

## Silicon NPN Power Transistors

## BUX84F BUX85F

## DESCRIPTION

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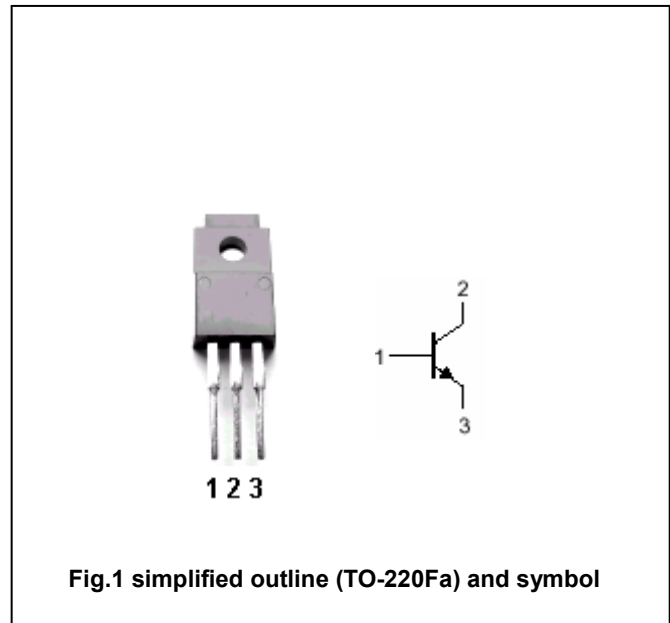
- With TO-220Fa package
- High voltage ,high speed

## APPLICATIONS

- Converters
- Inverters
- Switching regulators
- Motor controls systems

## PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



## Absolut maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	BUX84F	800	V
		BUX85F	1000	
V <sub>CEO</sub>	Collector-emitter voltage	BUX84F	400	V
		BUX85F	450	
V <sub>EBO</sub>	Emitter-base voltage	Open collector	10	V
I <sub>C</sub>	Collector current		2	A
I <sub>CM</sub>	Collector current-peak		3	A
I <sub>B</sub>	Base current		0.75	A
I <sub>BM</sub>	Base current-peak		1	A
P <sub>tot</sub>	Total power dissipation	T <sub>C</sub> =25°C	18	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-65~150	°C

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-a</sub>	Thermal resistance junction to ambient	55	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	BUX84F	I <sub>C</sub> =100mA ; I <sub>B</sub> =0; L=25mH			V
		BUX85F				
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =0.3A ; I <sub>B</sub> =0.03A			0.8	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =1A ; I <sub>B</sub> =0.2A			1	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =1A ; I <sub>B</sub> =0.2A			1.1	V
I <sub>CES</sub>	Collector cut-off current	BUX84F	V <sub>CEs</sub> =800V; V <sub>BE</sub> =0 T <sub>j</sub> =125°C		0.2 1.5	mA
		BUX85F				
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			1.0	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =0.1A ; V <sub>CE</sub> =5V	20		100	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =0.5A ; V <sub>CE</sub> =5V	15			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.2A ; V <sub>CE</sub> =10V; f=1.0MHz		20		MHz

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =1A ; V <sub>CC</sub> =250V I <sub>B1</sub> =0.2A; I <sub>B2</sub> =-0.4A		0.2	0.5	μs
t <sub>s</sub>	Storage time			2	3.5	μs
t <sub>f</sub>	Fall time			0.4		μs

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PACKAGE OUTLINE

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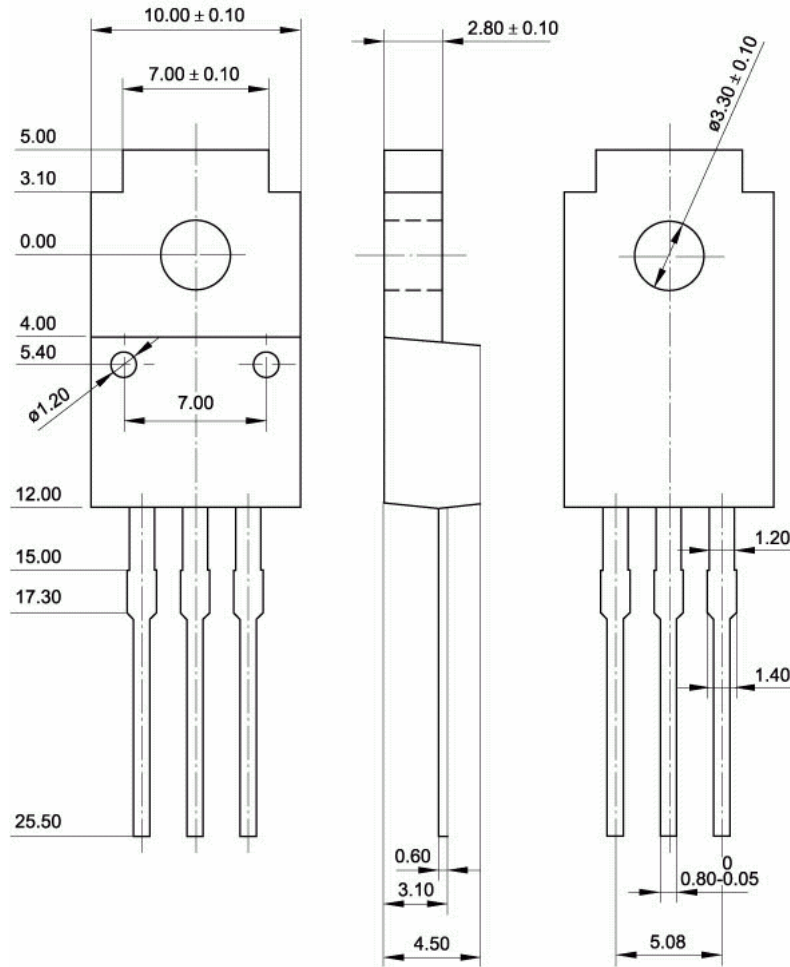


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10\text{mm}$ )