

Silicon PNP Power Transistors

2SA1741

DESCRIPTION

- With TO-220F package
- Low collector saturation voltage

APPLICATIONS

- For use as a driver in DC/DC converters and actuators

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

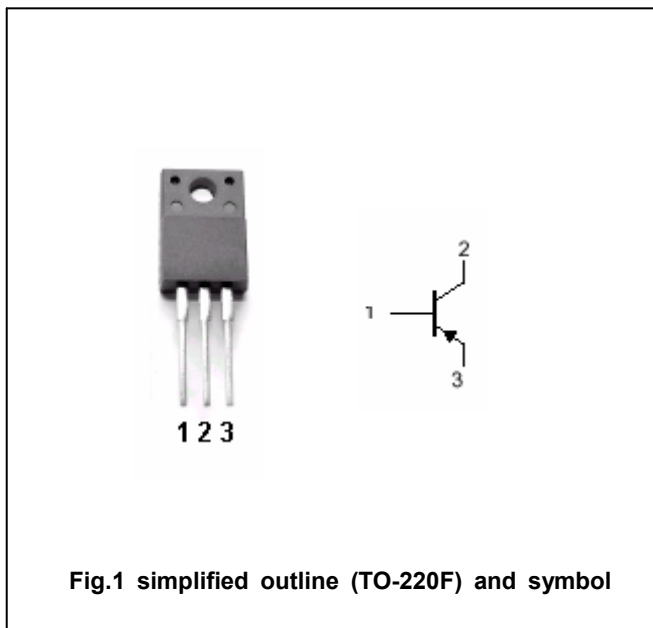


Fig.1 simplified outline (TO-220F) and symbol

Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	-100	V
V _{CEO}	Collector-emitter voltage	Open base	-60	V
V _{EBO}	Emitter-base voltage	Open collector	-7	V
I _C	Collector current		-5	A
I _{CM}	Collector current-Peak		-10	A
I _B	Base current		-2.5	A
P _T	Total power dissipation	T _a =25°C	2.0	W
		T _C =25°C	25	
T _j	Junction temperature		150	°C
T _{stg}	Storage temperature		-55~150	°C

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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 =-3A ; I _B =-0.3A, L=1mH	-60			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =-3A; I _B =-0.15A			-0.3	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =-4A; I _B =-0.2A			-0.5	V
V _{BEsat-1}	Base-emitter saturation voltage	I _C =-3A ; I _B =-0.15A			-1.2	V
V _{BEsat-2}	Base-emitter saturation voltage	I _C =-4A ; I _B =-0.2A			-1.5	V
I _{CBO}	Collector cut-off current	V _{CB} =-60V ; I _E =0			-10	μA
I _{EBO}	Emitter cut-off current	V _{EB} =-5V; I _C =0			-10	μA
h _{FE-1}	DC current gain	I _C =-0.5A ; V _{CE} =-2V	100			
h _{FE-2}	DC current gain	I _C =-1A ; V _{CE} =-2V	100		400	
h _{FE-3}	DC current gain	I _C =-3A ; V _{CE} =-2V	60			
f _T	Transition frequency	I _C =-0.5A ; V _{CE} =-10V		80		MHz
C _{OB}	Collector output capacitance	f=1MHz; V _{CB} =-10V		130		pF

Switching times

t _{on}	Turn-on time	I _C =-3.0A I _{B1} =-I _{B2} =-0.15A V _{CC} =-30V , R _L =17Ω			0.3	μs
t _s	Storage time				1.5	μs
t _f	Fall time				0.3	μs

