Silicon PNP Power Transistors 2SB1154

DESCRIPTION

- With TO-3PFa package
- Complement to type 2SD1705
- Low collector saturation voltage
- Satisfactory linearity of h_{FE}

APPLICATIONS

- For power switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

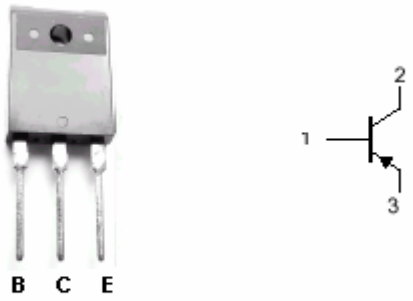

Fig.1 simplified outline (TO-3PFa) and symbol

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
V_{EBO}	Emitter-base voltage	Open collector	-7	V
I_C	Collector current		-10	A
I_{CM}	Collector current-peak		-20	A
P_C	Collector power dissipation	T_C=25℃	70	W
		T_a=25℃	3	
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
$V_{CEsat-1}$	Collector-emitter saturation voltage	I_C=-6A ;I_B=-0.3A			-0.5	V
$V_{CEsat-2}$	Collector-emitter saturation voltage	I_C=-10A ;I_B=-1A			-1.5	V
$V_{BEsat-1}$	Base-emitter saturation voltage	I_C=-6A ;I_B=-0.3A			-1.5	V
$V_{BEsat-2}$	Base-emitter saturation voltage	I_C=-10A ;I_B=-1A			-2.5	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	90		260	
h_{FE-3}	DC current gain	I_C=-6A ; V_{CE}=-2V	30			
f_T	Transition frequency	I_C=-0.5A ; V_{CE}=-10V;f=10MHz		30		MHz
Switching times						
t_{on}	Turn-on time	I_C=-6A ;I_{B1}=-I_{B2}=-0.6A V_{CC}=-50V		0.5		μs
t_{stg}	Storage time			1.0		μs
t_f	Fall time			0.2		μs

◆ **h_{FE-2} classifications**

Q	P
90-180	130-260

PACKAGE OUTLINE

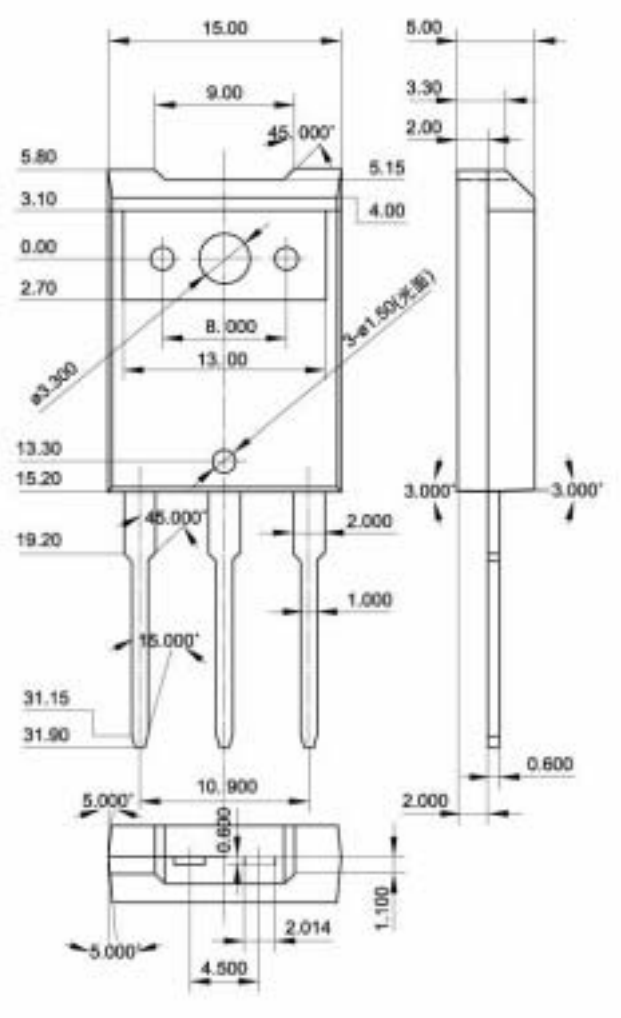

Fig.2 Outline dimensions (unindicated tolerance:±0.30mm)

