

Silicon PNP Power Transistors

2SA1387

DESCRIPTION

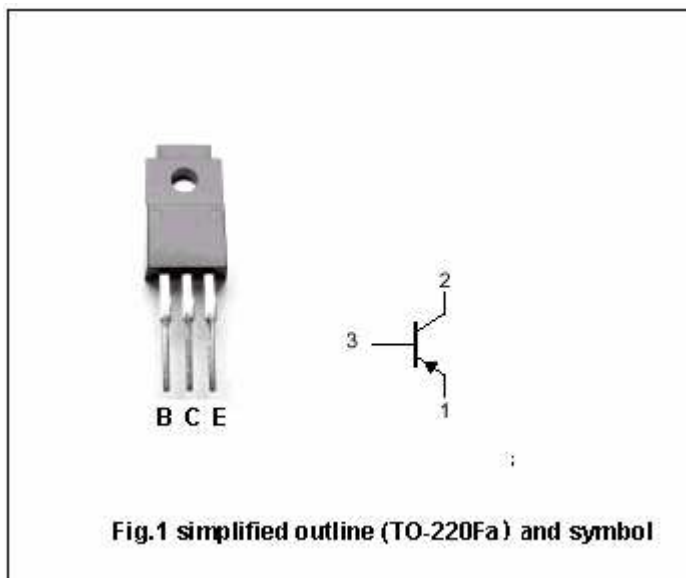
- With TO-220Fa package
- Low collector saturation voltage
- High speed switching time
- High DC current gain

APPLICATIONS

- High current switching applications

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base



Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	-60	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	-50	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-7	V
I <sub>C</sub>	Collector current		-5	A
I <sub>B</sub>	Base current		-1	A
P <sub>C</sub>	Collector power dissipation	T <sub>a</sub> =25°C	2	W
		T <sub>C</sub> =25°C	20	
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>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =-10mA ; I <sub>B</sub> =0	-50			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-3A ; I <sub>B</sub> =-0.075A		-0.15	-0.4	V
V <sub>BEsat</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-3A ; I <sub>B</sub> =-0.075A		-0.8	-1.2	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =-50V ; I <sub>E</sub> =0			-1	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-7V ; I <sub>C</sub> =0			-1	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-1A ; V <sub>CE</sub> =-1V	150		400	
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-3A ; V <sub>CE</sub> =-1V	70			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-1A ; V <sub>CE</sub> =-4V		80		MHz
C <sub>ob</sub>	Collector output capacitance	I <sub>E</sub> =0 ; V <sub>CE</sub> =-10V ; f=1MHz		200		pF

