

**Silicon PNP Power Transistors**

**2SB1154**

**DESCRIPTION**

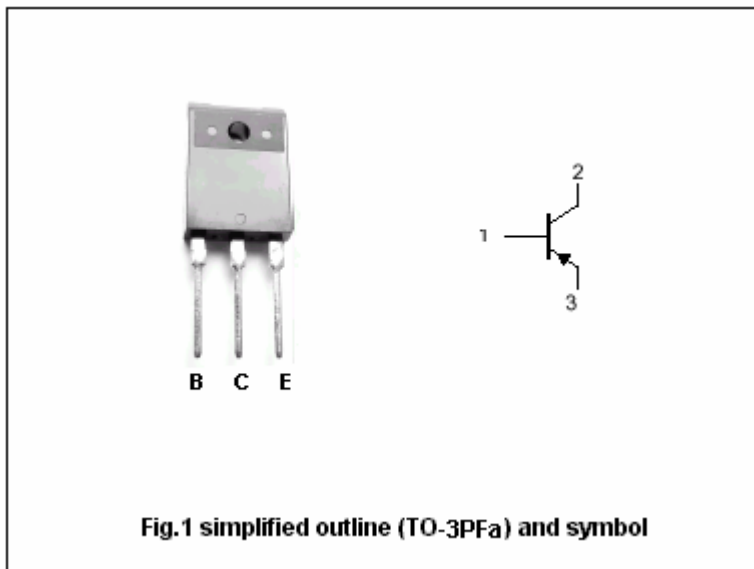
- With TO-3PFa package
- Complement to type 2SD1705
- Low collector saturation voltage
- Satisfactory linearity of  $h_{FE}$

**APPLICATIONS**

- For power switching applications

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter



**Absolute maximum ratings(Ta=25°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		-10	A
$I_{CM}$	Collector current-peak		-20	A
$P_C$	Collector power dissipation	$T_C=25^\circ C$	70	W
		$T_a=25^\circ C$	3	
$T_j$	Junction temperature		150	°C
$T_{stg}$	Storage temperature		-55~150	°C

## Silicon PNP Power Transistors

## 2SB1154

## CHARACTERISTICS

T<sub>j</sub>=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =-10mA ; I <sub>B</sub> =0	-80			V
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-6A ; I <sub>B</sub> =-0.3A			-0.5	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-10A ; I <sub>B</sub> =-1A			-1.5	V
V <sub>BEsat-1</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-6A ; I <sub>B</sub> =-0.3A			-1.5	V
V <sub>BEsat-2</sub>	Base-emitter saturation voltage	I <sub>C</sub> =-10A ; I <sub>B</sub> =-1A			-2.5	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =-100V ; I <sub>E</sub> =0			-10	μA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-5V ; I <sub>C</sub> =0			-50	μA
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =-0.1A ; V <sub>CE</sub> =-2V	45			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-3A ; V <sub>CE</sub> =-2V	90		260	
h <sub>FE-3</sub>	DC current gain	I <sub>C</sub> =-6A ; V <sub>CE</sub> =-2V	30			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-0.5A ; V <sub>CE</sub> =-10V ; f=10MHz		30		MHz

## Switching times

t <sub>on</sub>	Turn-on time	I <sub>C</sub> =-6A ; I <sub>B1</sub> =-I <sub>B2</sub> =-0.6A V <sub>CC</sub> =-50V		0.5		μs
t <sub>stg</sub>	Storage time			1.0		μs
t <sub>r</sub>	Fall time			0.2		μs

