

**Description**

- RF amplifier

**Features**

- High current transition frequency  
 $f_T=550\text{MHz(Typ.)}$ , [ $V_{CE}=6\text{V}$ ,  $I_E=-1\text{mA}$ ]
- Low output capacitance :  
 $C_{ob}=1.4\text{pF(Typ.)}$  [ $V_{CB}=6\text{V}$ ,  $I_E=0$ ]
- Low base time constant and high gain
- Excellent noise response

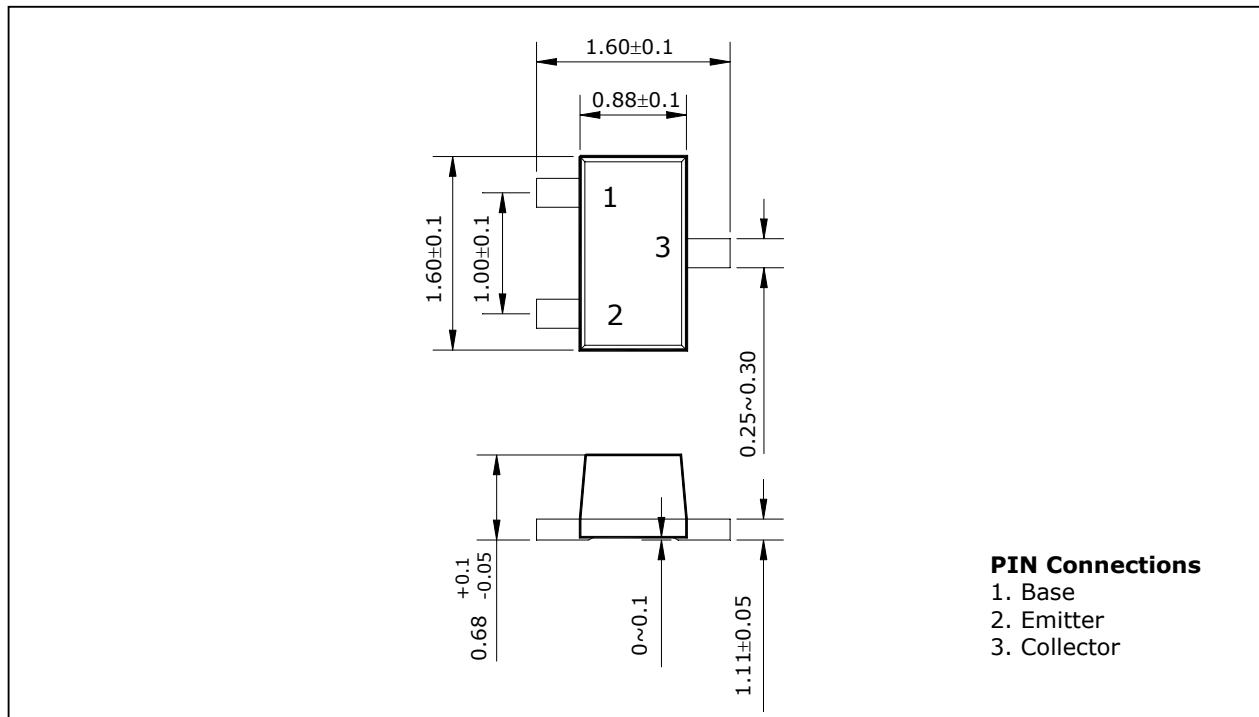
**Ordering Information**

Type NO.	Marking	Package Code
2SC5345E	Z□	SOT-523F

□ :  $h_{FE}$  rank

**Outline Dimensions**

**unit : mm**



## Absolute maximum ratings

Ta=25°C

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V <sub>CBO</sub>	30	V
Collector-Emitter voltage	V <sub>CEO</sub>	20	V
Emitter-Base voltage	V <sub>EBO</sub>	4	V
Collector current	I <sub>C</sub>	20	mA
Collector dissipation	P <sub>C</sub>	150	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature range	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> =10μA, I <sub>E</sub> =0	30	-	-	V
Collector-Emitter breakdown voltage	BV <sub>CEO</sub>	I <sub>C</sub> =5mA, I <sub>B</sub> =0	20	-	-	V
Emitter-Base breakdown voltage	BV <sub>EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0	4	-	-	V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =30V, I <sub>E</sub> =0	-	-	0.5	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, I <sub>C</sub> =0	-	-	0.5	μA
DC current gain	h <sub>FE</sub> *	V <sub>CE</sub> =6V, I <sub>C</sub> =1mA	40	-	240	-
Collector-Emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1mA	-	-	0.3	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =6V, I <sub>E</sub> =-1mA	-	550	-	MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =6V, I <sub>E</sub> =0, f=1MHz	-	1.4	-	pF