◆ h_{FE-2} Classifications

M	L	K
100-200	150-300	200-400

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PACKAGE OUTLINE

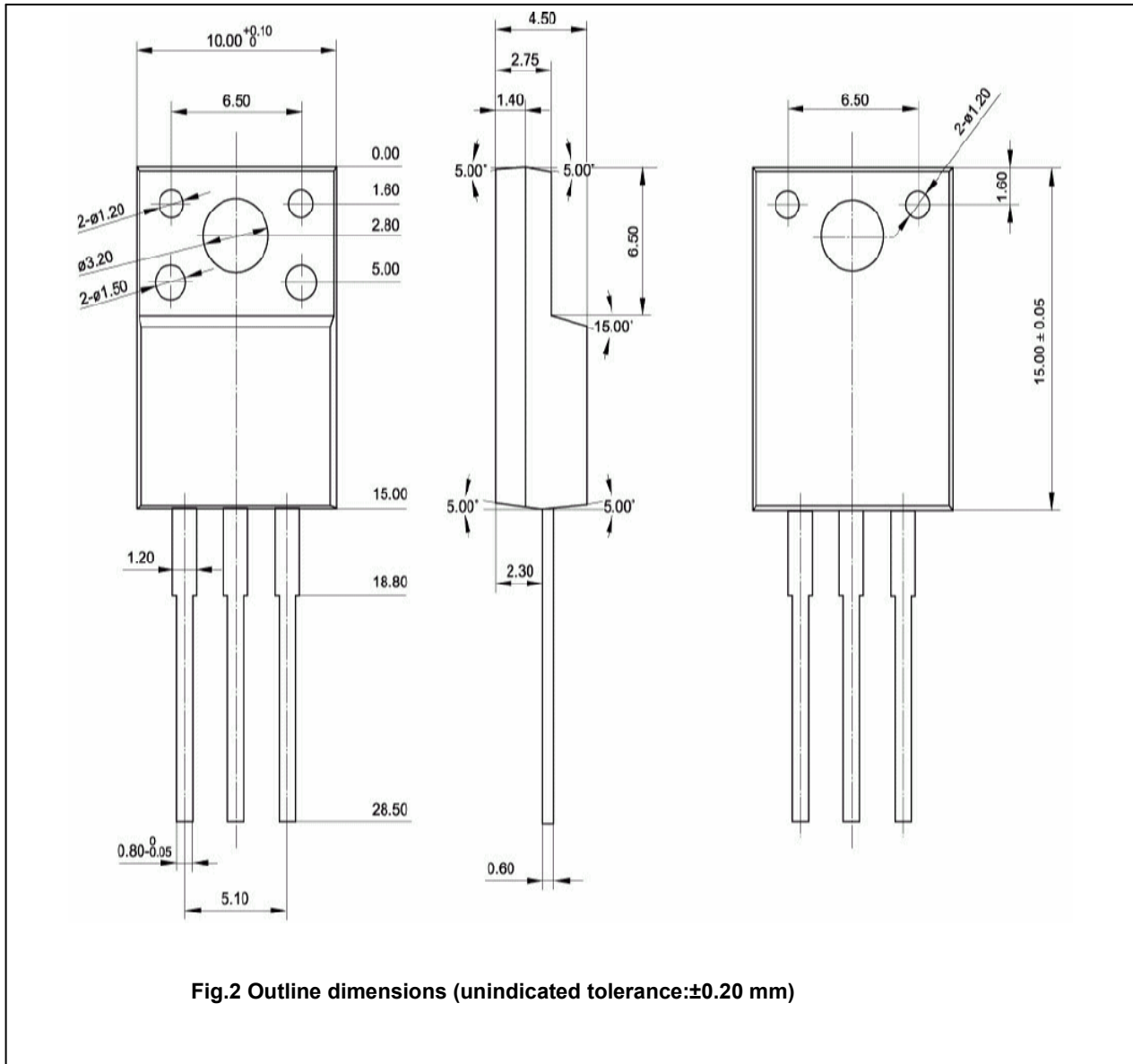


Fig.2 Outline dimensions (unindicated tolerance: ± 0.20 mm)

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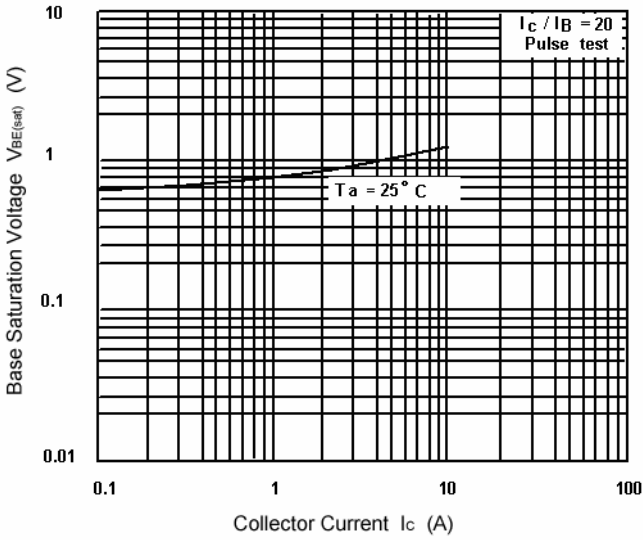


