

Silicon PNP Power Transistors

2SB1155

DESCRIPTION

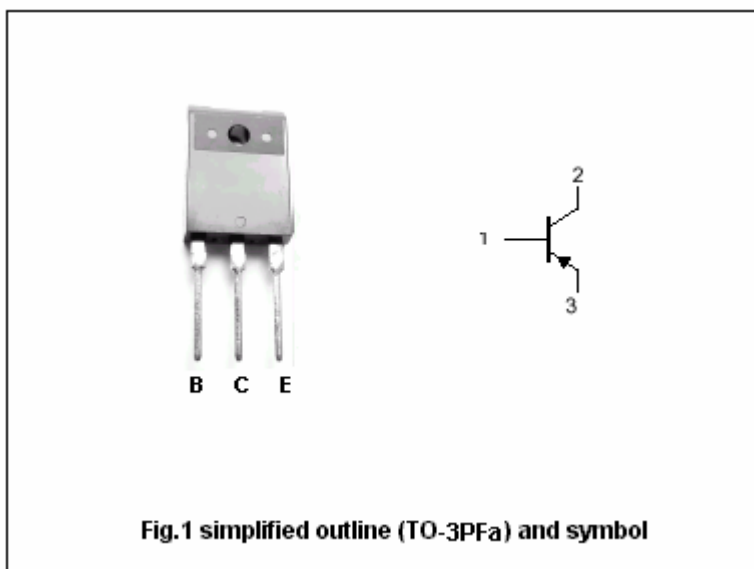
- With TO-3PFa package
- Complement to type 2SD1706
- Low collector saturation voltage
- Satisfactory linearity of h_{FE}

APPLICATIONS

- For power switching applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

Absolute maximum ratings($T_a=25^\circ\text{C}$)

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		-15	A
I_{CM}	Collector current-peak		-25	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	80	W
		$T_a=25^\circ\text{C}$	3	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=-10mA ; I_B=0$	-80			V
$V_{CEsat-1}$	Collector-emitter saturation voltage	$I_C=-7A ; I_B=-0.35A$			-0.5	V
$V_{CEsat-2}$	Collector-emitter saturation voltage	$I_C=-15A ; I_B=-1.5A$			-1.5	V
$V_{BEsat-1}$	Base-emitter saturation voltage	$I_C=-7A ; I_B=-0.35A$			-1.5	V
$V_{BEsat-2}$	Base-emitter saturation voltage	$I_C=-15A ; I_B=-1.5A$			-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	$I_C=-8A ; V_{CE}=-2V$	30			
f_T	Transition frequency	$I_C=-0.5A ; V_{CE}=-10V ; f=10MHz$		25		MHz

Switching times

t_{on}	Turn-on time	$I_C=-7A ; I_{B1}=-I_{B2}=-0.7A$ $V_{CC}=-50V$		0.5		μs
t_{stg}	Storage time			1.3		μs
t_f	Fall time			0.2		μs

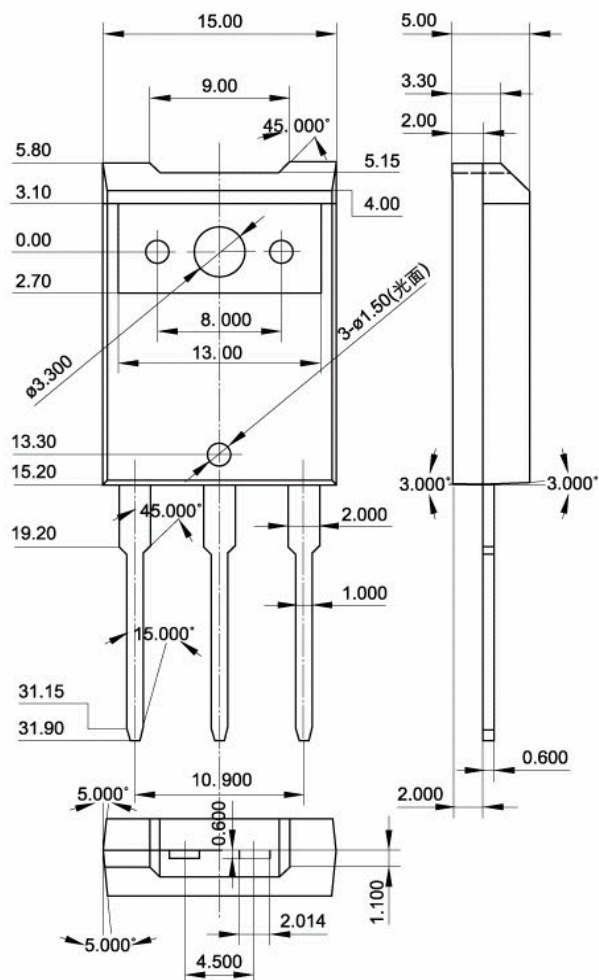
◆ h_{FE-2} classifications

Q	P
90-180	130-260

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PACKAGE OUTLINE

Fig.2 Outline dimensions (unindicated tolerance: $\pm 0.30\text{mm}$)

