

Description

- RF amplifier

Features

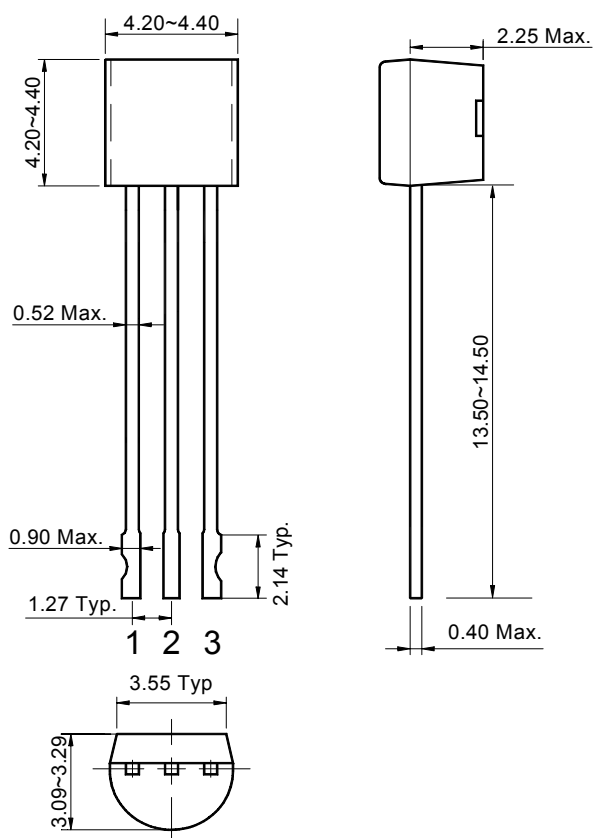
- High transition frequency : $f_T=550\text{MHz(Typ.)}$ @ $[V_{CE}=6\text{V}, I_C=1\text{mA}]$
- Low output capacitance : $C_{ob}=1.4\text{pF (Typ.)}$ @ $[V_{CB}=6\text{V}, I_E=0]$
- Low base time constant and high gain
- Excellent noise response

Ordering Information

Type NO.	Marking	Package Code
2SC5345N	C5345	TO-92N

Outline Dimensions

unit : mm



PIN Connections

1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	30	V
Collector-emitter voltage	V_{CEO}	20	V
Emitter-base voltage	V_{EBO}	4	V
Collector current	I_C	20	mA
Collector power dissipation	P_C	400	mW
Junction temperature	T_J	150	°C
Storage temperature range	T_{stg}	-55~150	°C

Electrical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-emitter breakdown voltage	BV_{CEO}	$I_C=5mA, I_B=0$	20	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB}=30V, I_E=0$	-	-	0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4V, I_C=0$	-	-	0.5	μA
DC current gain	h_{FE}^*	$V_{CE}=6V, I_C=1mA$	40	-	240	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$	-	-	0.3	V
Base-emitter voltage	V_{BE}	$V_{CE}=6V, I_C=1mA$	-	0.7	0.9	V
Transition frequency	f_T	$V_{CE}=6V, I_C=1mA$	-	550	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=6V, I_E=0, f=1MHz$	-	1.4	-	pF