\* : h<sub>FE</sub> rank / R : 40~80, O : 70~140, Y : 120~240

Electrical Characteristic Curves

Fig. 1  $P_C-T_a$

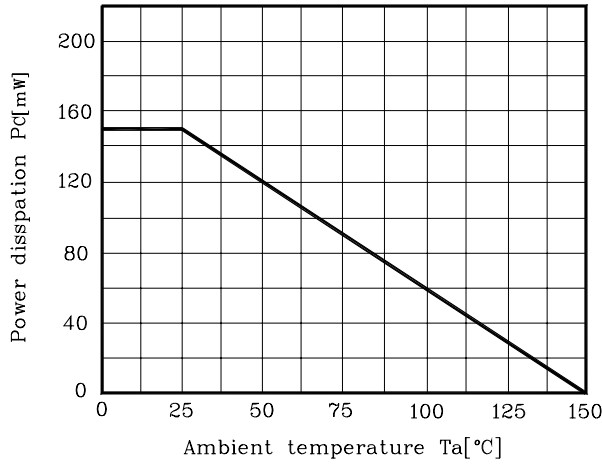


Fig. 2  $I_C-V_{CE}$

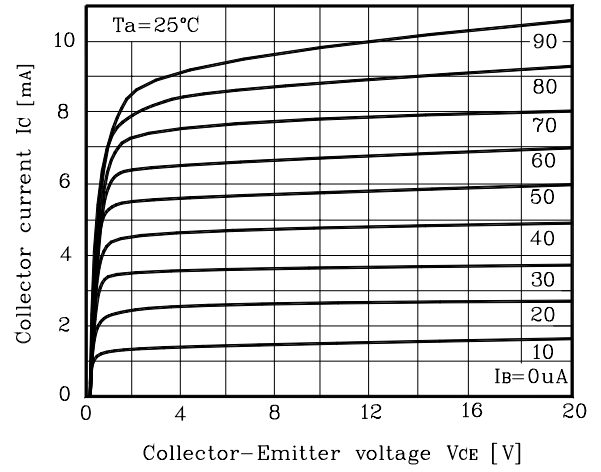


Fig. 3  $h_{FE}-I_C$

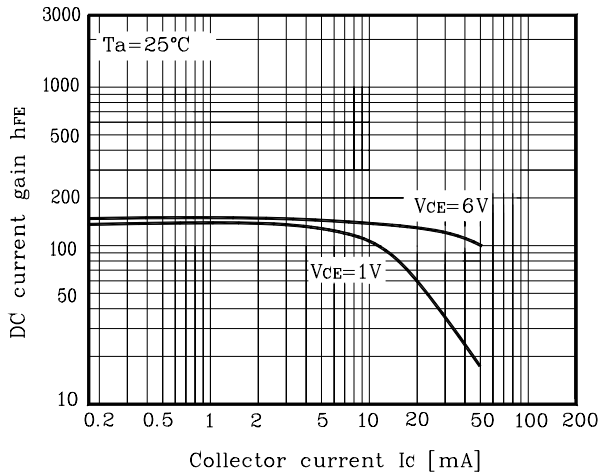


Fig. 4  $f_T-I_E$

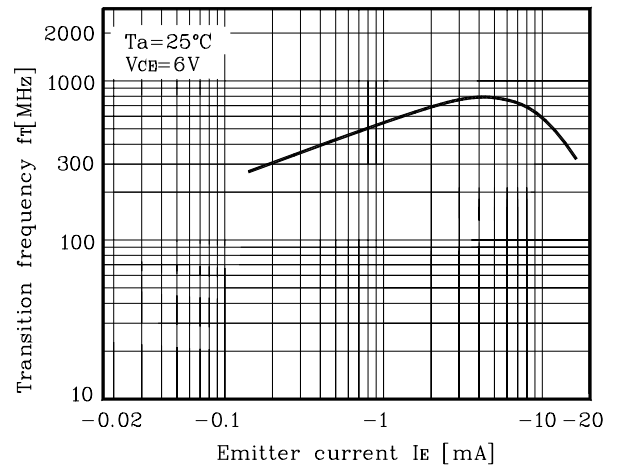


