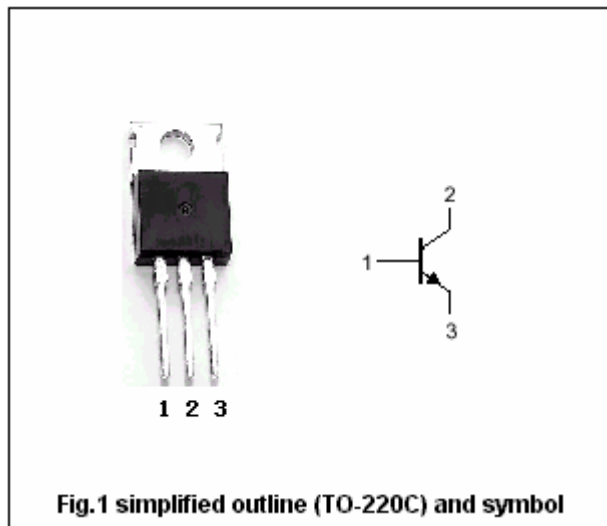


Fig.1 simplified outline (TO-220C) and symbol

**Absolute maximum ratings (Ta=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CB0</sub>	Collector-base voltage	Open emitter	1200	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	550	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current		6	A
I <sub>CM</sub>	Collector current-peak		10	A
I <sub>B</sub>	Base current		3	A
I <sub>BM</sub>	Base current-peak		5	A
P <sub>tot</sub>	Total power dissipation	T <sub>mb</sub> ≤25°C	100	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-mb</sub>	Thermal resistance junction mounting base	1.25	K/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> =10mA ; I <sub>B</sub> =0; L=25mH	550			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =2A ; I <sub>B</sub> =0.4 A		0.15	1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =2A ; I <sub>B</sub> =0.4 A		0.91	1.5	V
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =550V; I <sub>B</sub> =0;			0.1	mA
I <sub>CES</sub>	Collector cut-off current	V <sub>CE</sub> =V <sub>CESMmax</sub> ; V <sub>BE</sub> =0; T <sub>j</sub> =125°C			1.0 2.0	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =7V; I <sub>C</sub> =0			0.1	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =1mA; V <sub>CE</sub> =5V	13			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =500mA; V <sub>CE</sub> =5V	20		47	
h <sub>FEsat-1</sub>	DC current gain	I <sub>C</sub> =2A; V <sub>CE</sub> =5V	13		25	
h <sub>FEsat-2</sub>	DC current gain	I <sub>C</sub> =3A; V <sub>CE</sub> =5V		15.5		

## Switching times resistive load

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =2.5A; I <sub>B1</sub> =-I <sub>B2</sub> =0.5 A R <sub>L</sub> =75Ω, V <sub>BB2</sub> =4V			0.5	μs
t <sub>s</sub>	Storage time				3.0	μs
t <sub>f</sub>	Fall time				0.3	μs

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PACKAGE OUTLINE

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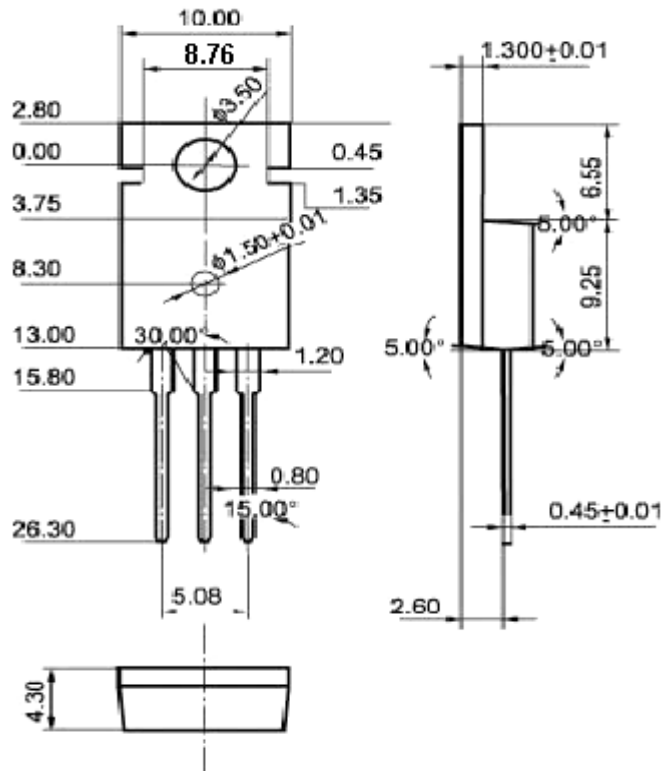


Fig.2 Outline dimensions (unindicated tolerance: 0.1mm)