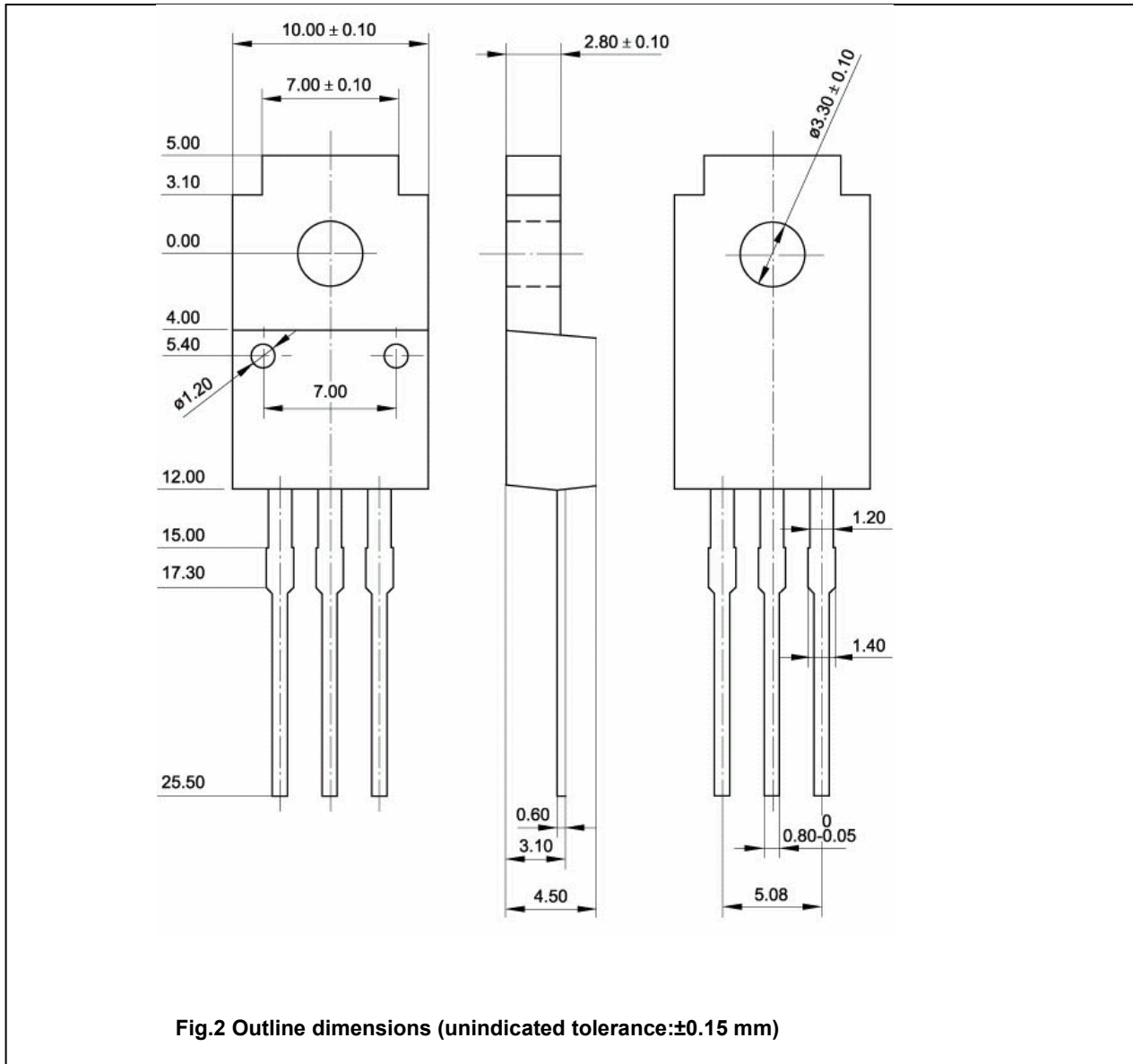
## Switching times

T <sub>on</sub>	Turn-on time	I <sub>B1</sub> =-I <sub>B2</sub> =-0.075A V <sub>CC</sub> =-30V ; R <sub>L</sub> =10Ω		0.2		μs
t <sub>s</sub>	Storage time			1.0		μs
t <sub>f</sub>	Fall time			0.2		μs

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PACKAGE OUTLINE



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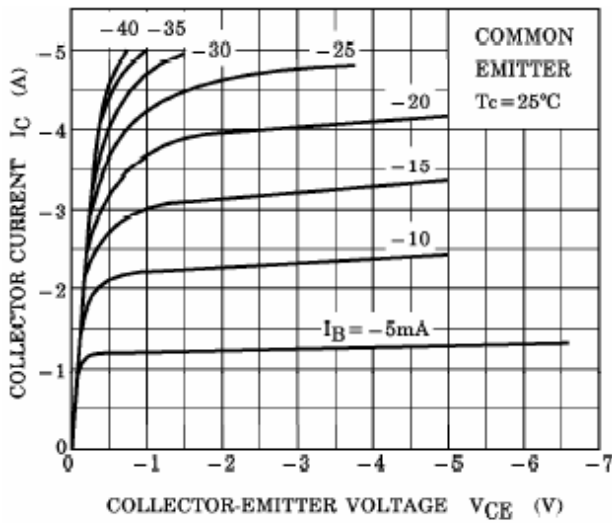


