

Silicon NPN Power Transistors

BUX84 BUX85

DESCRIPTION

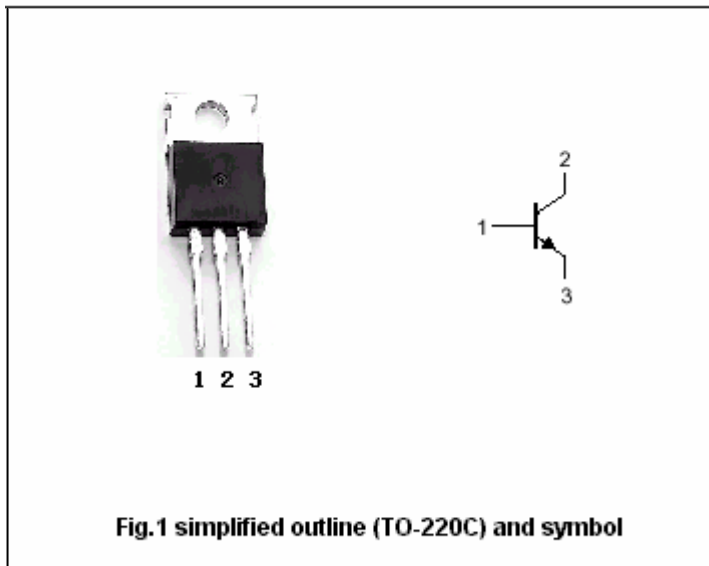
- With TO-220C package
- High switching speed

APPLICATIONS

- Suitable for switching power supplies in TV sets

PINNING

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



Absolut maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	BUX84	800	V
		BUX85	1000	
V <sub>CEO</sub>	Collector-emitter voltage	BUX84	400	V
		BUX85	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	40	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-c</sub>	Thermal resistance junction to mounting flange	2.5	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>(BR)CEO</sub>	Collector-emitter breakdown voltage	BUX84	I <sub>C</sub> =100mA ; I <sub>B</sub> =0; L=25mH	400			V
		BUX85		450			
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =0.3A ; I <sub>B</sub> =0.03A			1.5	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =1A ; I <sub>B</sub> =0.2A			3.0	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	BUX84	V <sub>CEs</sub> =800V; V <sub>BE</sub> =0 T <sub>j</sub> =125 °C			1.0 1.5	mA
		BUX85	V <sub>CEs</sub> =1000V; V <sub>BE</sub> =0 T <sub>j</sub> =125 °C			0.2 1.5	
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

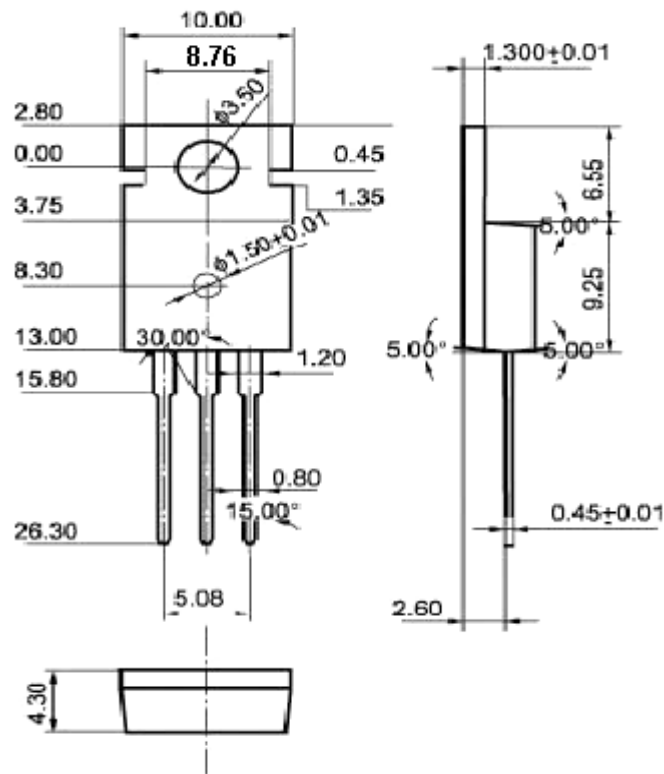


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10\text{mm}$ )