Fig. 5  $C_{ob}-V_{CB}$ ,  $C_{ib}-V_{EB}$

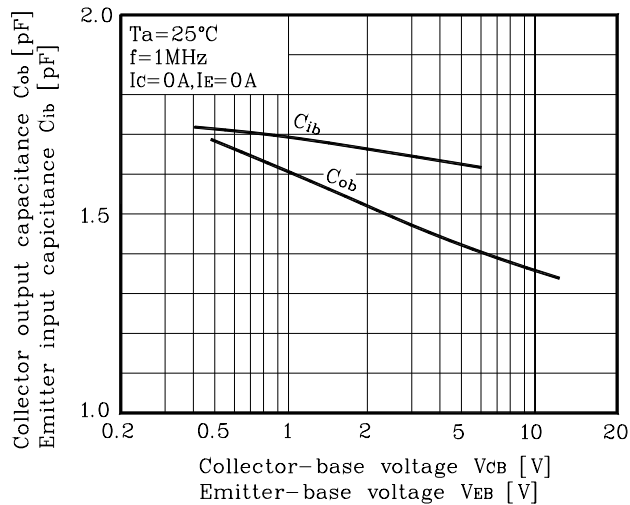
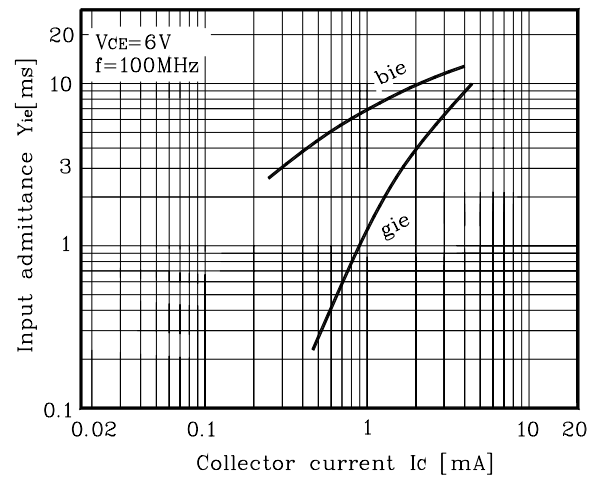


Fig. 6  $Y_{ie}-I_C$



Electrical Characteristic Curves

Fig. 7  $I_C$ - $Y_{oe}$

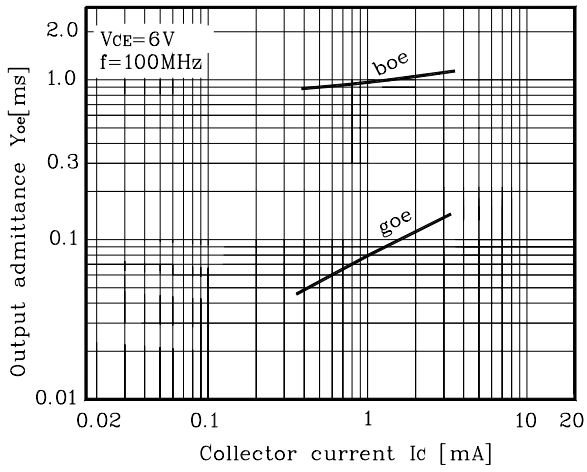


Fig. 8  $I_C$ - $Y_{fe}$

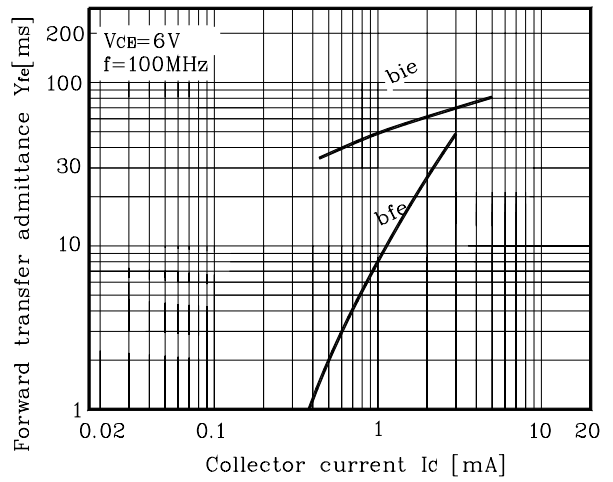


Fig. 9  $I_C$ - $Y_{re}$