* : h_{FE} rank / R : 40~80, O : 70~140, Y : 120~240

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

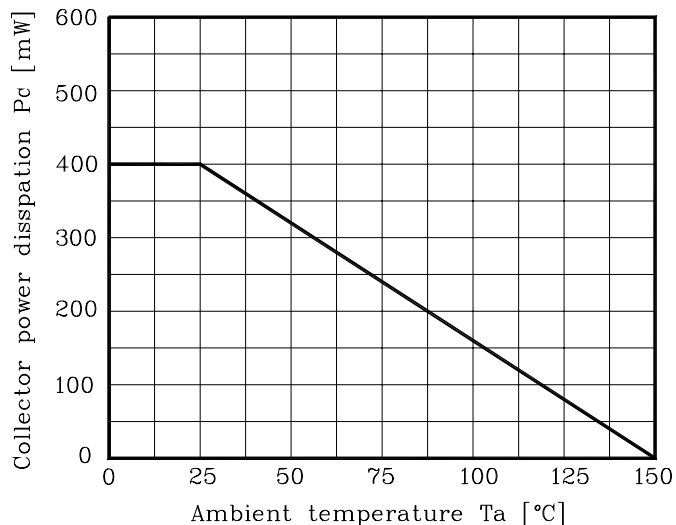


Fig. 2 $I_C - V_{CE}$

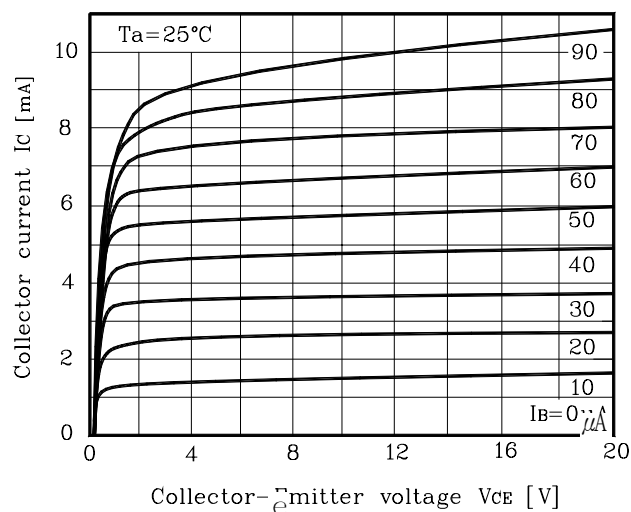


Fig. 3 $h_{FE} - I_C$

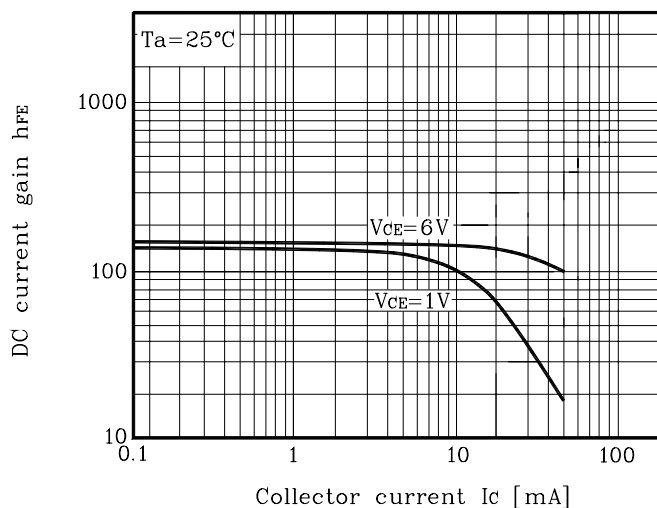


Fig. 4 $f_T - I_E$

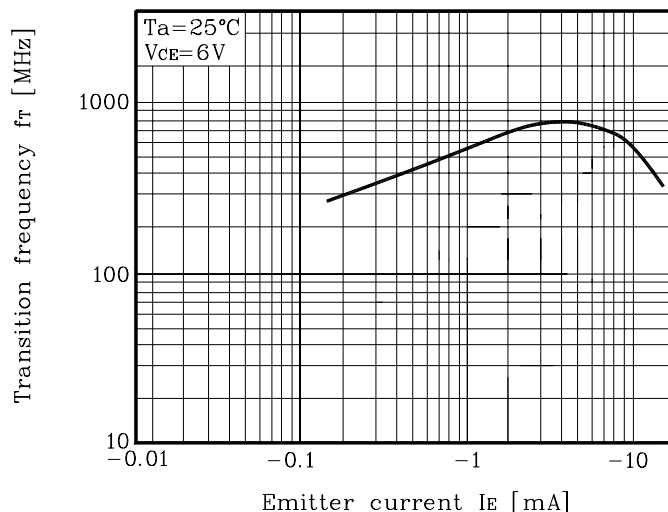


Fig. 5 $C_{ob} - V_{CB}, C_{ib} - V_{EB}$

