

## Descriptions

- General purpose amplifier
- High voltage application

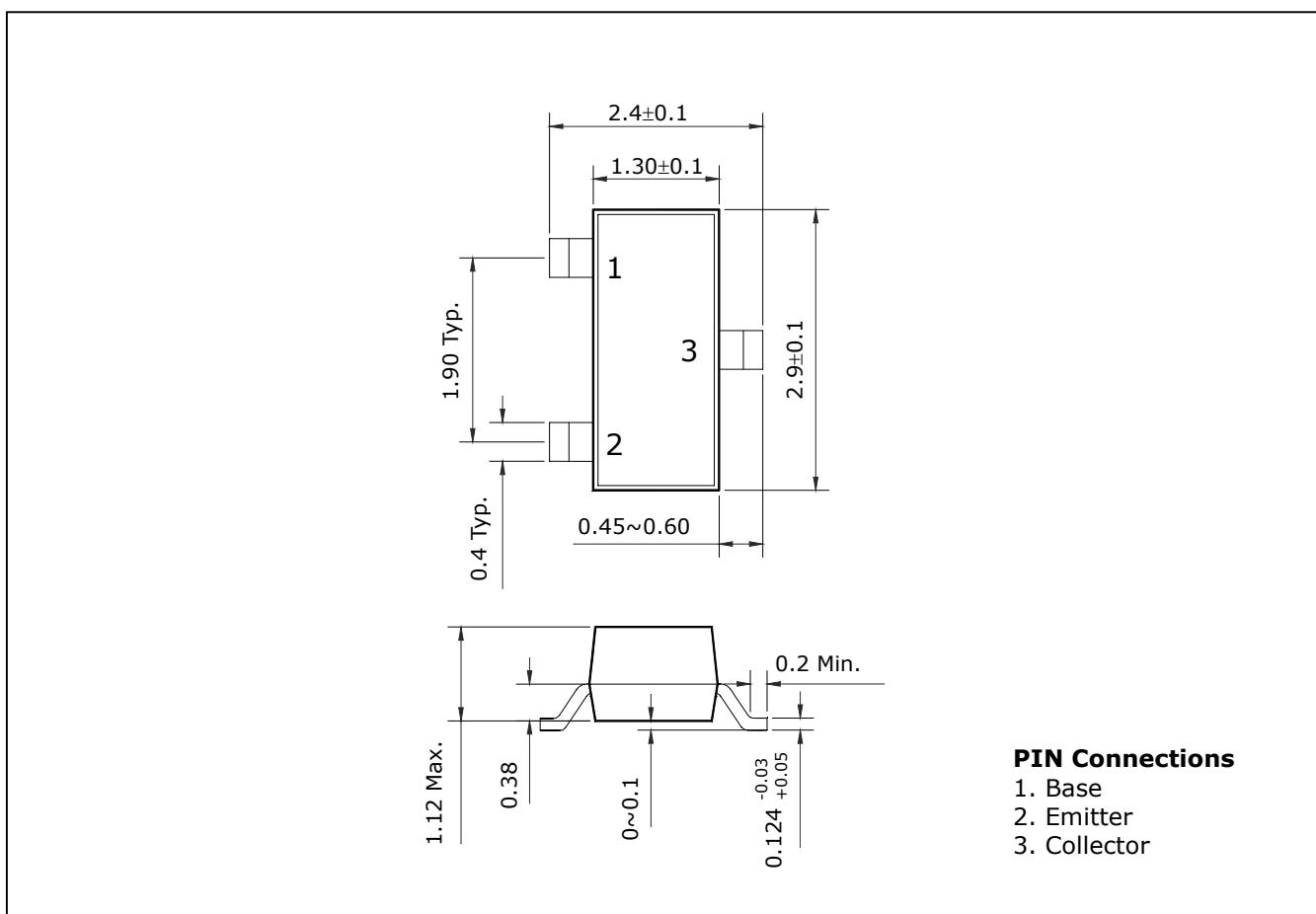
## Features

- high collector breakdown voltage :  $V_{CBO} = 180V$ ,  $V_{CEO} = 160V$
- Low collector saturation voltage :  $V_{CE(sat)}=0.5V(\text{MAX.})$
- Complementary pair with SBT5401

