

Silicon NPN Power Transistors

BUX40

DESCRIPTION

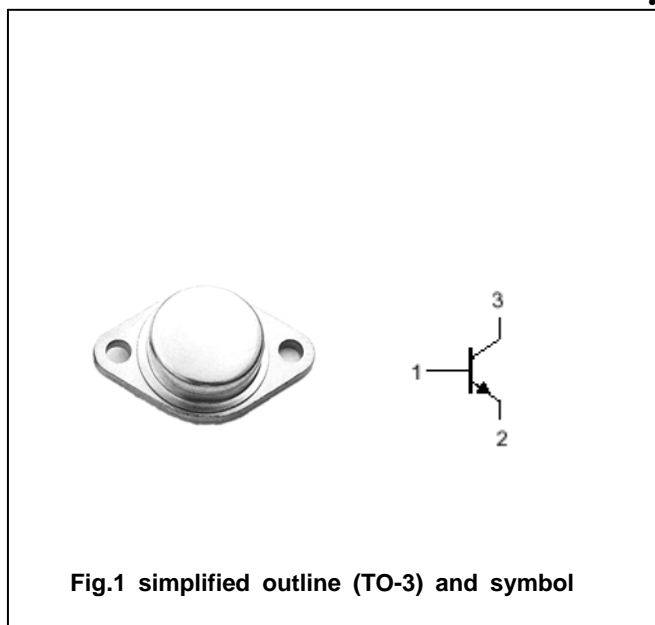
- With TO-3 package
- High current capability
- Fast switching speed

APPLICATIONS

- For use in switching and linear applications

PINNING(see fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	160	V
V_{CEO}	Collector-emitter voltage	Open base	125	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		20	A
I_{CM}	Collector current-peak	$t_p=10\text{ms}$	28	A
I_B	Base current		4	A
P_T	Total power dissipation	$T_C=25^{\circ}\text{C}$	120	W
T_j	Junction temperature		200	$^{\circ}\text{C}$
T_{stg}	Storage temperature		-65~200	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R_{th-j-c}	Thermal resistance junction to case	1.46	$^{\circ}\text{C}/\text{W}$

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	I _C =0.2mA; I _B =0	125			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 =10 A; I _B =1 A			1.2	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =15 A; I _B =1.88 A			1.6	V
V _{BEsat}	Base-emitter saturation voltage	I _C =15 A; I _B =1.88 A			2.0	V
I _{CEX}	Collector cut-off current	V _{CE} =160V; V _{BE} =-1.5V T _C =125°C			1.0 5.0	mA
I _{CEO}	Collector cut-off current	V _{CE} =100V; I _B =0			1.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			1.0	mA
h _{FE-1}	DC current gain	I _C =10A ; V _{CE} =4V	15		45	
h _{FE-2}	DC current gain	I _C =15A ; V _{CE} =4V	8			
f _T	Transition frequency	I _C =1A ; V _{CE} =15V; f=10MHz	8.0			MHz

Switching times

t _{on}	Turn-on time	I _C =15A ; I _{B1} =1.88A V _{CC} =30V			1.2	μs
t _s	Storage time	I _C =15A ; I _{B1} =-I _{B2} =1.88A V _{CC} =30V			1.0	μs
t _f	Fall time				0.4	μs

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PACKAGE OUTLINE

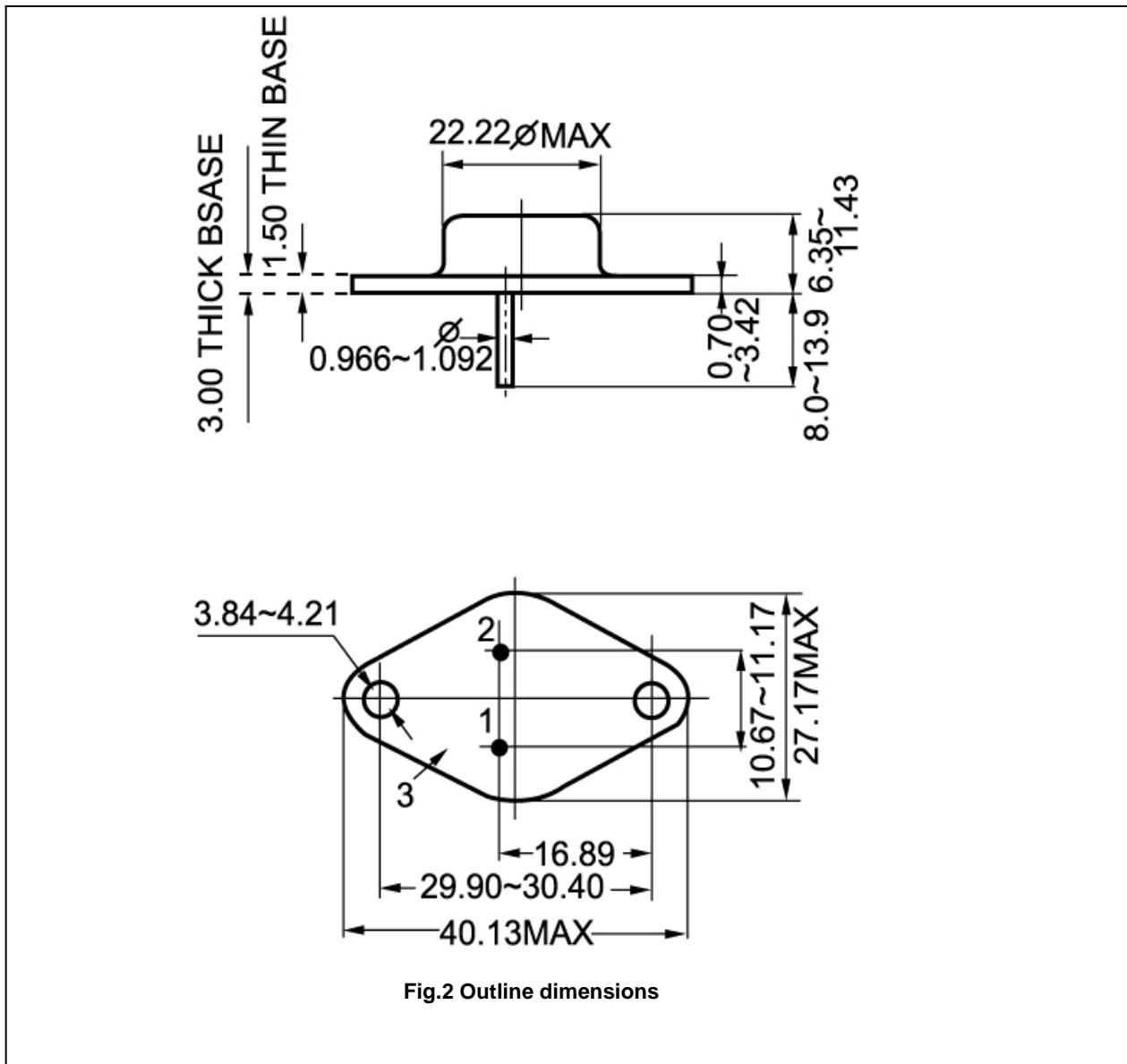


Fig.2 Outline dimensions