

Silicon PNP Power Transistors

2SA1307

DESCRIPTION

- With TO-220Fa package
- Complement to type 2SC3299
- Low saturation voltage
- High speed switching time

APPLICATIONS

- High current switching applications

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base

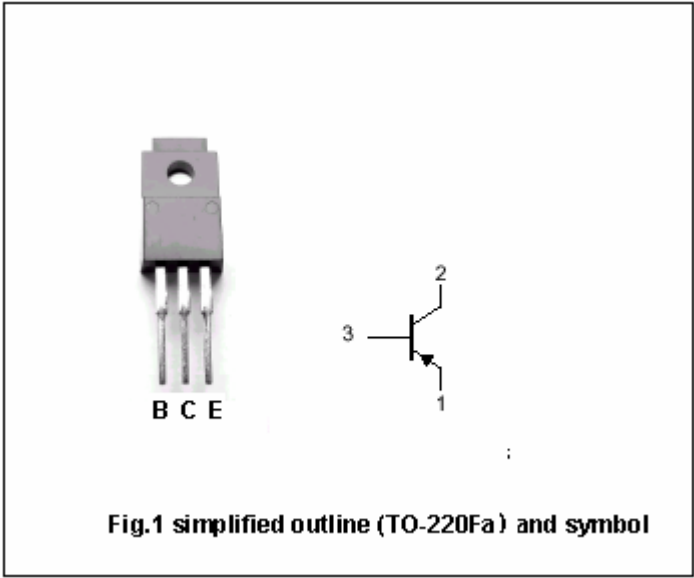


Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	Open emitter	-60	V
V _{CEO}	Collector-emitter voltage	Open base	-50	
V _{EBO}	Emitter-base voltage	Open collector	-5	V
I _C	Collector current		-5	A
I _B	Base current		-1	A
P _C	Collector power dissipation	T _C =25°C	20	W
		T _a =25°C	2	
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 _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =-10mA, I _B =0	-50			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =-3A; I _B =-0.15A			-0.4	V
V _{BEsat}	Base-emitter saturation voltage	I _C =-3A; I _B =-0.15A			-1.2	V
I _{CBO}	Collector cut-off current	V _{CB} =-50V; I _E =0			-1.0	μA
I _{EBO}	Emitter cut-off current	V _{EB} =-5V; I _C =0			-1.0	μA
h _{FE-1}	DC current gain	I _C =-1A; V _{CE} =-1V	70		240	
h _{FE-2}	DC current gain	I _C =-3A; V _{CE} =-1V	30			
C _{ob}	Output capacitance	I _E =0; V _{CB} =-10V, f=1MHz		170		pF
f _T	Transition frequency	I _C =-1A; V _{CE} =-4V		60		MHz

Switching times

t _{on}	Turn-on time	I _{B1} =-I _{B2} =-0.15A, V _{CC} =30V R _L =10Ω		0.1		μs
t _s	Storage time			1.0		μs
t _f	Fall time			0.1		μs

