

Silicon NPN Power Transistors

BUF405AFP

DESCRIPTION

- With TO-220F package
- High voltage,high speed

APPLICATIONS

- Switch mode power supplies
- Motor drivers

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

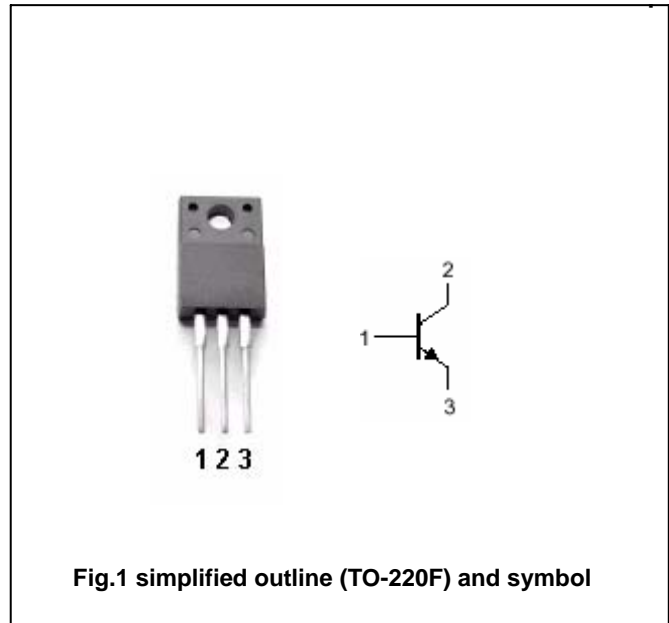


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings($T_a=25$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	1000	V
V_{CEO}	Collector-emitter voltage	Open base	450	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current (DC)		7.5	A
I_{CM}	Collector current-Peak	$t_p < 5ms$	15	A
I_B	Base current (DC)		3	A
I_{BM}	Base current-Peak	$t_p < 5ms$	4.5	A
P_{tot}	Total power dissipation	$T_C=25$	39	W
T_j	Maximum operating junction temperature		150	
T_{stg}	Storage temperature		-65~150	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-case}$	Thermal resistance junction to case	3.2	/W

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	I _C =200mA ; I _B =0; L=25mH	450			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 =2.5A; I _B =0.25A T _C =100		0.8	2.8	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =5A ; I _B =1A T _C =100		0.5	2.0	V
V _{BEsat-1}	Base-emitter saturation voltage	I _C =2.5A; I _B =0.25A T _C =100		0.9	1.5	V
V _{BEsat-2}	Base-emitter saturation voltage	I _C =5A ; I _B =1A T _C =100		1.1	1.5	V
I _{CEV}	Collector cut-off current	V _{CE} =1000V; V _{BE} =-1.5V T _C =100			100 500	μA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			1	mA

Switching times inductive load

t _s	Storage time	I _C =2.5A ; V _{CC} =50V I _{B1} =0.25A; V _{BB} =-5V ; L=1mH R _{BB} =2.4 ; V _{clamp} =400V		0.8		μs
t _f	Fall time			0.05		μs

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PACKAGE OUTLINE

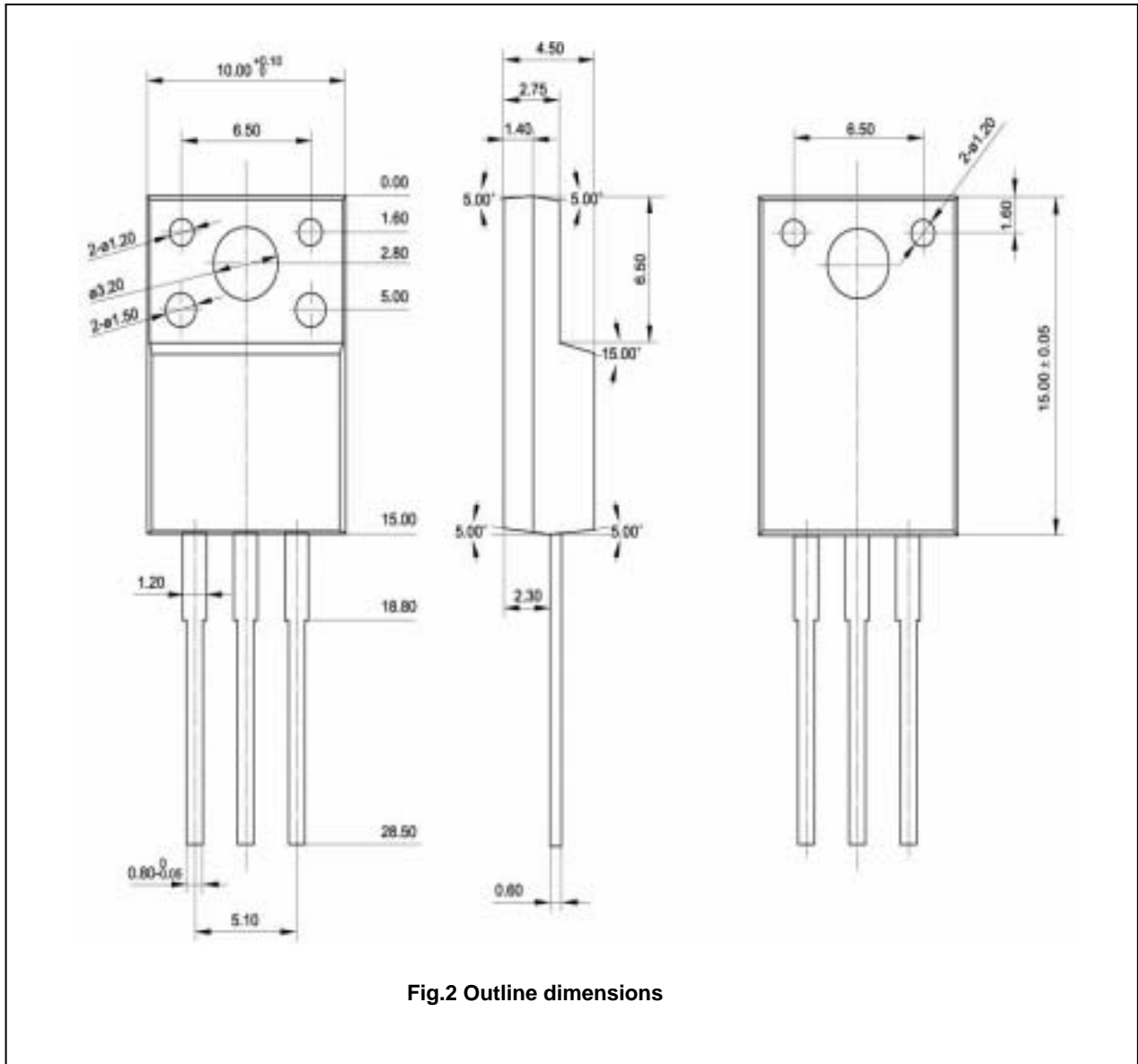


Fig.2 Outline dimensions