Fig.3 Base-Emitter Saturation Voltage

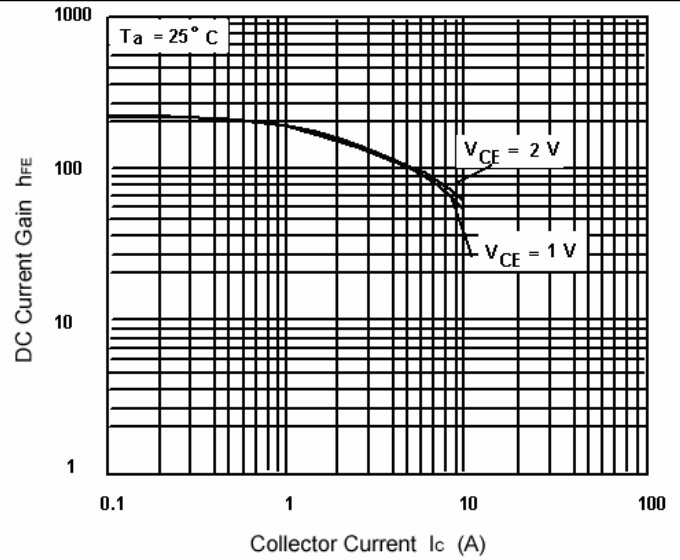


Fig.4 DC current Gain

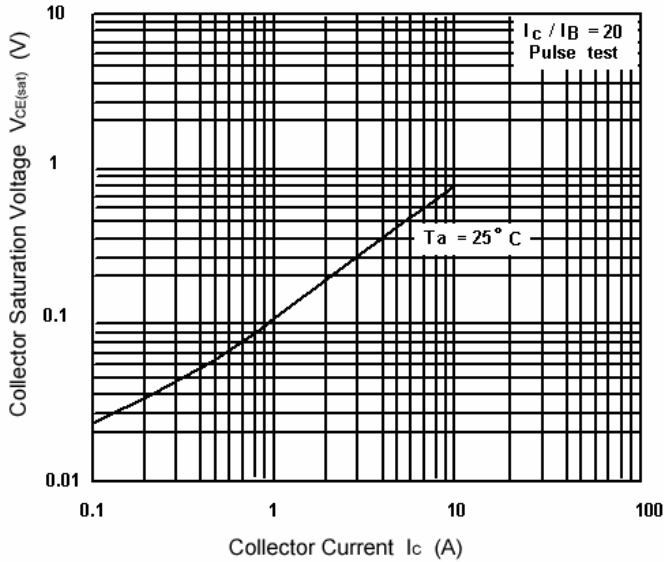


Fig.5 Collector-Emmitter Saturation Voltage

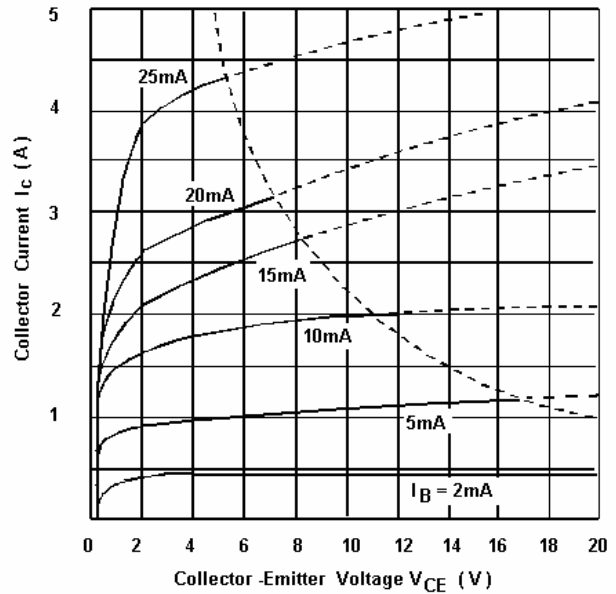


Fig.6 Static Characteristic

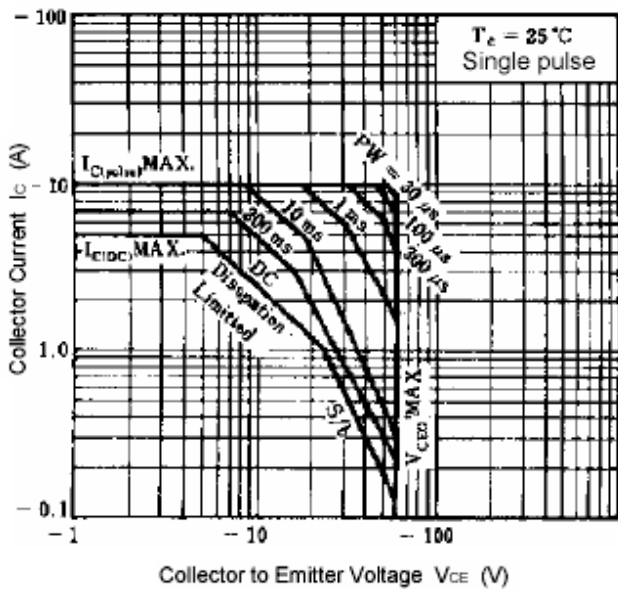


Fig.7 Safe Operating Area