

Silicon PNP Power Transistors

2SA1741

DESCRIPTION

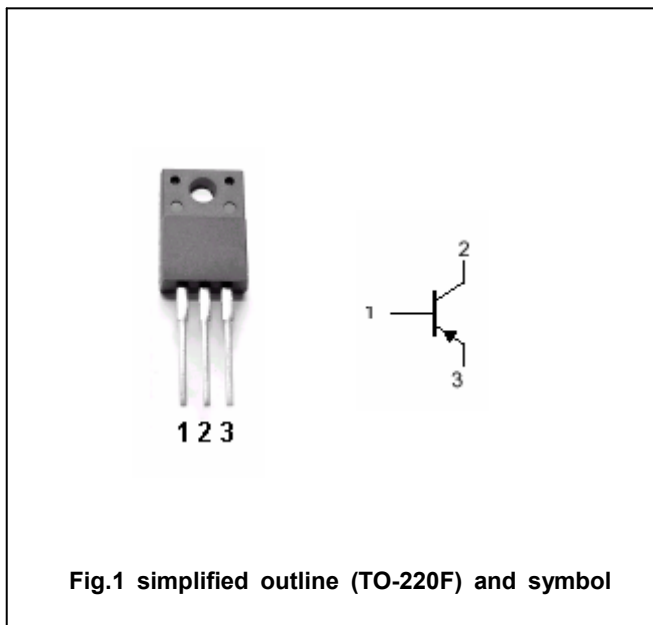
- With TO-220F package
- Low collector saturation voltage

APPLICATIONS

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

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



Absolute maximum ratings (Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	-100	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	-60	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-7	V
I <sub>C</sub>	Collector current		-5	A
I <sub>CM</sub>	Collector current-Peak		-10	A
I <sub>B</sub>	Base current		-2.5	A
P <sub>T</sub>	Total power dissipation	T <sub>a</sub> =25°C	2.0	W
		T <sub>C</sub> =25°C	25	
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°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> =-3A ; I <sub>B</sub> =-0.3A, L=1mH	-60			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-3A; I <sub>B</sub> =-0.15A			-0.3	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-4A; I <sub>B</sub> =-0.2A			-0.5	V
V <sub>BEsat-1</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-3A ; I <sub>B</sub> =-0.15A			-1.2	V
V <sub>BEsat-2</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-4A ; I <sub>B</sub> =-0.2A			-1.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =-60V ; I <sub>E</sub> =0			-10	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-10	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-0.5A ; V <sub>CE</sub> =-2V	100			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-1A ; V <sub>CE</sub> =-2V	100		400	
h <sub>FE-3</sub>	DC current gain	I <sub>C</sub> =-3A ; V <sub>CE</sub> =-2V	60			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-0.5A ; V <sub>CE</sub> =-10V		80		MHz
C <sub>OB</sub>	Collector output capacitance	f=1MHz; V <sub>CB</sub> =-10V		130		pF

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =-3.0A I <sub>B1</sub> =-I <sub>B2</sub> =-0.15A V <sub>CC</sub> =-30V , R <sub>L</sub> =17Ω			0.3	μs
t <sub>s</sub>	Storage time				1.5	μs
t <sub>f</sub>	Fall time				0.3	μs