## Ordering Information

Type NO.	Marking	Package Code
SBT5551	FNF	SOT-23

## Outline Dimensions

**unit : mm**


**Absolute maximum ratings**

(Ta=25°C)

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V <sub>CBO</sub>	180	V
Collector-Emitter voltage	V <sub>CEO</sub>	160	V
Emitter-Base voltage	V <sub>EBO</sub>	6	V
Collector current	I <sub>C</sub>	600	mA
Collector dissipation	P <sub>C</sub>	200	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55~150	°C

**Electrical Characteristics**

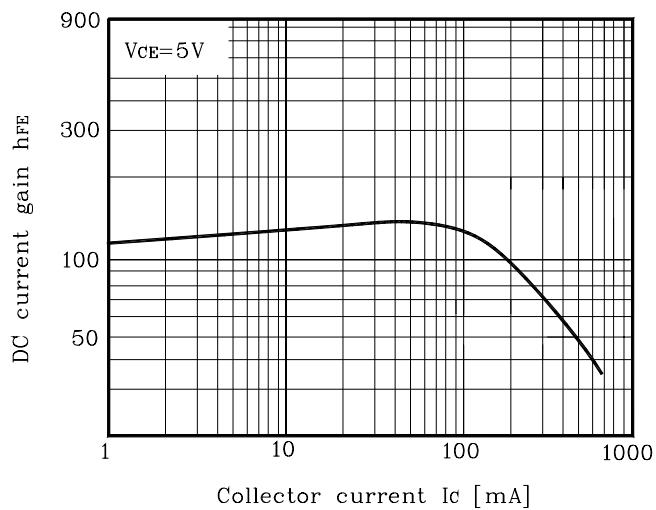
(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV <sub>CBO</sub>	I <sub>C</sub> =100μA, I <sub>E</sub> =0	180	-	-	V
Collector-Emitter breakdown voltage	BV <sub>CEO</sub>	I <sub>C</sub> =1mA, I <sub>B</sub> =0	160	-	-	V
Emitter-Base breakdown voltage	BV <sub>EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0	6	-	-	V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =120V, I <sub>E</sub> =0	-	-	100	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, I <sub>C</sub> =0	-	-	100	nA
DC current gain	h <sub>FE</sub> (1)	V <sub>CE</sub> =5V, I <sub>C</sub> =1mA	80	-	-	-
DC current gain	h <sub>FE</sub> (2)	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA	80	-	250	-
DC current gain	h <sub>FE</sub> (3)	V <sub>CE</sub> =5V, I <sub>C</sub> =50mA	30	-	-	-
Collector-Emitter saturation voltage	V <sub>CE(sat)(1)</sub> *	I <sub>C</sub> =10mA, I <sub>B</sub> =1mA	-	-	0.2	V
Collector-Emitter saturation voltage	V <sub>CE(sat)(2)</sub> *	I <sub>C</sub> =50mA, I <sub>B</sub> =5mA	-	-	0.5	V
Base-Emitter saturation voltage	V <sub>BE(sat)(1)</sub> *	I <sub>C</sub> =10mA, I <sub>B</sub> =1mA	-	-	1	V
Base-Emitter saturation voltage	V <sub>BE(sat)(2)</sub> *	I <sub>C</sub> =50mA, I <sub>B</sub> =5mA	-	-	1	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =10mA	100	-	400	MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz	-	-	6	pF