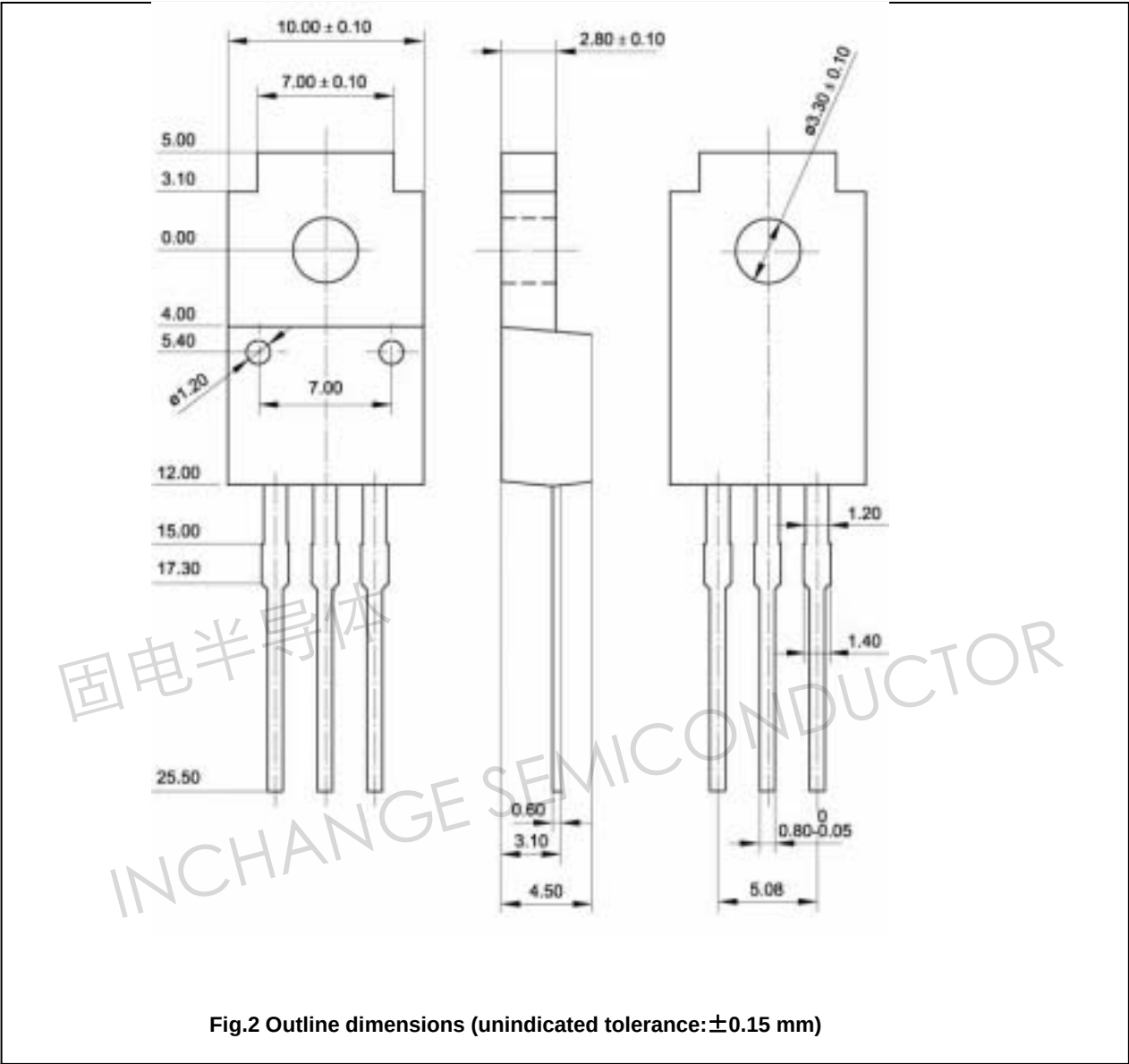
◆ h_{FE-1} Classifications

O	Y
70-140	120-240

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PACKAGE OUTLINE



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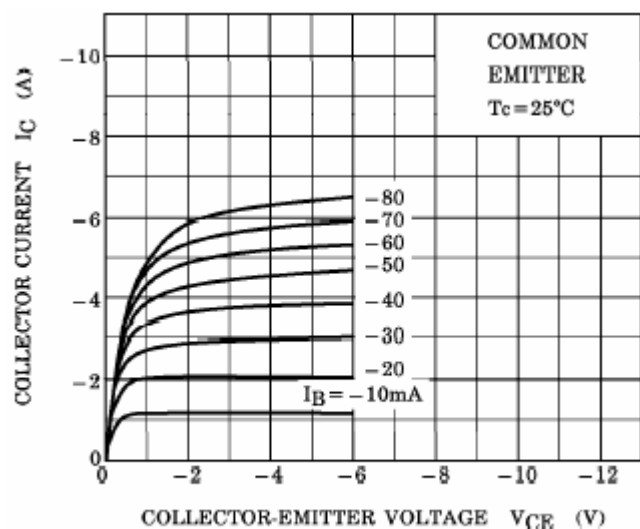