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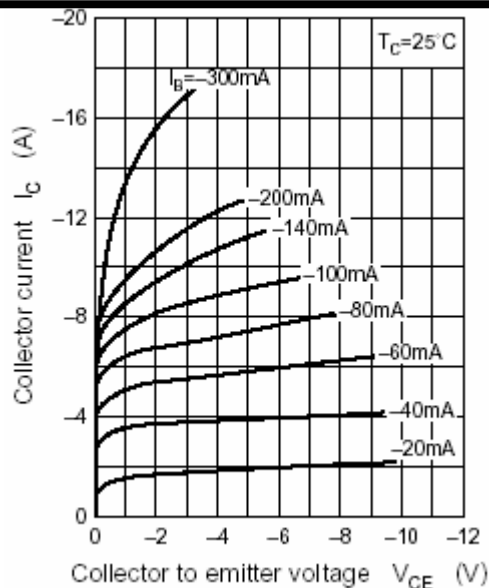


Fig.3 Static Characteristic

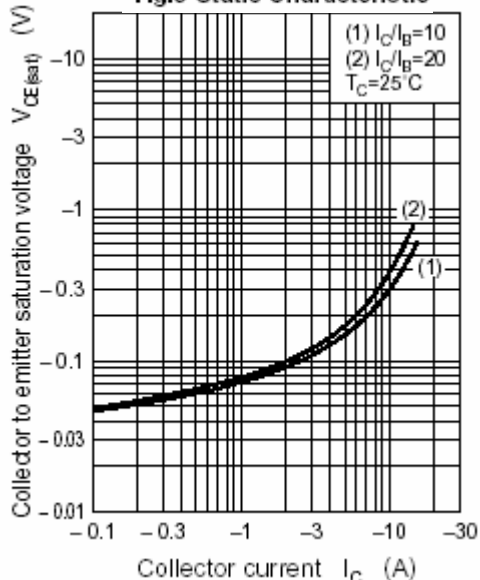


Fig.5 Collector-Emitter Saturation Voltage

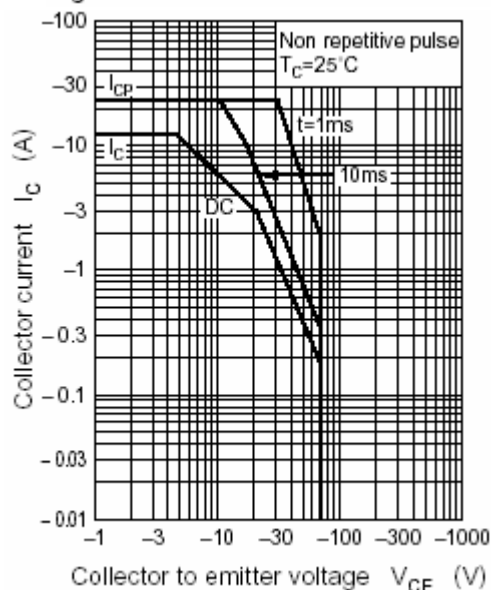


Fig.7 Safe Operating Area

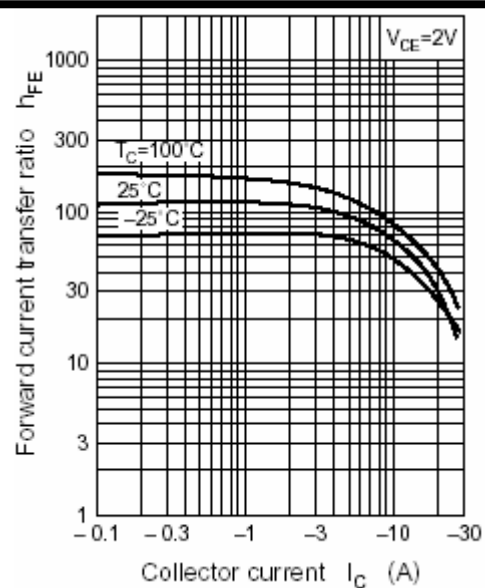


Fig.4 DC current Gain

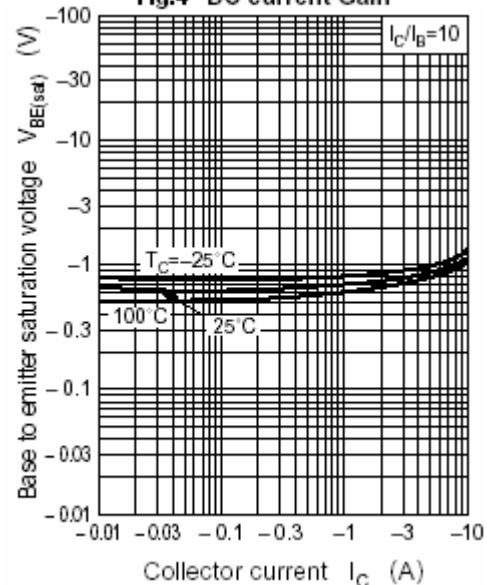


Fig.6 Base-Emitter Saturation Voltage