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

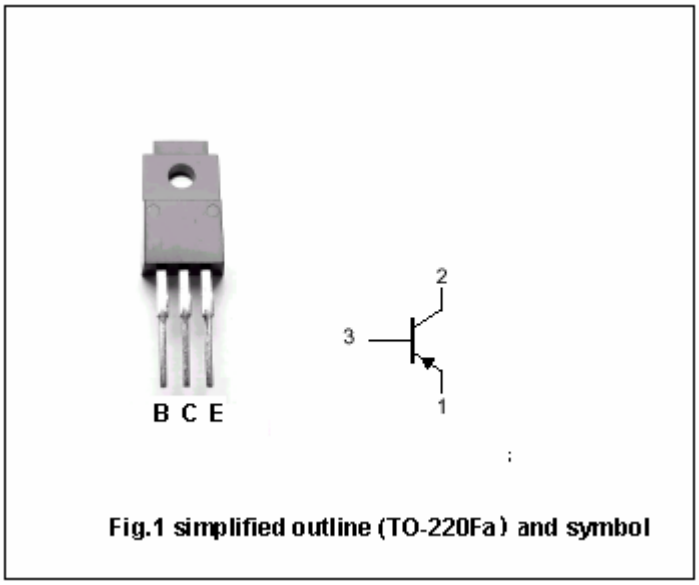

Fig.1 simplified outline (TO-220Fa) and symbol

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base

Absolute maximum ratings(Ta=25℃)

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℃	20	W
		T_a=25℃	2	
T_j	Junction temperature		150	℃
T_{stg}	Storage temperature		-55~150	℃

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CHARACTERISTICS

Tj=25℃ 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

PACKAGE OUTLINE

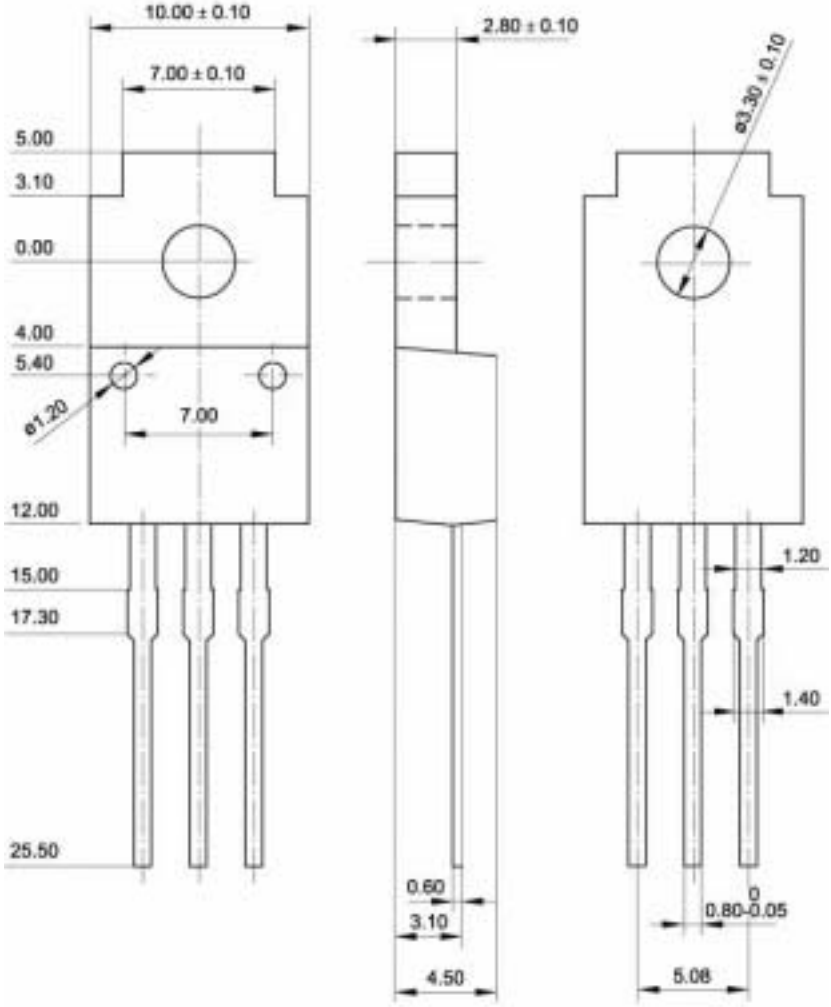

Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)

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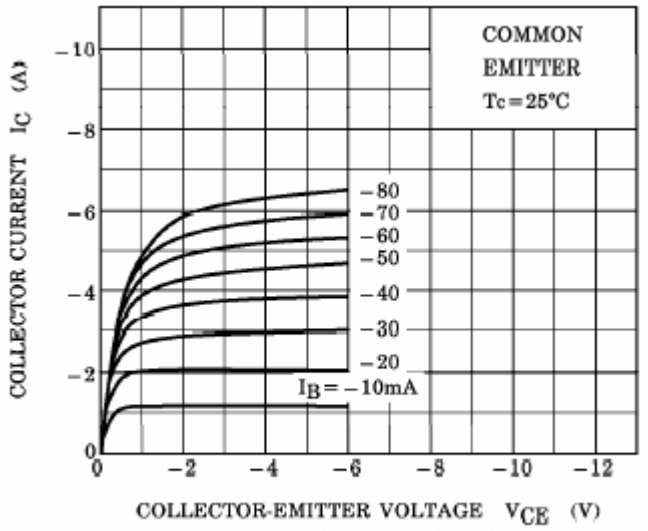