Fig.3 Static Characteristic

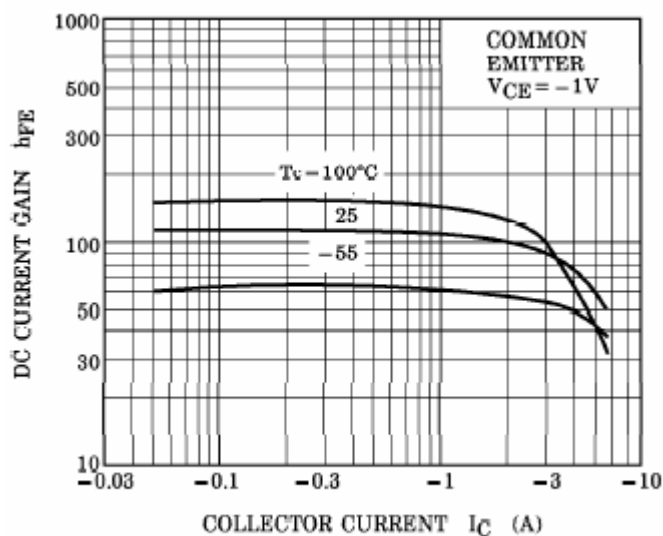


Fig.4 DC current Gain

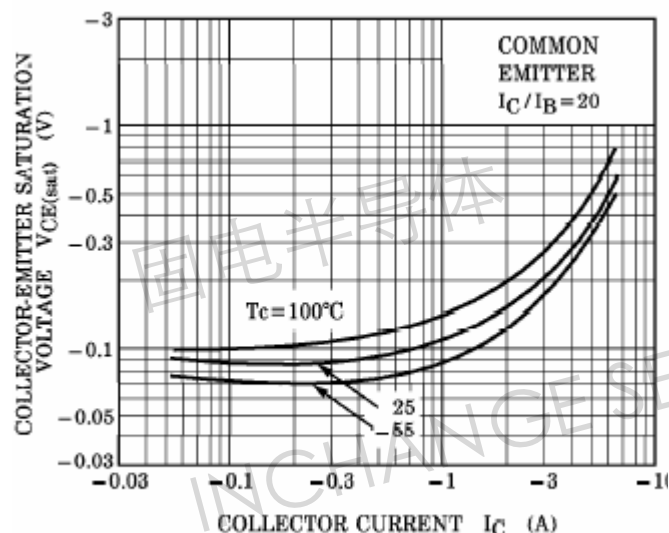


Fig.5 Collector-Emitter Saturation Voltage

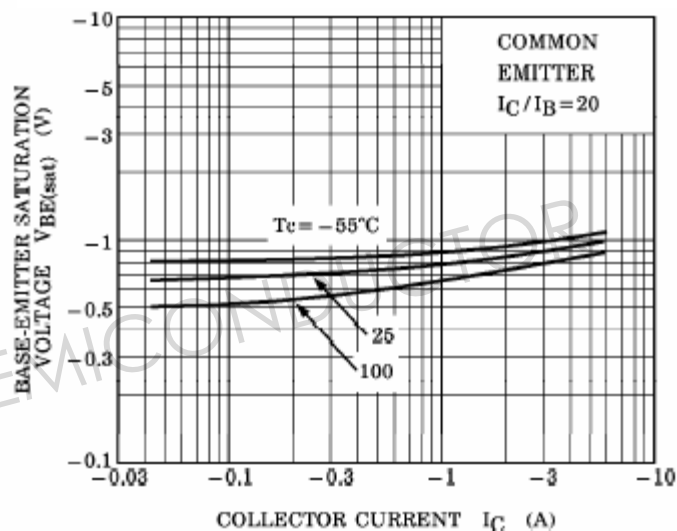


Fig.6 Base-Emitter Saturation Voltage

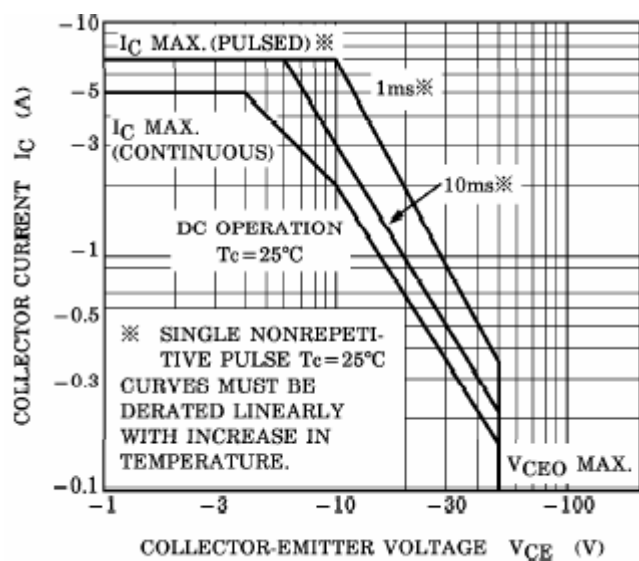


Fig.7 Safe Operating Area