◆ h<sub>FE-2</sub> classifications

Q	P
90-180	130-260

Silicon PNP Power Transistors

2SB1154

PACKAGE OUTLINE



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

Silicon PNP Power Transistors

2SB1154

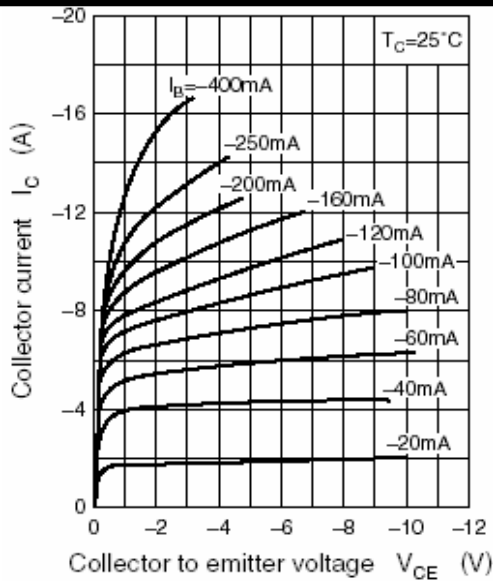


Fig.3 Static Characteristic

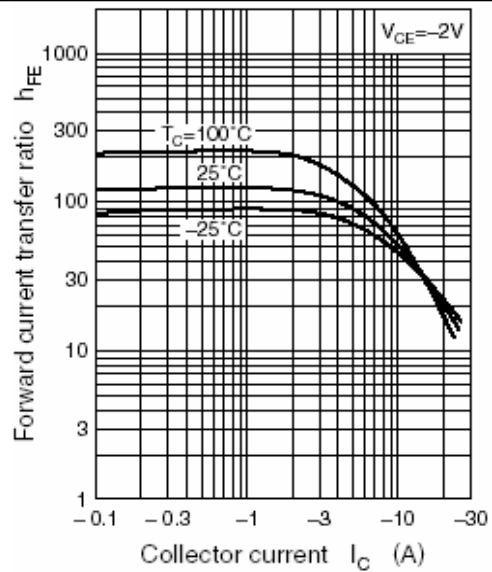


Fig.4 DC current Gain

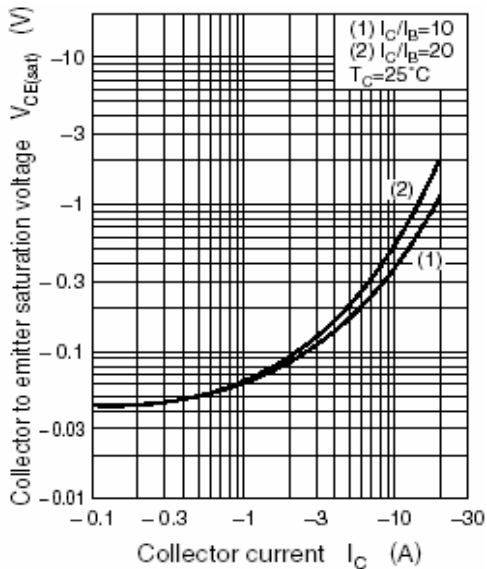


Fig.5 Collector-Emitter Saturation Voltage

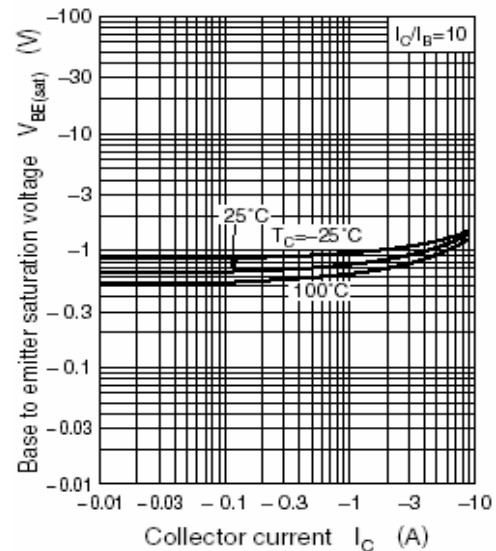


Fig.6 Base-Emitter Saturation Voltage

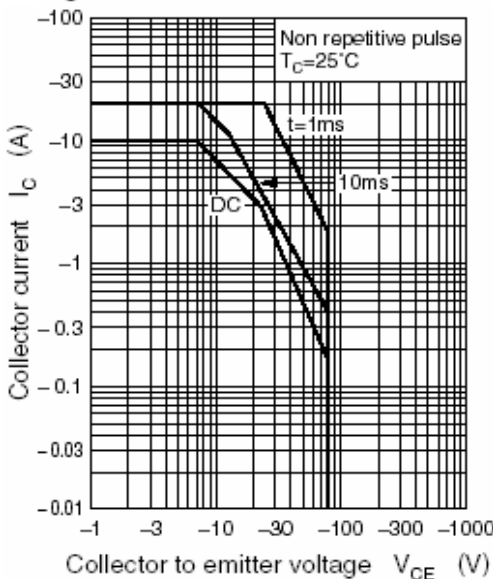


Fig.7 Safe Operating Area