

Silicon NPN Power Transistors

BUT11AX

DESCRIPTION

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

APPLICATIONS

- Converters
- Inverters
- Switching regulators
- Motor control systems

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

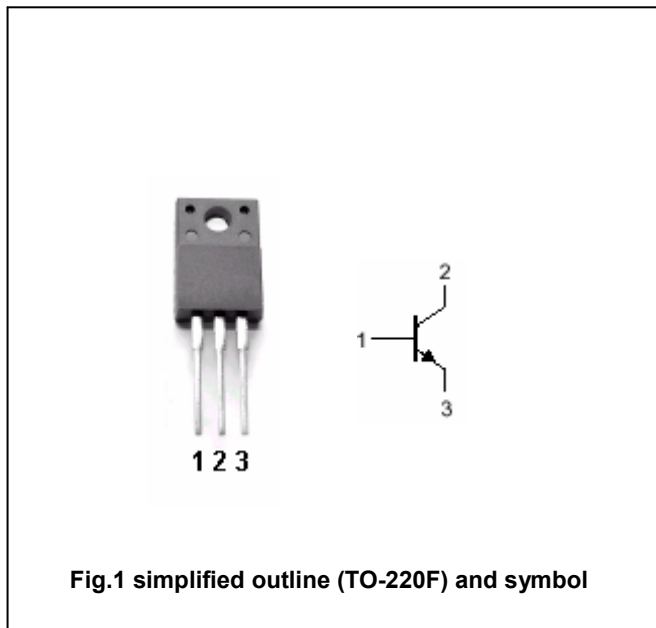


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings (Tc=25°C)

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	9	V
I _C	Collector current		5	A
I _{CM}	Collector current-peak		10	A
I _B	Base current		2	A
I _{BM}	Base current-peak		4	A
P _{tot}	Total power dissipation	T _C =25°C	32	W
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-65~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R _{th j-c}	Thermal resistance from junction to case	3.95	K/W

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	I _C =0.1A; I _B =0; L=25mH	450			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =2.5A; I _B =0.5A			1.5	V
V _{BEsat}	Base-emitter saturation voltage	I _C =2.5A; I _B =0.5A			1.3	V
I _{CEs}	Collector cut-off current	V _{CE} =Rated V _{CEs} ; V _{BE} =0 T _j =125 °C			1.0 2.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =9V; I _C =0			10	mA
h _{FE-1}	DC current gain	I _C =5mA; V _{CE} =5V	10		35	
h _{FE-2}	DC current gain	I _C =0.5A; V _{CE} =5V	10		35	

Switching times resistive load

t _{on}	Turn-on time	I _C =2.5A; I _{B1} =- I _{B2} =0.5A		0.6		μs
t _s	Storage time			3.5		μs
t _f	Fall time			0.6		μs

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PACKAGE OUTLINE

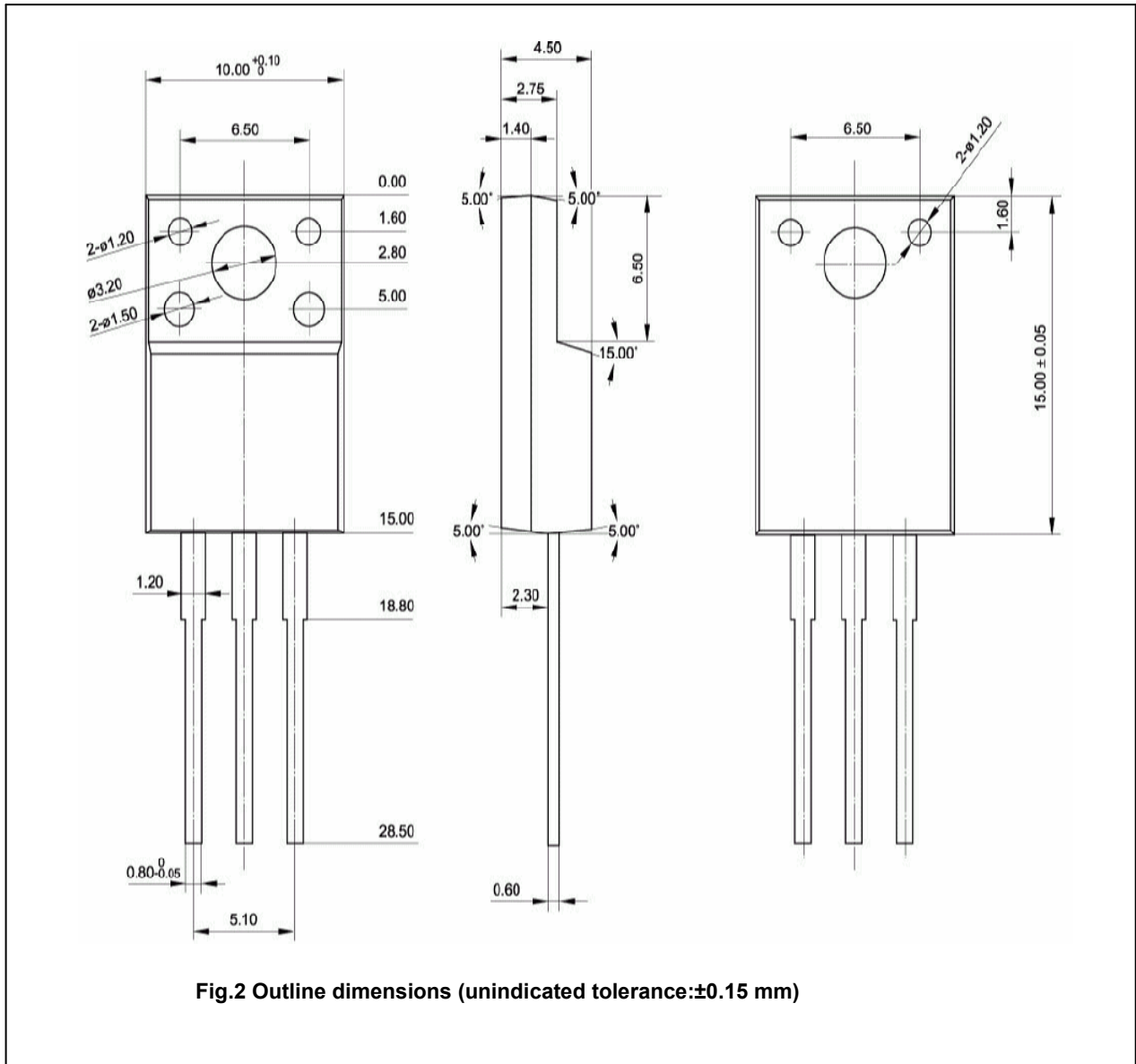


Fig.2 Outline dimensions (unindicated tolerance: ± 0.15 mm)