

**Silicon NPN Power Transistors**

**BUX41**

**DESCRIPTION**

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- With TO-3 package
- Fast switching times

**APPLICATIONS**

- For high speed ,high current and high power applications

**PINNING(see fig.2)**

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

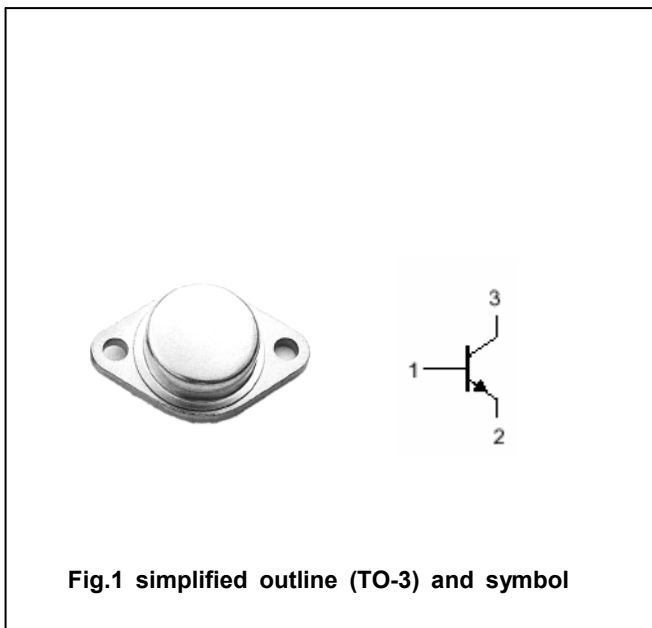


Fig.1 simplified outline (TO-3) and symbol

**ABSOLUTE MAXIMUM RATINGS(Ta=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	250	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	200	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7	V
I <sub>C</sub>	Collector current		15	A
I <sub>CM</sub>	Collector current-peak		20	A
I <sub>B</sub>	Base current		3	A
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25°C	120	W
T <sub>j</sub>	Junction temperature		200	°C
T <sub>stg</sub>	Storage temperature		-65~200	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal resistance junction to case	1.46	°C/W

## Silicon NPN Power Transistors

## BUX41

## 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> =0.2A; I <sub>B</sub> =0; L=25mH	200			V
V <sub>(BR)EBO</sub>	Emitter-base sustaining voltage	I <sub>E</sub> =50mA; I <sub>C</sub> =0	7			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =5 A; I <sub>B</sub> =0.5 A			1.2	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =8 A; I <sub>B</sub> =1 A			1.6	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =8 A; I <sub>B</sub> =1 A			2.0	V
I <sub>CEX</sub>	Collector cut-off current	V <sub>CE</sub> =250V; V <sub>BE</sub> =-1.5V T <sub>C</sub> =125°C			1.0 5.0	mA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =160V; I <sub>B</sub> =0			1.0	mA
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> =5A ; V <sub>CE</sub> =4V	15		45	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =8A ; V <sub>CE</sub> =4V	8			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =1A ; V <sub>CE</sub> =15V; f=4MHz	8.0			MHz

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =8A ; I <sub>B1</sub> =-I <sub>B2</sub> =1A V <sub>CC</sub> =150V, R <sub>C</sub> =18.75Ω			0.6	μs
t <sub>s</sub>	Storage time				1.5	μs
t <sub>f</sub>	Fall time				0.4	μs

PACKAGE OUTLINE

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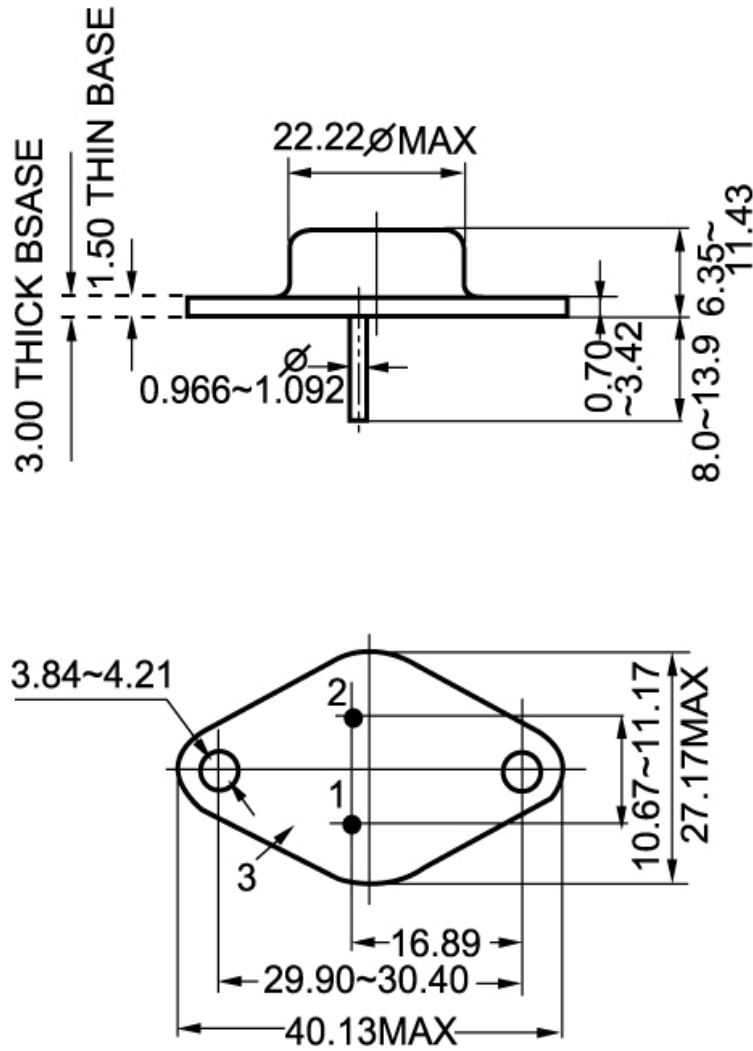


Fig.2 Outline dimensions