◆ h<sub>FE-2</sub> Classifications

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

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PACKAGE OUTLINE

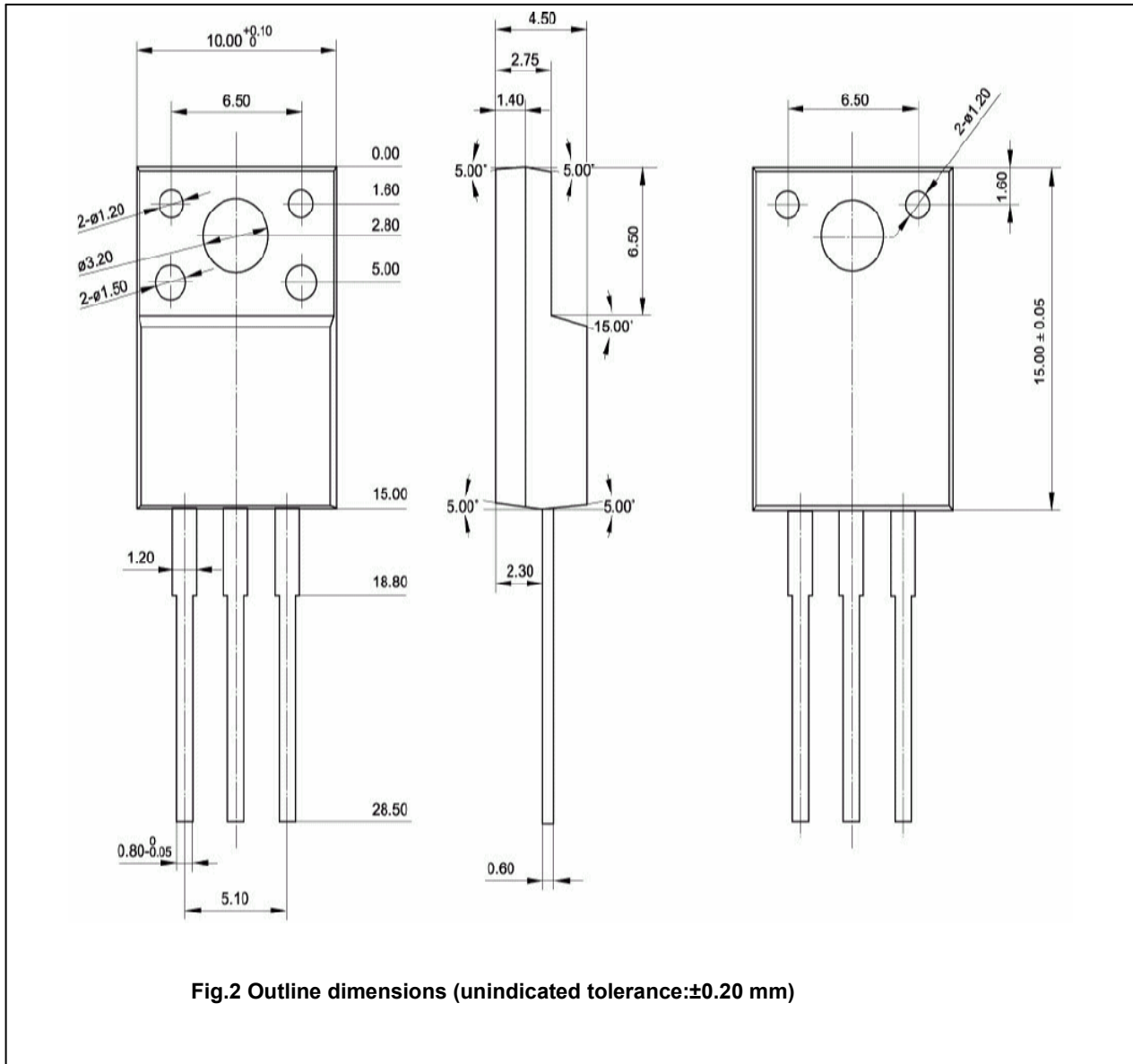


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.20$  mm)

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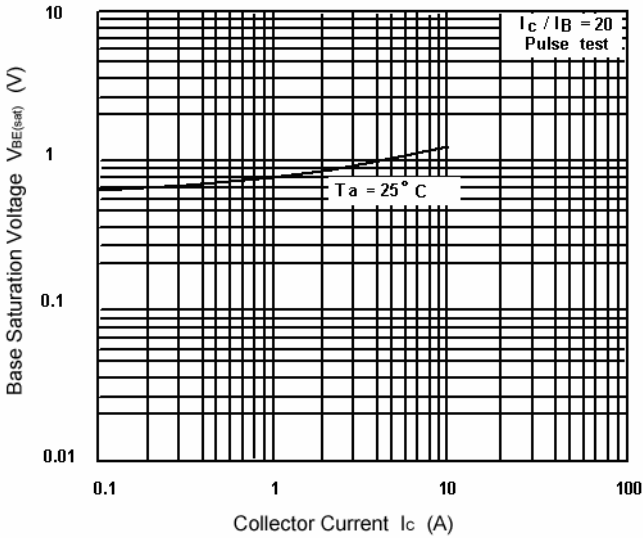


