Silicon PNP Power Transistors 2SB946

DESCRIPTION

·With TO-220Fa package
·Complement to type 2SD1271
·Low saturation voltage
·Good linearity of h_{FE}
·High current

APPLICATIONS

·For power switching applications

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector
3	Base

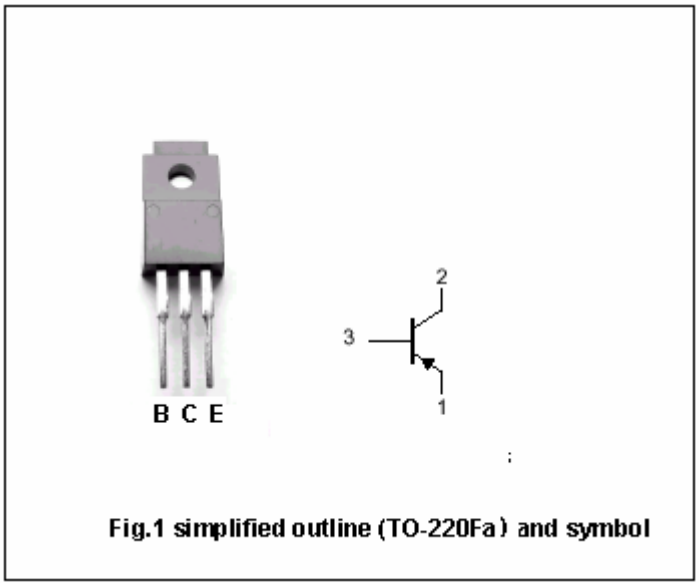

Fig.1 simplified outline (TO-220Fa) and symbol

Absolute maximum ratings(Ta=25□)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-130	V
V_{CEO}	Collector-emitter voltage	Open base	-80	
V_{EBO}	Emitter-base voltage	Open collector	-7	V
I_C	Collector current (DC)		-7	A
I_{CM}	Collector current-Peak		-15	A
P_C	Collector power dissipation	T_C=25□	40	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	-80			V
V_{CEsat}	Collector-emitter saturation voltage	I_C=-5A; I_B=-0.25A			-0.5	V
V_{BEsat}	Base-emitter saturation voltage	I_C=-5A; I_B=-0.25A			-1.5	V
I_{CBO}	Collector cut-off current	V_{CB}=-100V; I_E=0			-10	μA
I_{EBO}	Emitter cut-off current	V_{EB}=-5V; I_C=0			-50	μA
h_{FE-1}	DC current gain	I_C=-0.1A ; V_{CE}=-2V	45			
h_{FE-2}	DC current gain	I_C=-3A ; V_{CE}=-2V	60		260	
f_T	Transition frequency	I_C=-0.5A ; V_{CE}=-10V		30		MHz

Switching times

t_{on}	Turn-on time	I_C=-3A ;I_{B1}=-0.3A I_{B2}=0.3A		0.5		μs
t_s	Storage time			1.5		μs
t_f	Fall time			0.1		μs

