

## Silicon NPN Power Transistors

BUV50

## DESCRIPTION

- With TO-3 package
- High dielectric strength
- Short switching time

## APPLICATIONS

- Suitable for use in clocked  
voltage converters

## PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

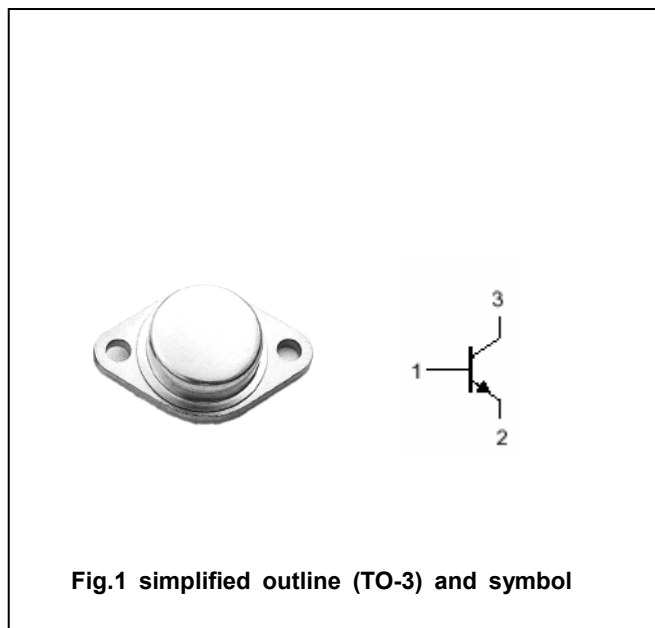


Fig.1 simplified outline (TO-3) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	250	V
$V_{CEO}$	Collector-emitter voltage	Open base	125	V
$V_{EBO}$	Emitter-base voltage	Open collector	7	V
$I_C$	Collector current		25	A
$I_{CM}$	Collector current-peak		50	A
$I_B$	Base current		6	A
$I_{BM}$	Base current-peak		12	A
$P_T$	Total power dissipation	$T_{mb} \leq 25^\circ\text{C}$	150	W
$T_j$	Junction temperature		150	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-65~200	$^\circ\text{C}$

## THERMAL CHARACTERISTICS

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

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## BUV50

## CHARACTERISTICS

T<sub>j</sub>=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEQ(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =0.2A ; L=25mH	125			V
V <sub>(BR)EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =50mA; I <sub>C</sub> =0	7			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =10A; I <sub>B</sub> =0.5A T <sub>C</sub> =100 °C			0.8 0.9	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =20A; I <sub>B</sub> =2A T <sub>C</sub> =100 °C			0.9 1.5	V
V <sub>CEsat-3</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =24A; I <sub>B</sub> =3A T <sub>C</sub> =100 °C			1.2 1.8	V
V <sub>BEsat-1</sub>	Base-emitter saturation voltage	I <sub>C</sub> =20A; I <sub>B</sub> =2A T <sub>C</sub> =100 °C			1.6 1.7	V
V <sub>BEsat-2</sub>	Base-emitter saturation voltage	I <sub>C</sub> =24A; I <sub>B</sub> =3A T <sub>C</sub> =100 °C			1.7 1.9	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =V <sub>CBQ(BR)</sub> ; I <sub>E</sub> =0 T <sub>C</sub> =100 °C			1 5	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			1	mA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =5A ; V <sub>CE</sub> =4V	30			

PACKAGE OUTLINE

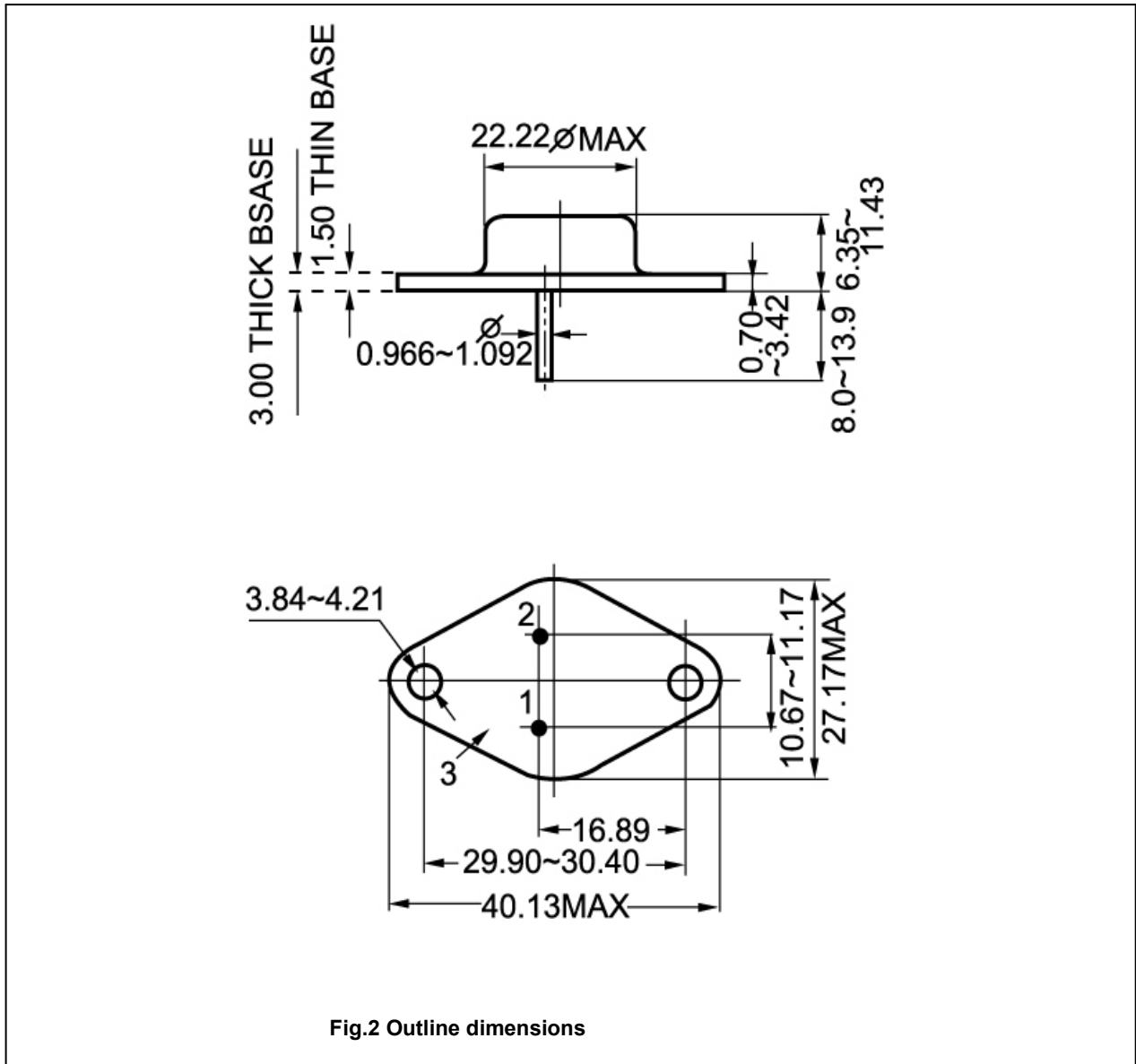


Fig.2 Outline dimensions