

Silicon NPN Power Transistors

BU1706AX

DESCRIPTION

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- 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

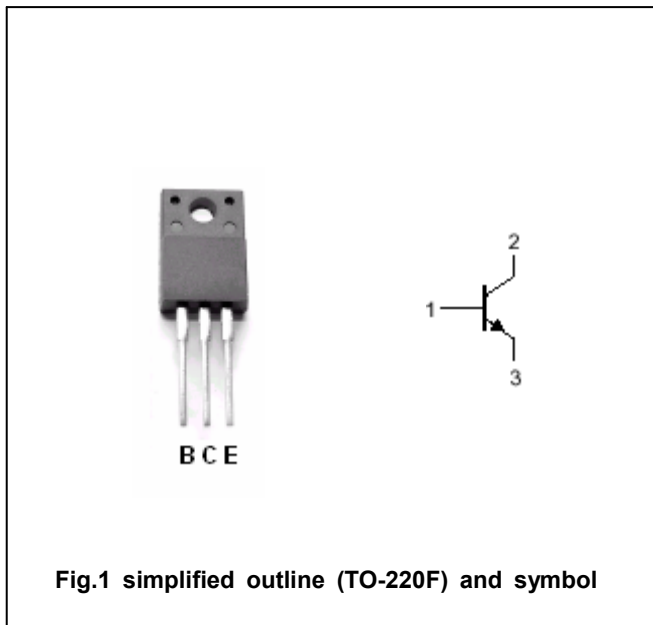


Fig.1 simplified outline (TO-220F) and symbol

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

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 $T_j=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	$I_C=100\text{mA}; I_B=0; L=25\text{mH}$	750			V
$V_{CEsat}$	Collector-emitter saturation voltage	$I_C=1.5\text{A}; I_B=0.3\text{A}$			1.0	V
$V_{BEsat}$	Base-emitter saturation voltage	$I_C=1.5\text{A}; I_B=0.3\text{A}$			1.3	V
$I_{CES}$	Collector cut-off current	$V_{CE}=\text{rated}; V_{BE}=0$ $T_j=125^\circ\text{C}$			1.0 2.0	mA
$I_{EBO}$	Emitter cut-off current	$V_{EB}=12\text{V}; I_C=0$			1.0	mA
$h_{FE-1}$	DC current gain	$I_C=5\text{mA}; V_{CE}=10\text{V}$	8			
$h_{FE-2}$	DC current gain	$I_C=0.4\text{A}; V_{CE}=3\text{V}$	12	18	35	
$h_{FE-3}$	DC current gain	$I_C=1.5\text{A}; V_{CE}=1\text{V}$	5	7		

## Switching times

$t_{on}$	Turn-on time	$I_C=1.5\text{A}; I_{B1}=-I_{B2}=0.3\text{A}$		1.1	1.5	$\mu\text{s}$
$t_s$	Storage time			5.0	6.5	$\mu\text{s}$
$t_f$	Fall time			0.75	1.0	$\mu\text{s}$