◆ **h_{FE-2} Classifications**

R	Q	P
60-120	90-180	130-260

PACKAGE OUTLINE

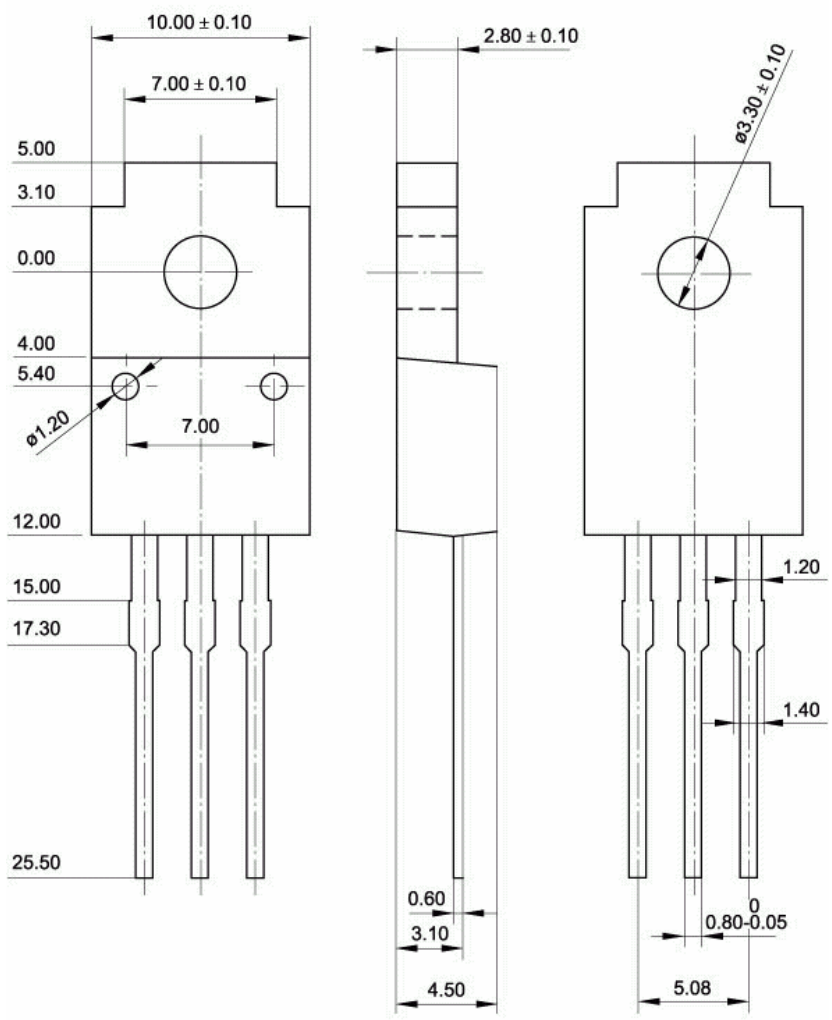

Fig.2 Outline dimensions (unindicated tolerance:±0.15 mm)

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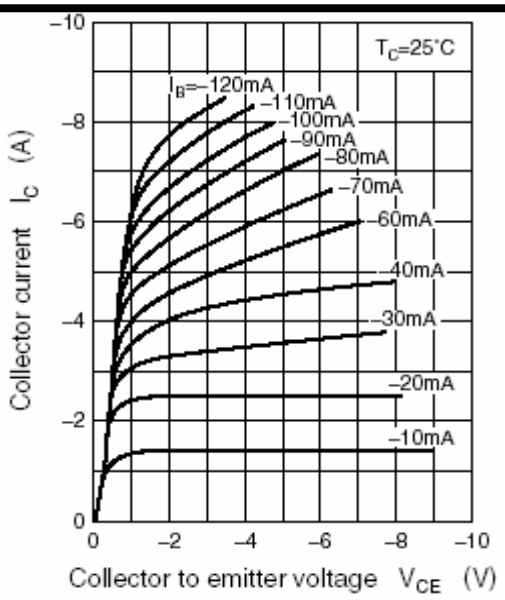

