

Silicon NPN Power Transistors

BUV21

DESCRIPTION

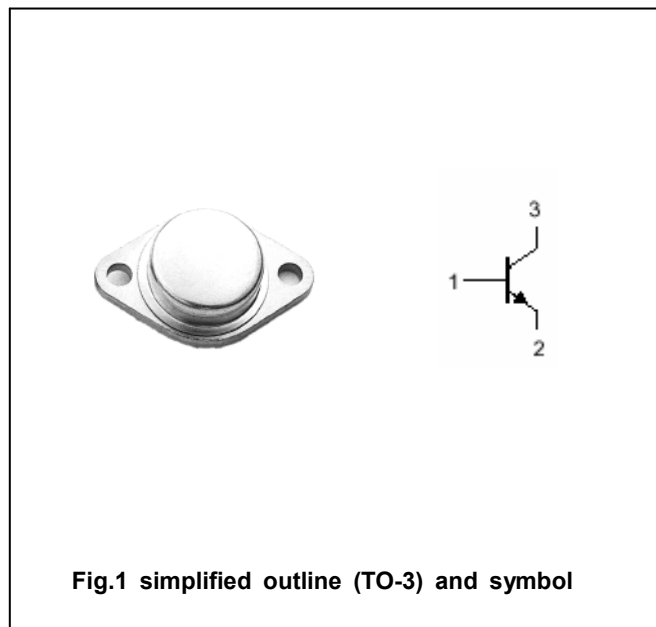
- With TO-3 package
- High DC current gain@ $I_C=12A$
- Fast switching times
- Low collector saturation voltage

APPLICATIONS

- Designed for high current,high speed and high power applications.

PINNING(see fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

Absolute maximum ratings ($T_c=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	250	V
V_{CEO}	Collector-emitter voltage	Open base	200	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		40	A
I_{CM}	Collector current-peak		50	A
I_B	Base current		8	A
P_T	Total power dissipation	$T_c=25^\circ\text{C}$	150	W
T_j	Junction temperature		-65~200	$^\circ\text{C}$
T_{stg}	Storage temperature		-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	0.7	$^\circ\text{C}/\text{W}$

Silicon NPN Power Transistors

BUV21

CHARACTERISTICS

T_j=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	I _C =0.2A; I _B =0; L=25mH	200			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 =12 A; I _B =1.2A			0.6	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =25 A; I _B =3A			1.5	V
V _{BEsat}	Base-emitter saturation voltage	I _C =25A; I _B =3A			1.5	V
I _{CEX}	Collector cut-off current	V _{CE} =250V; V _{BE} =-1.5V T _C =125℃			3.0 12	mA
I _{CEO}	Collector cut-off current	V _{CE} =160V; I _B =0			3.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			1.0	mA
h _{FE-1}	DC current gain	I _C =12A ; V _{CE} =2V	20		60	
h _{FE-2}	DC current gain	I _C =25A ; V _{CE} =4V	10			
f _T	Transition frequency	I _C =2A ; V _{CE} =15V; f=4MHz	8.0			MHz

Switching times

t _{on}	Turn-on time	I _C =25A ; I _{B1} =-I _{B2} =3A V _{CC} =100V ; R _C =4Ω			1.0	μs
t _s	Storage time				1.8	μs
t _f	Fall time				0.4	μs

Silicon NPN Power Transistors

BUV21

PACKAGE OUTLINE

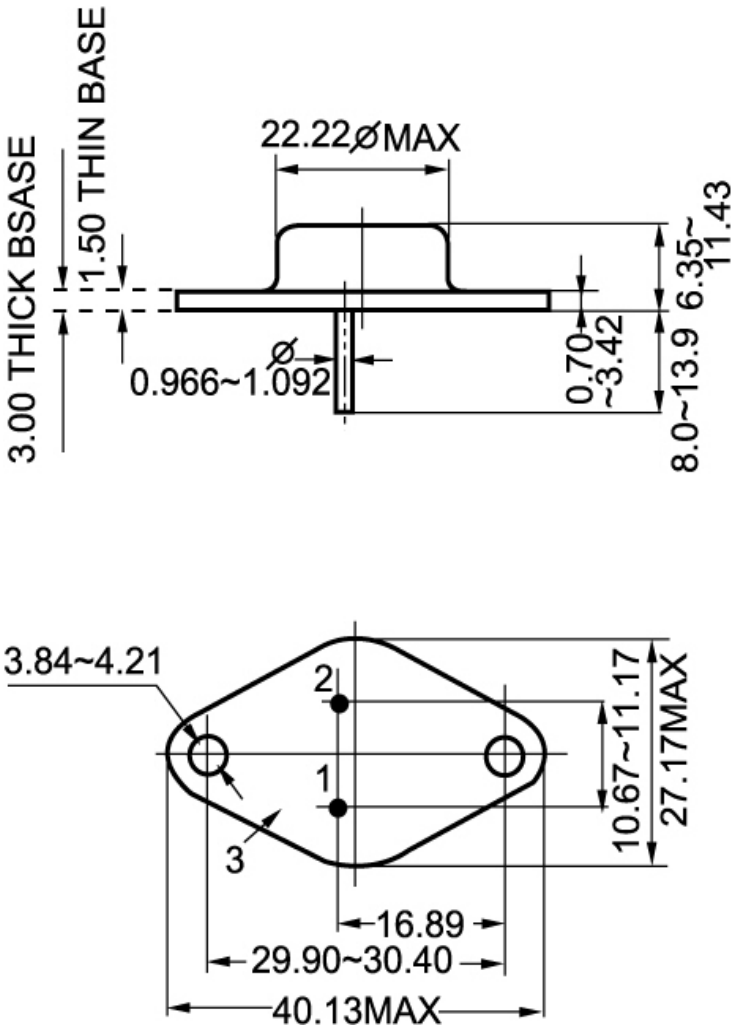


Fig.2 Outline dimensions