

Silicon NPN Power Transistors

BUX12

DESCRIPTION

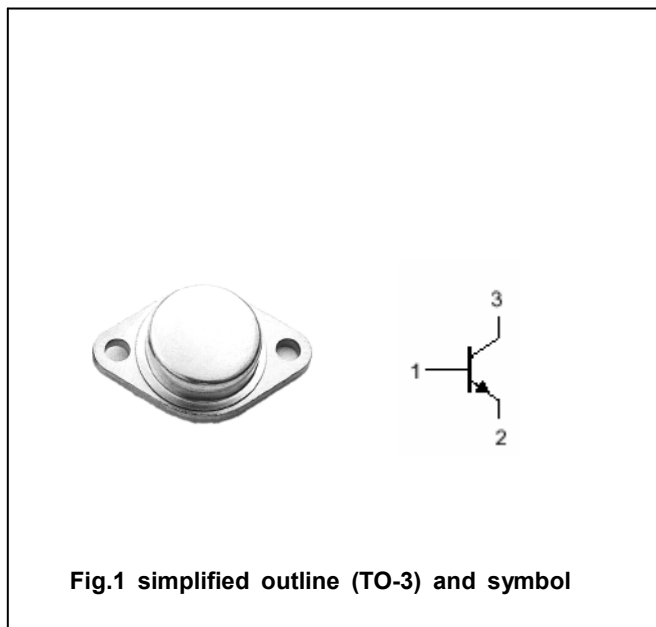
- With TO-3 package
- High current capability
- Fast switching speed
- High reliability

APPLICATIONS

- Motor control
- Power switching circuits

PINNING(see fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

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

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	$T_C=25^\circ\text{C}$	150	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	1.17	$^\circ\text{C}/\text{W}$

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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	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

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PACKAGE OUTLINE

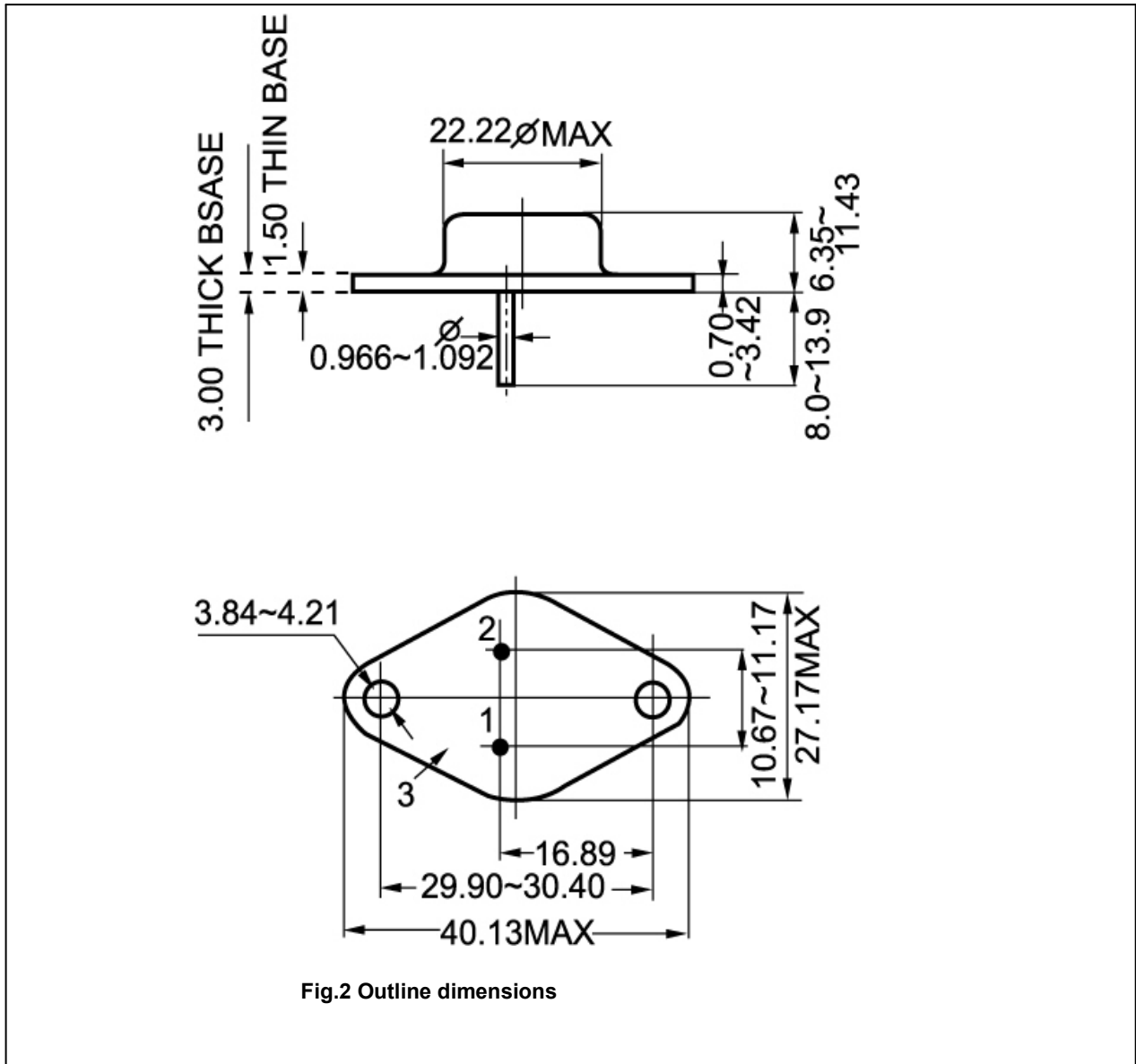


Fig.2 Outline dimensions