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

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

ABSOLUTE MAXIMUM RATINGS(Ta=25℃)

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℃	150	W
T_j	Junction temperature		200	℃
T_{stg}	Storage temperature		-65~200	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}C}$	Thermal resistance junction to case	1.17	℃/W

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CHARACTERISTICS

Tj=25℃ 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℃			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

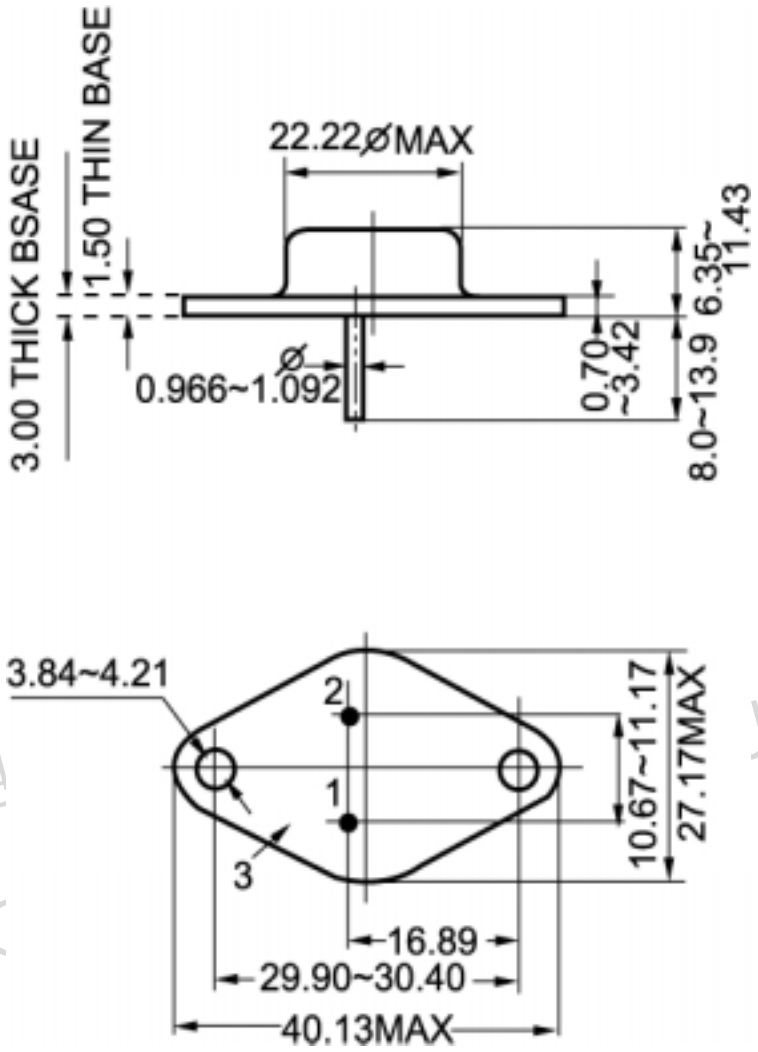

Fig.2 Outline dimensions