

Silicon NPN Power Transistors

BU1706AX

DESCRIPTION

- With TO-220F package
- High voltage
- High speed switching

APPLICATIONS

- For use in high frequency electronic lighting ballast applications.

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

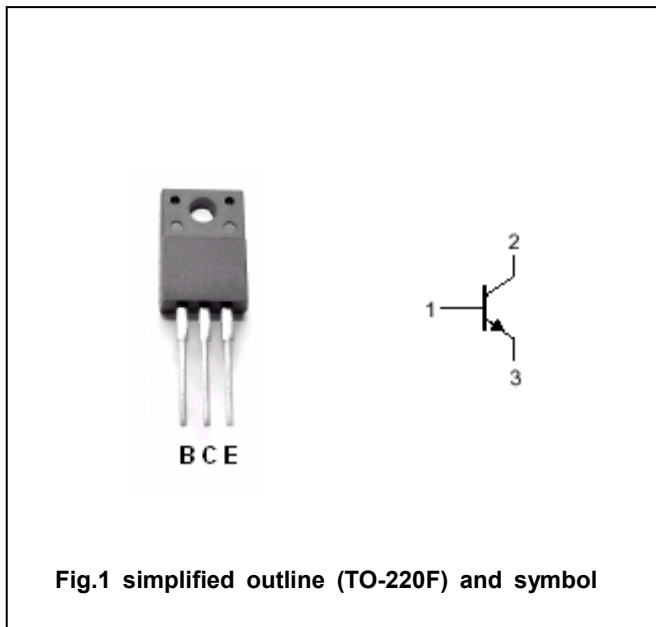


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	1750	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	850	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	7.5	V
I <sub>C</sub>	Collector current		5	A
I <sub>CM</sub>	Collector current (peak)		8	A
I <sub>B</sub>	Base current		3	A
I <sub>BM</sub>	Base current (peak)		5	A
P <sub>T</sub>	Total power dissipation	T <sub>C</sub> =25°C	32	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-40~150	°C

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =100mA ; I <sub>B</sub> =0; L=25mH	750			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =1.5A; I <sub>B</sub> =0.3A			1.0	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =1.5A; I <sub>B</sub> =0.3A			1.3	V
I <sub>CES</sub>	Collector cut-off current	V <sub>CE</sub> =rated; V <sub>BE</sub> =0 T <sub>j</sub> =125°C			1.0 2.0	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =12V; I <sub>C</sub> =0			1.0	mA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =5mA ; V <sub>CE</sub> =10V	8			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =0.4A ; V <sub>CE</sub> =3V	12	18	35	
h <sub>FE-3</sub>	DC current gain	I <sub>C</sub> =1.5A ; V <sub>CE</sub> =1V	5	7		

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =1.5A ; I <sub>B1</sub> =-I <sub>B2</sub> =0.3A		1.1	1.5	μs
t <sub>s</sub>	Storage time			5.0	6.5	μs
t <sub>f</sub>	Fall time			0.75	1.0	μs

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PACKAGE OUTLINE

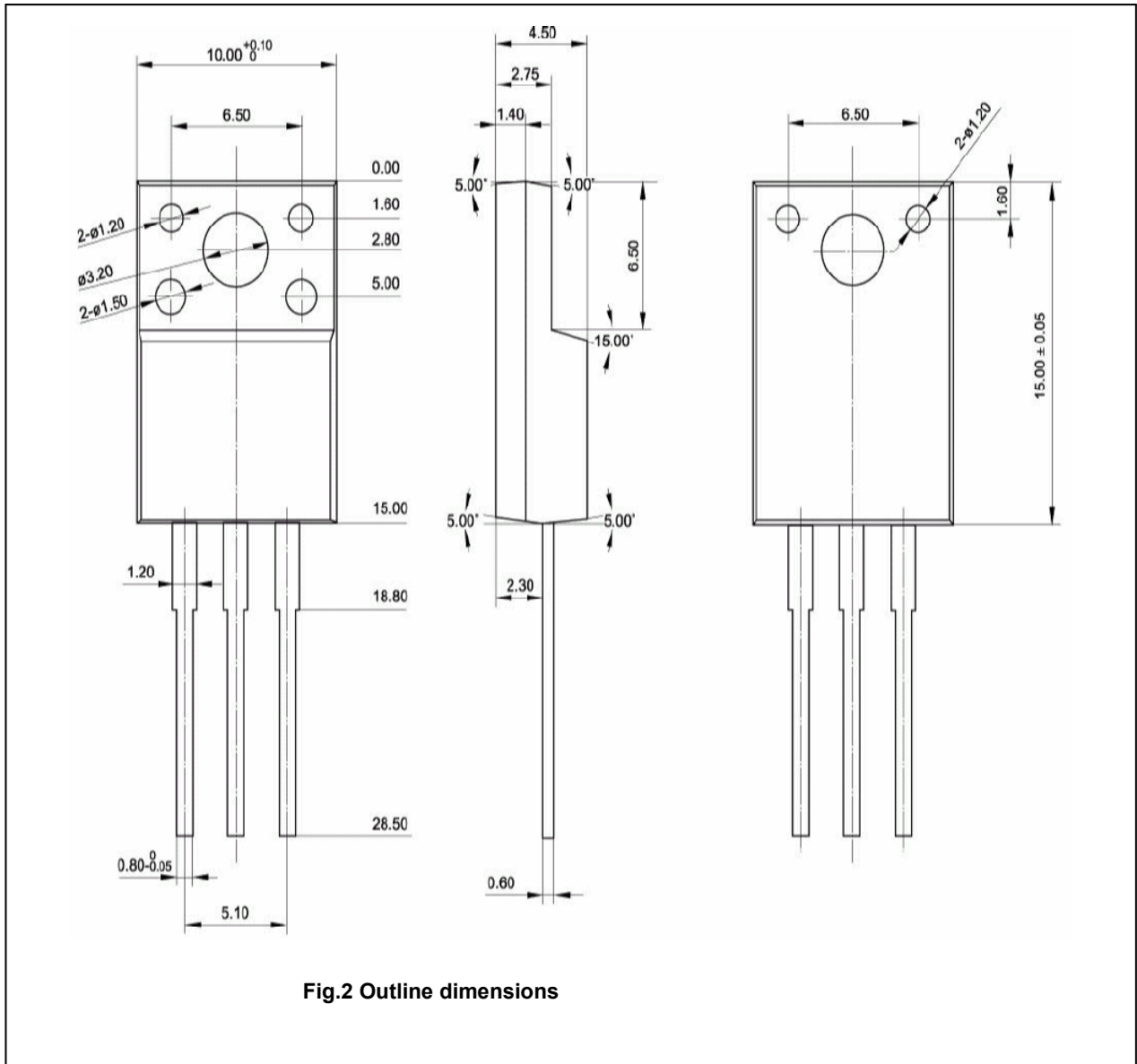


Fig.2 Outline dimensions