Fig.3 Static Characteristic

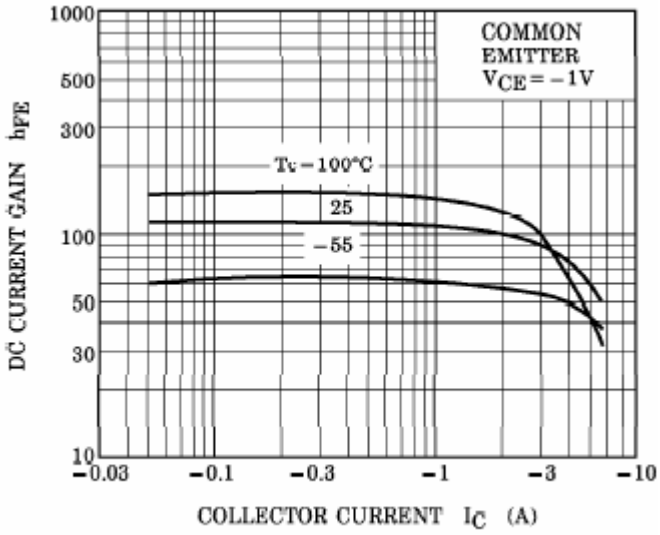

Fig.4 DC current Gain

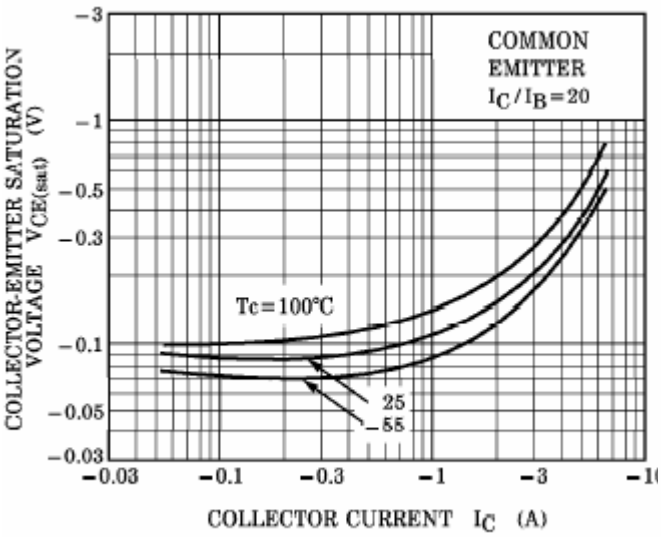

Fig.5 Collector-Emitter Saturation Voltage

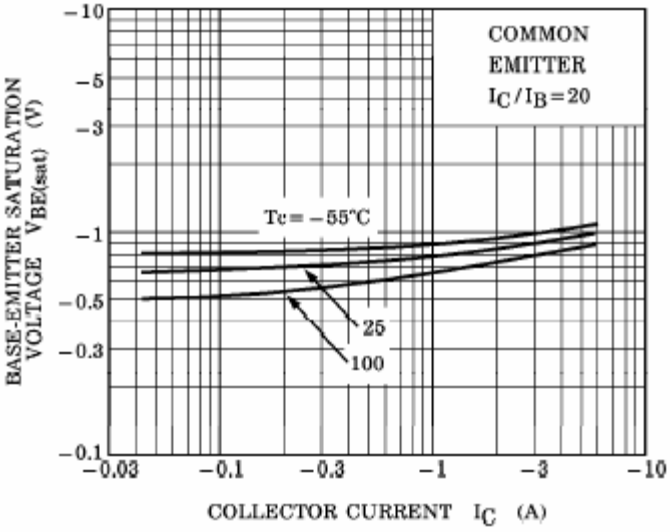

Fig.6 Base-Emitter Saturation Voltage

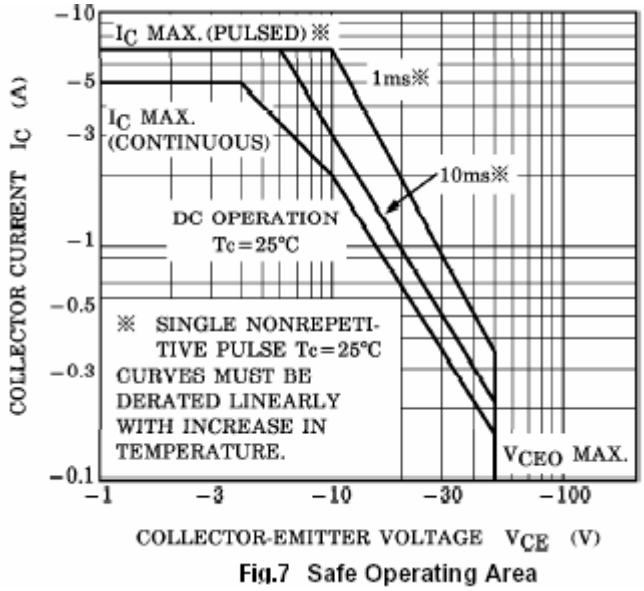

Fig.7 Safe Operating Area