Fig.3 Static Characteristic

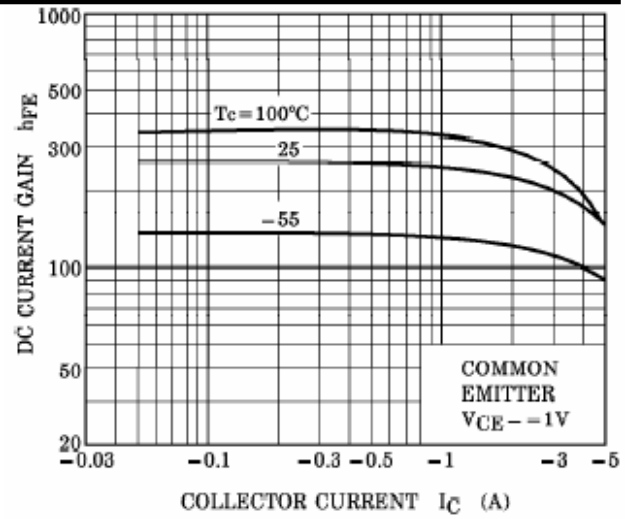


Fig.4 DC current Gain

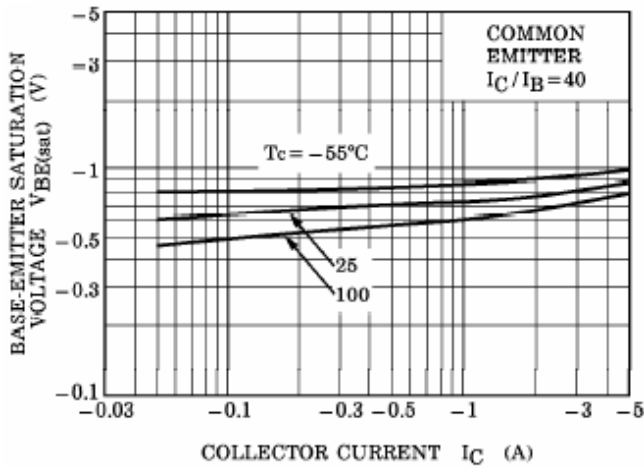


Fig.5 Base-Emitter Saturation Voltage

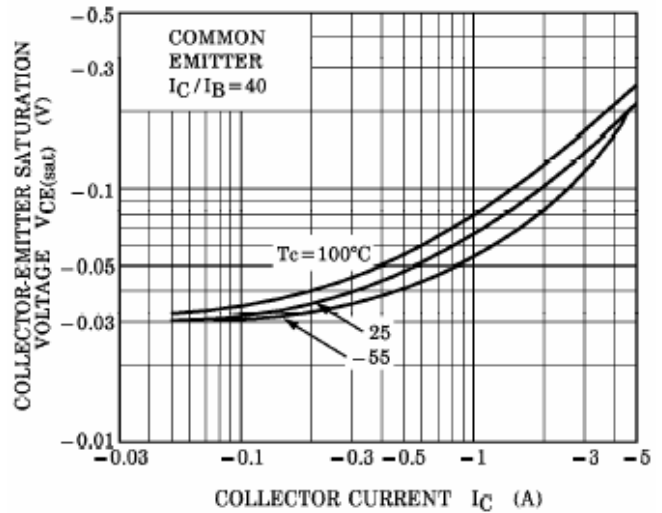


Fig.6 Collector-Emitter Saturation Voltage

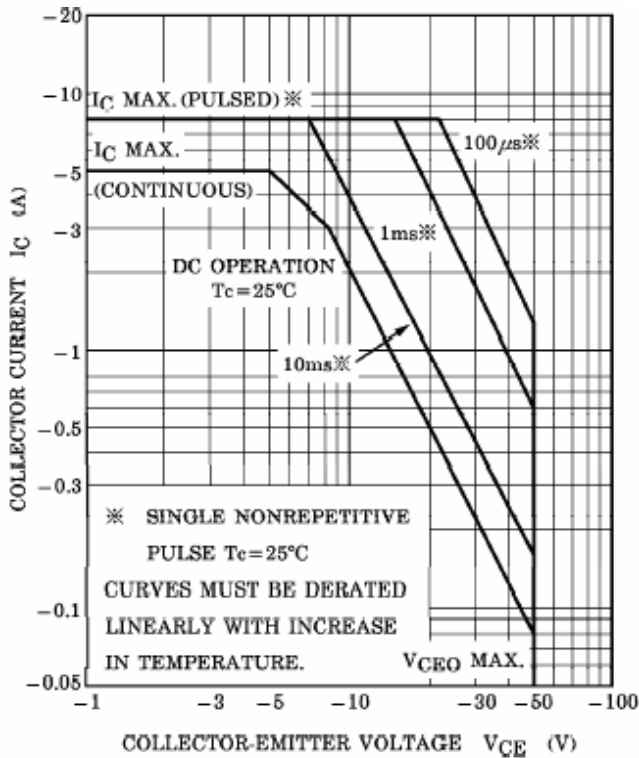


Fig.7 Safe Operating Area