Fig.3 Static Characteristic

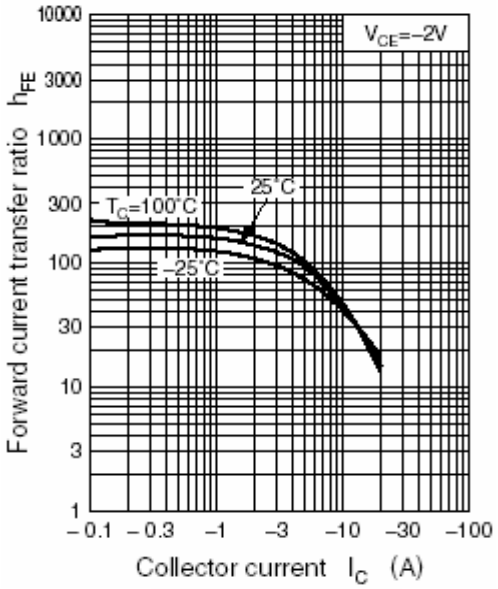

Fig.4 DC current Gain

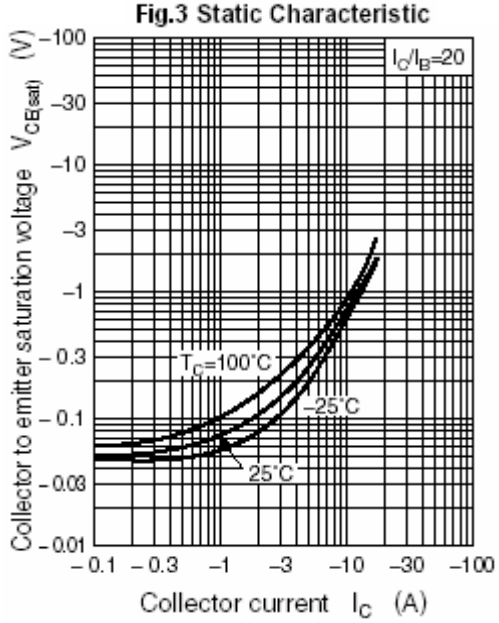

Fig.5 Collector-Emitter Saturation Voltage

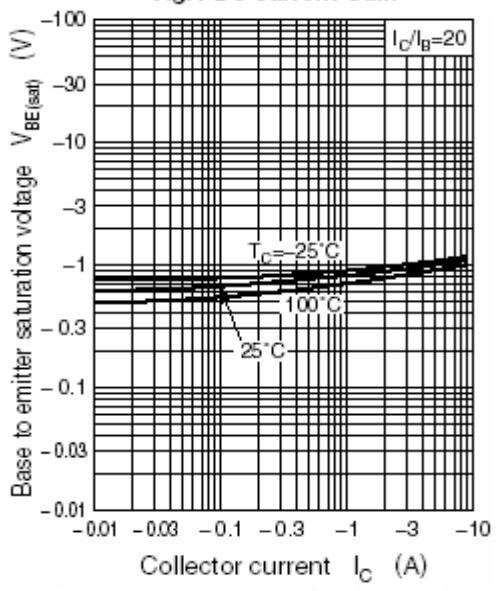

Fig.6 Base-Emitter Saturation Voltage

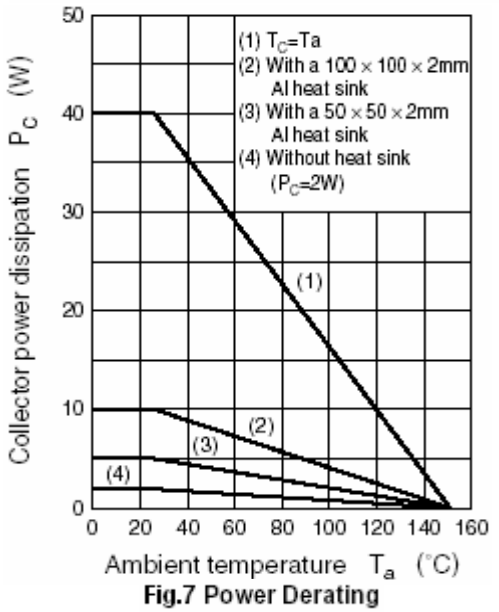

Fig.7 Power Derating

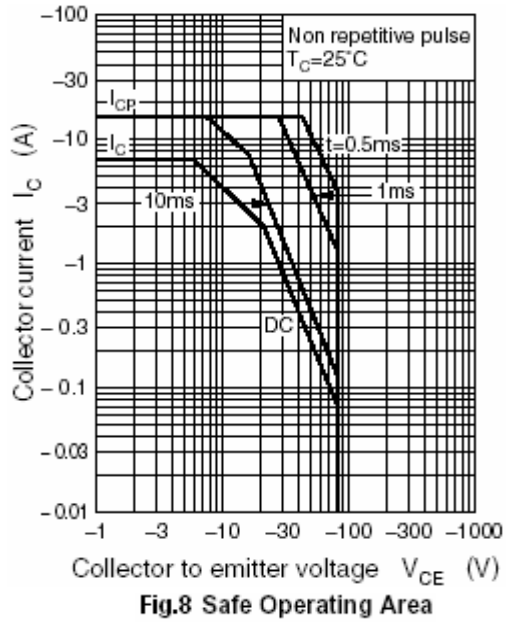

Fig.8 Safe Operating Area