

## Silicon NPN Power Transistors

## BUX84F BUX85F

## DESCRIPTION

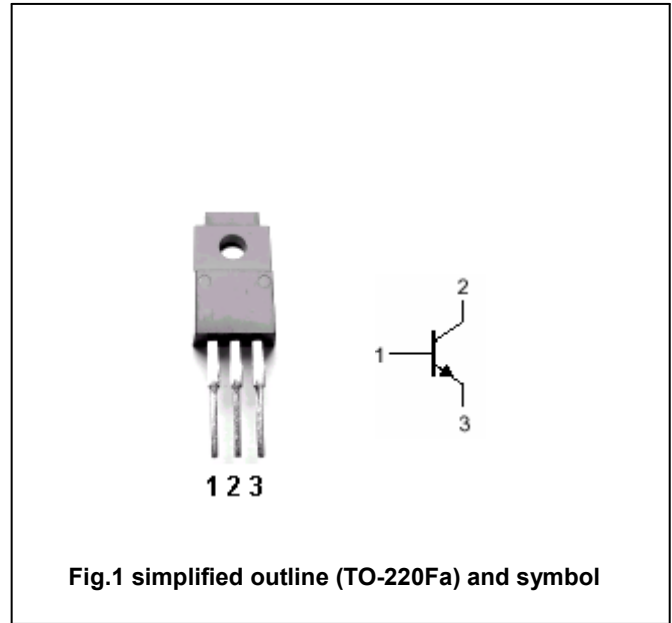
- With TO-220Fa package
- High voltage ,high speed

## APPLICATIONS

- Converters
- Inverters
- Switching regulators
- Motor controls systems

## PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

Absolute maximum ratings ( $T_a=25^\circ\text{C}$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	BUX84F	800	V
		BUX85F	1000	
$V_{CEO}$	Collector-emitter voltage	BUX84F	400	V
		BUX85F	450	
$V_{EBO}$	Emitter-base voltage	Open collector	10	V
$I_C$	Collector current		2	A
$I_{CM}$	Collector current-peak		3	A
$I_B$	Base current		0.75	A
$I_{BM}$	Base current-peak		1	A
$P_{tot}$	Total power dissipation	$T_c=25^\circ\text{C}$	18	W
$T_j$	Junction temperature		150	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-65~150	$^\circ\text{C}$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-a}$	Thermal resistance junction to ambient	55	K/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	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

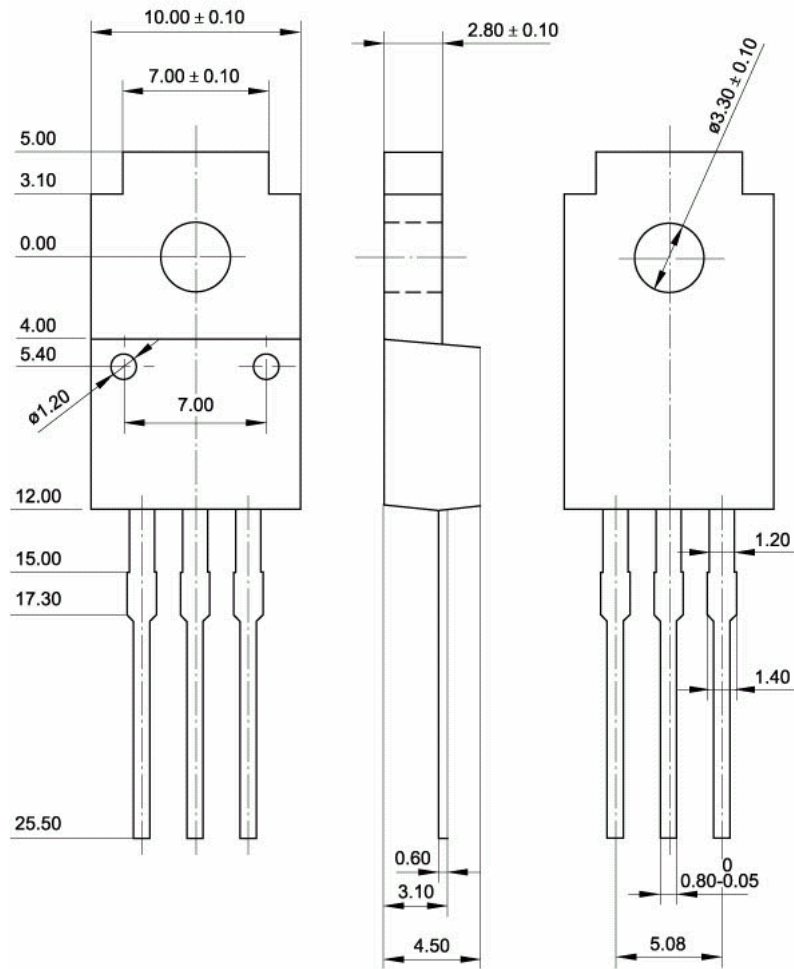


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10$ mm)