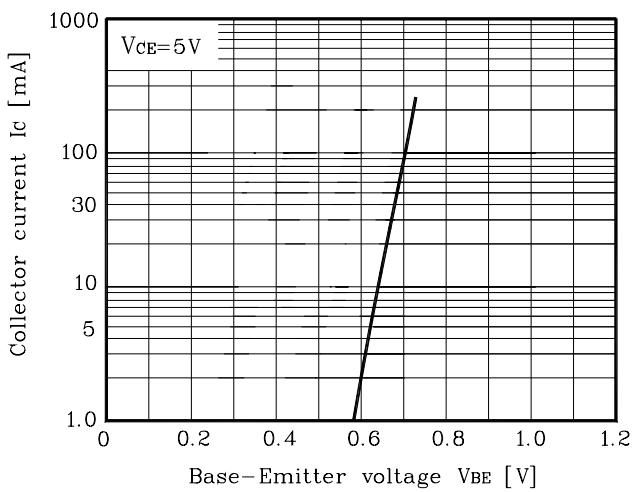
\*: Pulse Tester : Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%

## Electrical Characteristic Curves

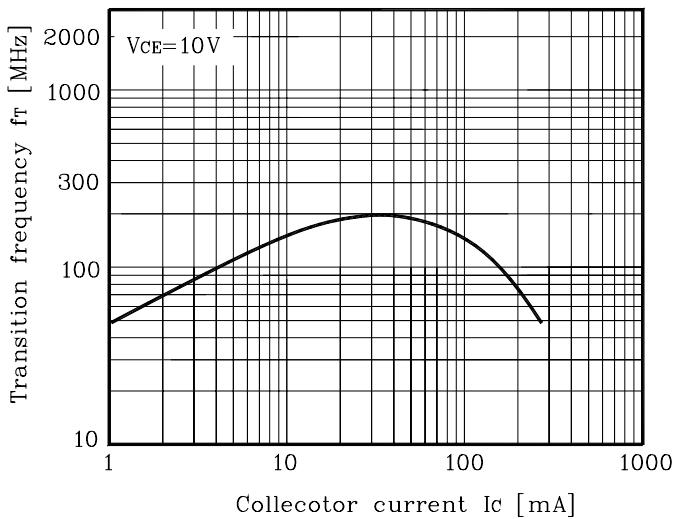
**Fig. 1  $h_{FE}$  -  $I_C$**



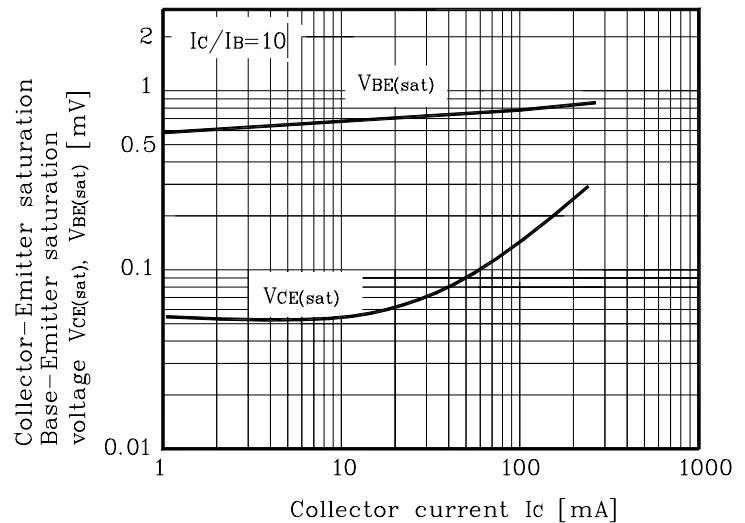
**Fig. 2  $I_C$  -  $V_{BE}$**



**Fig. 3  $f_T$  -  $I_C$**



**Fig. 4  $V_{CE(sat)}$ ,  $V_{BE(sat)}$  -  $I_C$**



**Fig. 5  $C_{ob}$  -  $V_{CB}$**