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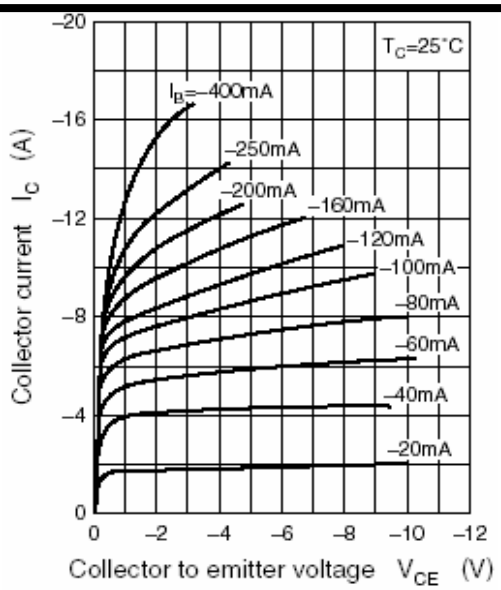

Fig.3 Static Characteristic

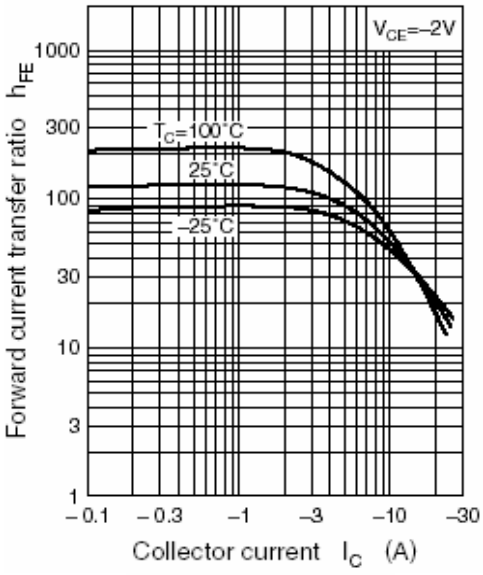

Fig.4 DC current Gain

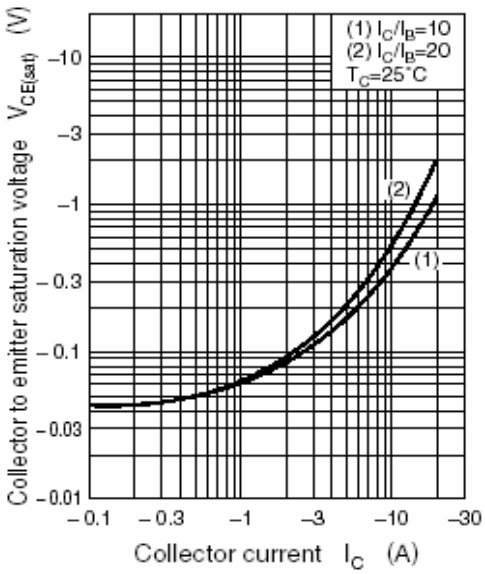

Fig.5 Collector-Emitter Saturation Voltage

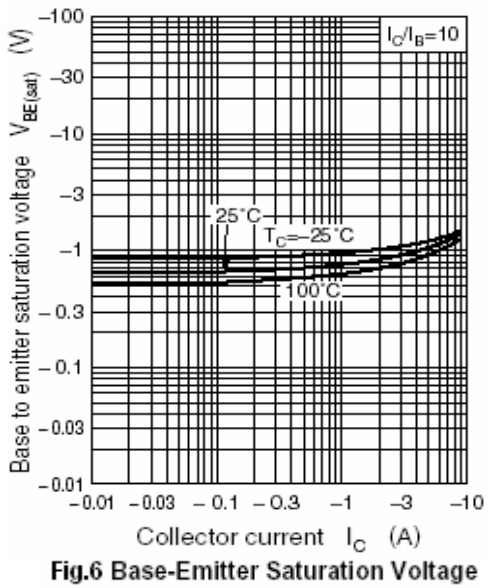

Fig.6 Base-Emitter Saturation Voltage

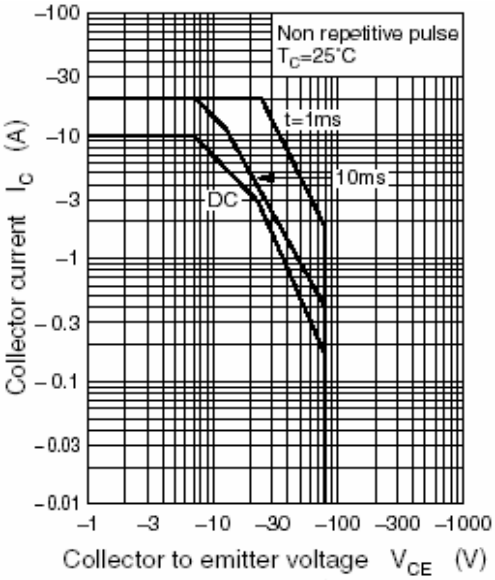

Fig.7 Safe Operating Area