Fig.3 Base-Emitter Saturation Voltage

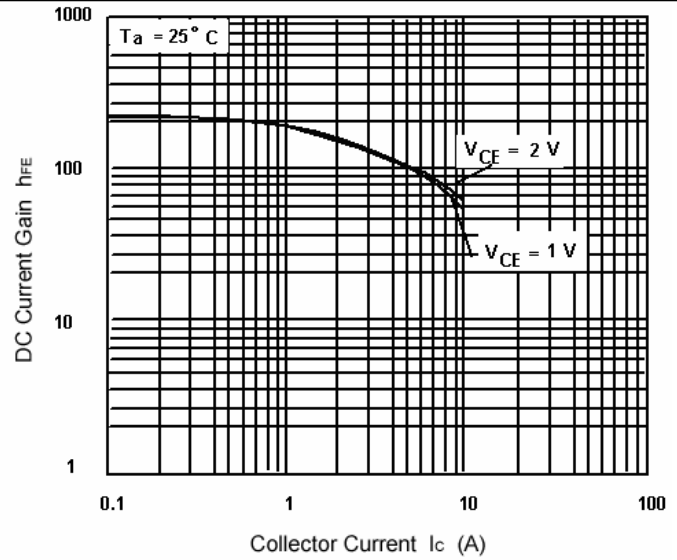


Fig.4 DC current Gain

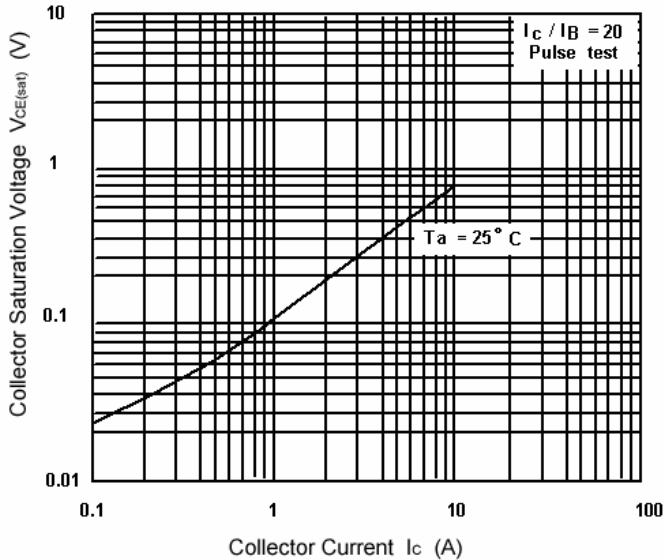


Fig.5 Collector-Emmitter Saturation Voltage

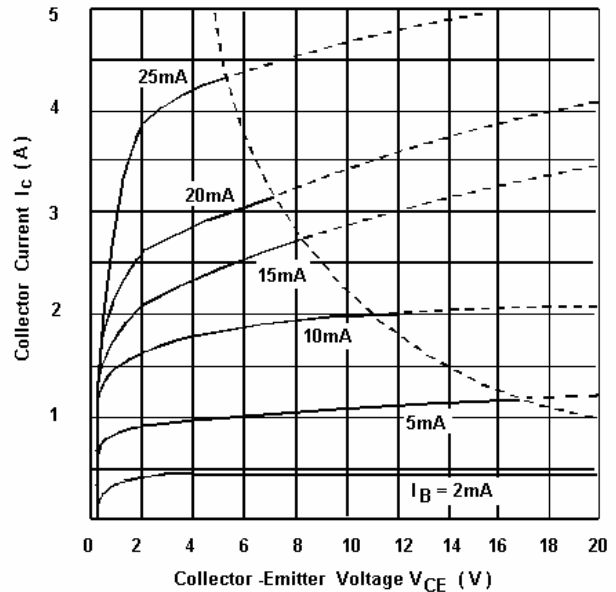


Fig.6 Static Characteristic

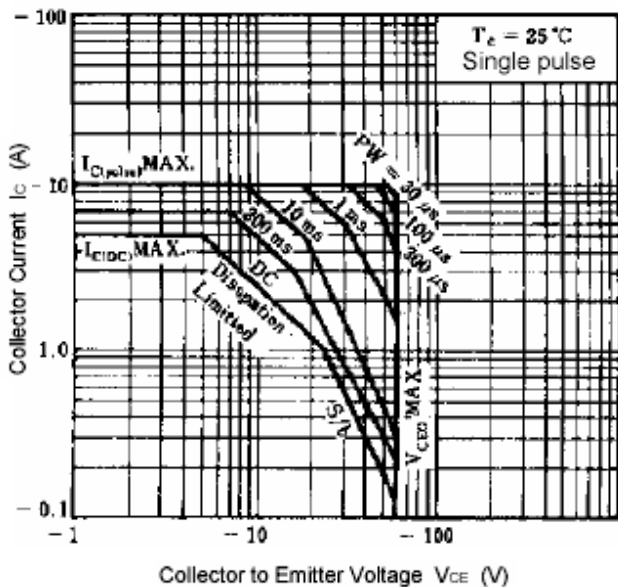


Fig.7 Safe Operating Area