

Silicon NPN Power Transistors

BUT12AX

DESCRIPTION

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

APPLICATIONS

- Converters
- Inverters
- Switching regulators
- Motor control systems

PINNING

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

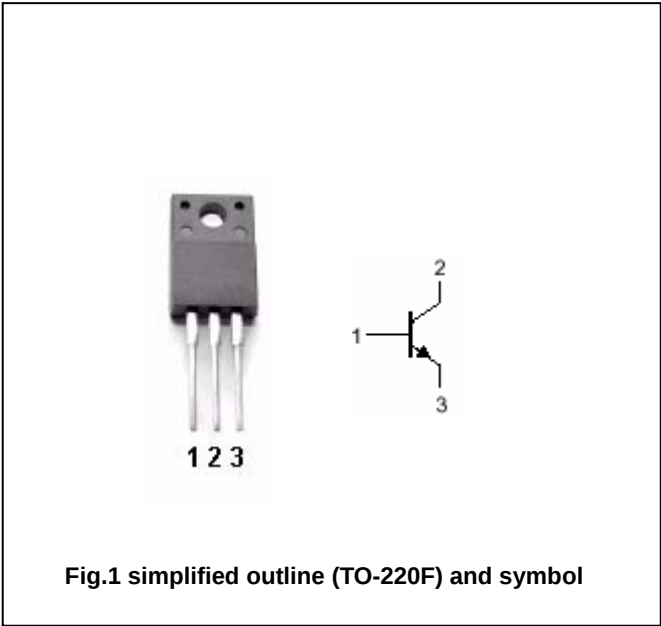


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings (Tc=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	9	V
I _C	Collector current		8	A
I _{CM}	Collector current-peak		20	A
I _B	Base current		4	A
I _{BM}	Base current-peak		6	A
P _{tot}	Total power dissipation	T _C =25	23	W
T _j	Junction temperature		150	
T _{stg}	Storage temperature		-65~150	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R _{th j-a}	Thermal resistance from junction to ambient	55	K/W

Silicon NPN Power Transistors

BUT12AX

CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	I _C =0.1A; I _B =0; L=25mH	450			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =5A; I _B =1A			1.5	V
V _{BEsat}	Base-emitter saturation voltage	I _C =5A; I _B =1A			1.5	V
I _{CES}	Collector cut-off current	V _{CE} =Rated V _{CE} ; V _{BE} =0 T _j =125			1.0 3.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =9V; I _C =0			10	mA
h _{FE-1}	DC current gain	I _C =10mA; V _{CE} =5V	10		35	
h _{FE-2}	DC current gain	I _C =1A; V _{CE} =5V	10		35	

Switching times resistive load

t _{on}	Turn-on time	I _C =5A; I _{B1} =-I _{B2} =1A		1.0		μs
t _s	Storage time			4.0		μs
t _f	Fall time			0.8		μs

BUT12AX