

Silicon NPN Power Transistors

BUV42

DESCRIPTION

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- With TO-3 package
- Fast switching times
- Low collector saturation voltage

APPLICATIONS

- For switching applications

PINNING (See Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

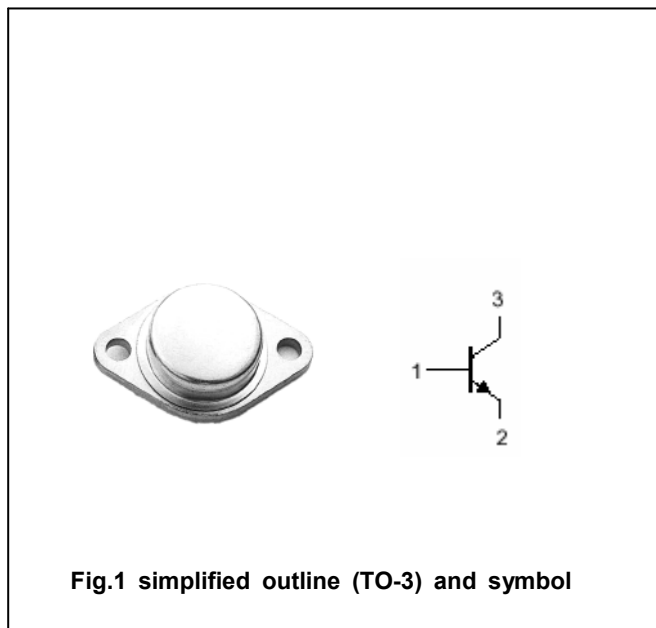


Fig.1 simplified outline (TO-3) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	350	V
V_{CEO}	Collector-emitter voltage	Open base	250	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		12	A
I_{CM}	Collector current-peak		18	A
I_B	Base current		2.5	A
I_{BM}	Base current-peak		4	A
P_T	Total power dissipation	$T_c \leq 25^\circ\text{C}$	120	W
T_j	Junction temperature		200	$^\circ\text{C}$
T_{stg}	Storage temperature		-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

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

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CHARACTERISTICS

T_j=25°C unless otherwise specified

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	I _C =0.2A ; L=25mH	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 =2A; I _B =0.13A T _j =100°C			0.8 0.9	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =4A; I _B =0.4A T _j =100°C			0.9 1.2	V
V _{CEsat-3}	Collector-emitter saturation voltage	I _C =6A; I _B =0.75A T _j =100°C			1.2 1.5	V
V _{BEsat-1}	Base-emitter saturation voltage	I _C =4A; I _B =0.4A T _j =100°C			1.3	V
V _{BEsat-2}	Base-emitter saturation voltage	I _C =6A; I _B =0.75A T _j =100°C			1.5	V
I _{CEV}	Collector cut-off current	V _{CE} =V _{CEV} ; V _{BE} =-1.5V T _C =100°C			0.5 2.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			1	mA

Switching times resistive load

t _r	Rise time	I _C =6A ; I _{B1} =0.75A R _{B2} =3.3Ω; V _{CC} =200V V _{BB} =-5V; T _p =30μs		0.3	0.4	μs
t _s	Storage time			1.0	1.6	μs
t _f	Fall time			0.15	0.3	μs

PACKAGE OUTLINE

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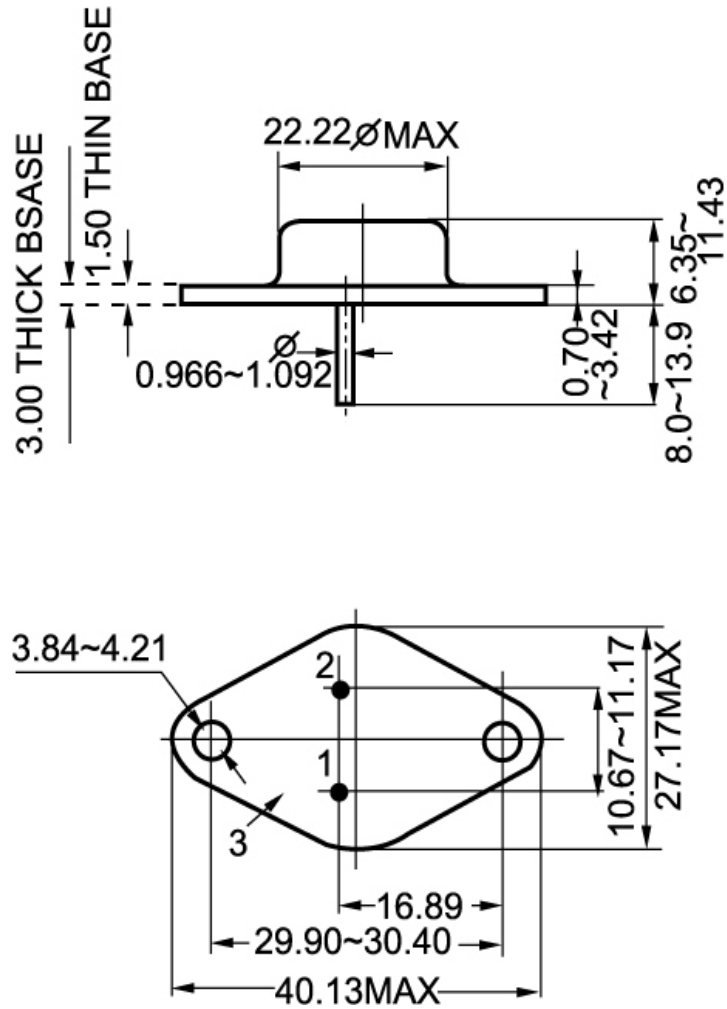


Fig.2 Outline dimensions