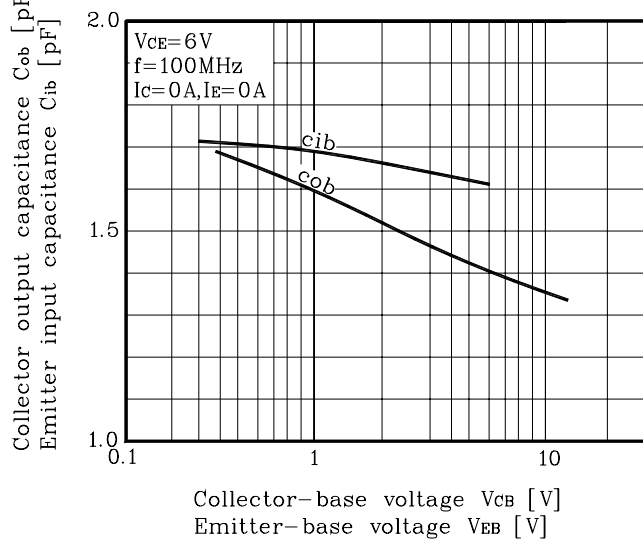
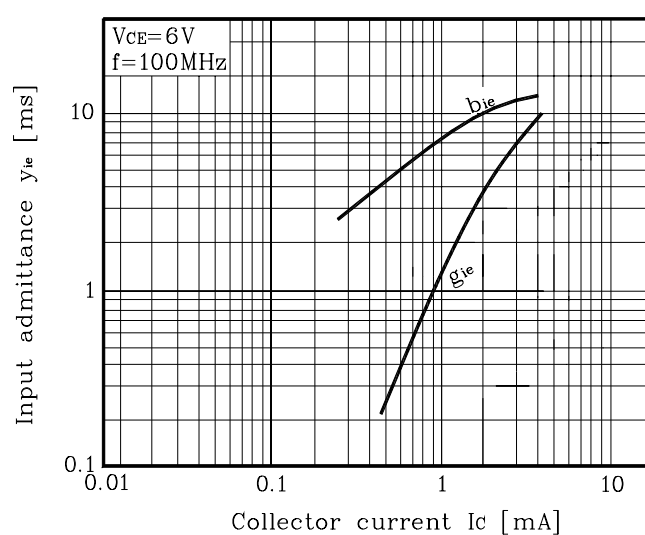
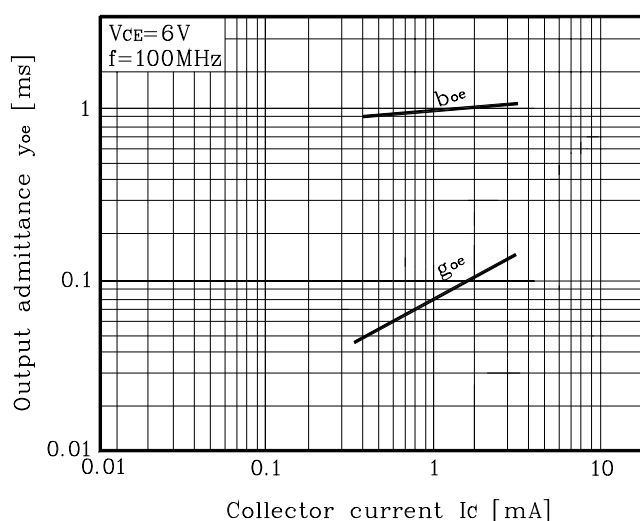
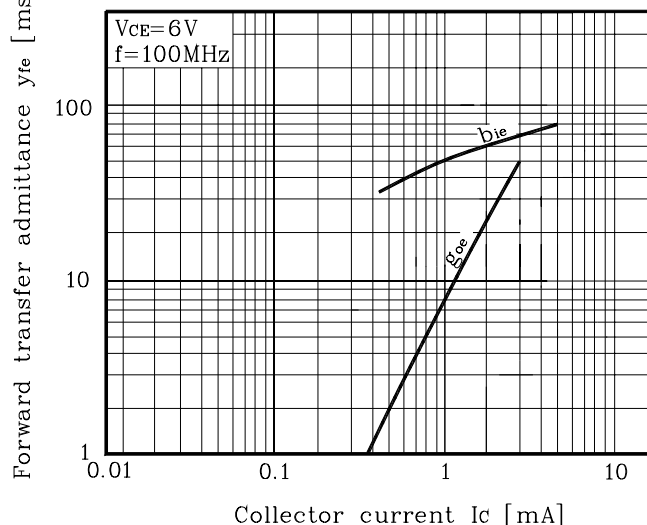
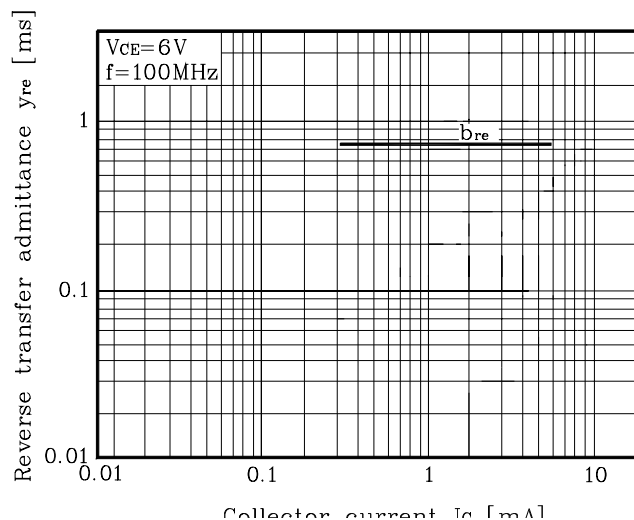


Fig. 6 $y_{ie} - I_C$



Electrical Characteristic Curves

Fig. 7 $I_C - y_{oe}$ Fig. 8 $I_C - y_{fe}$ Fig. 9 $I_C - y_{re}$ 

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