

Silicon NPN Power Transistors

BUX12

DESCRIPTION

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- With TO-3 package
- High current capability
- Fast switching speed
- High reliability

APPLICATIONS

- Motor control
- Power switching circuits

PINNING(see fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

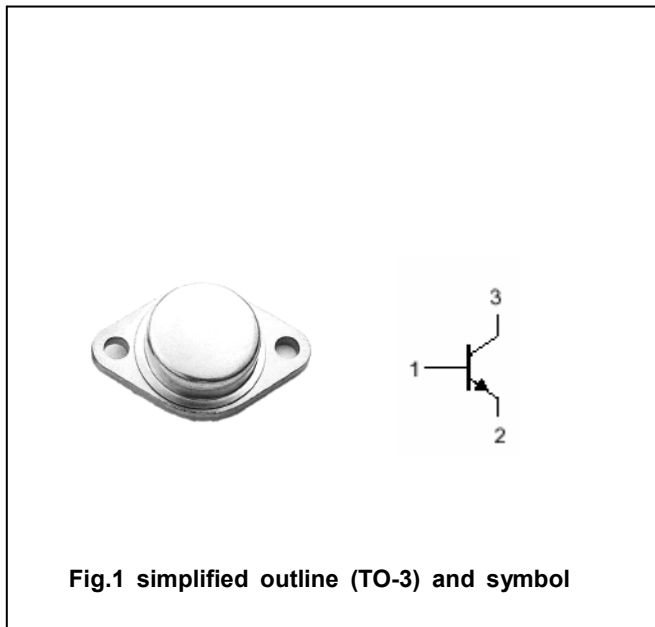


Fig.1 simplified outline (TO-3) and symbol

ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	300	V
V _{CEO}	Collector-emitter voltage	Open base	250	V
V _{EBO}	Emitter-base voltage	Open collector	7	V
I _C	Collector current		20	A
I _{CM}	Collector current-peak		25	A
I _B	Base current		4	A
P _T	Total power dissipation	T _C =25°C	150	W
T _j	Junction temperature		200	°C
T _{stg}	Storage temperature		-65~200	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal resistance junction to case	1.17	°C/W

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CHARACTERISTICS

T_j=25°C unless otherwise specified

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	I _C =0.2mA; I _B =0	250			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =50mA; I _C =0	7			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =5 A; I _B =0.5A		0.22	1	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =10 A; I _B =1.25 A		0.5	1.5	V
V _{BEsat}	Base-emitter saturation voltage	I _C =10 A; I _B =1.25 A		1.23	1.5	V
I _{CEX}	Collector cut-off current	V _{CE} =300V; V _{BE} =-1.5V T _C =125°C			1.5 6.0	mA
I _{CEO}	Collector cut-off current	V _{CE} =200V; I _B =0			1.5	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			1.0	mA
h _{FE-1}	DC current gain	I _C =5A ; V _{CE} =4V	20		60	
h _{FE-2}	DC current gain	I _C =10A ; V _{CE} =4V	10			
f _T	Transition frequency	I _C =1A ; V _{CE} =15V; f=10MHz	8.0			MHz

Switching times

t _{on}	Turn-on time	I _C =10A ; I _{B1} =1.25A V _{CC} =150V		0.28	1	μs
t _s	Storage time	I _C =10A ; I _{B1} =-I _{B2} =1.25A V _{CC} =150V		1.45	2	μs
t _f	Fall time			0.23	0.5	μs

PACKAGE OUTLINE

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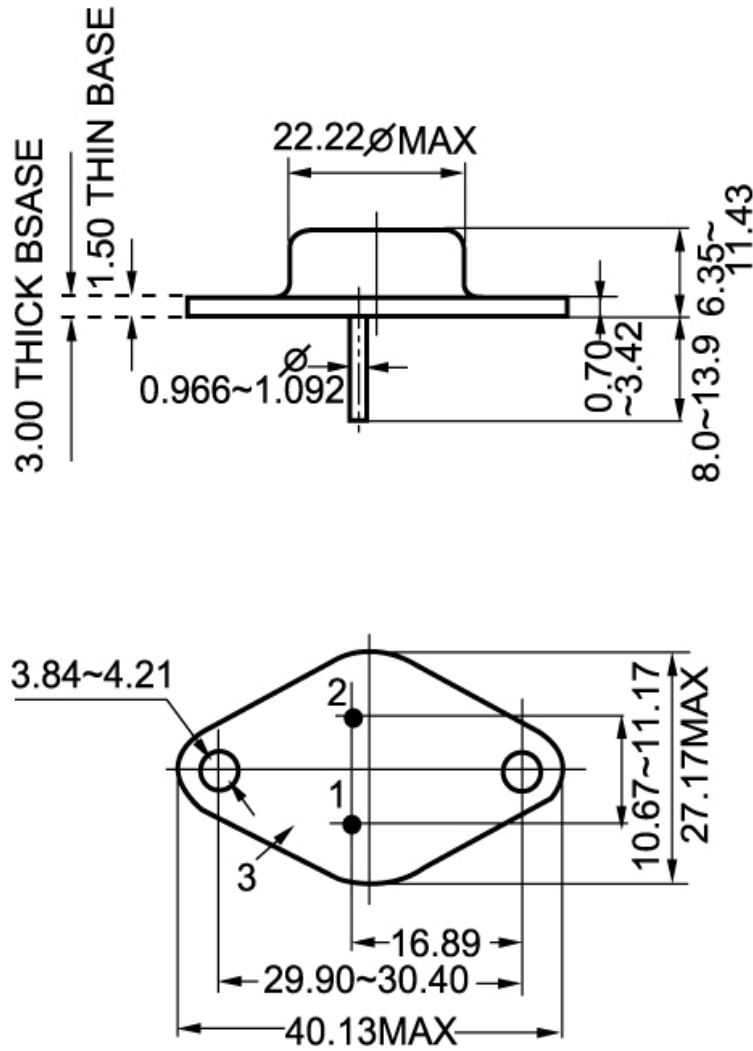


Fig.2 Outline dimensions