

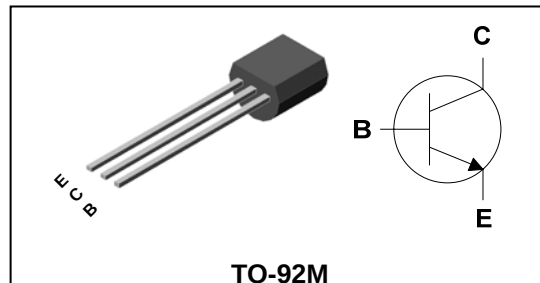
Description

- 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

PIN Connection



Ordering Information

Type NO.	Marking	Package Code
2SC5345M	C5345	TO-92M

Absolute maximum ratings

 $T_a = 25^\circ\text{C}$

Characteristic	Symbol	Ratings	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 dissipation	P_C	400	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 ~ 150	$^\circ\text{C}$

Electrical Characteristics

 $T_a = 25^\circ\text{C}$

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

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

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

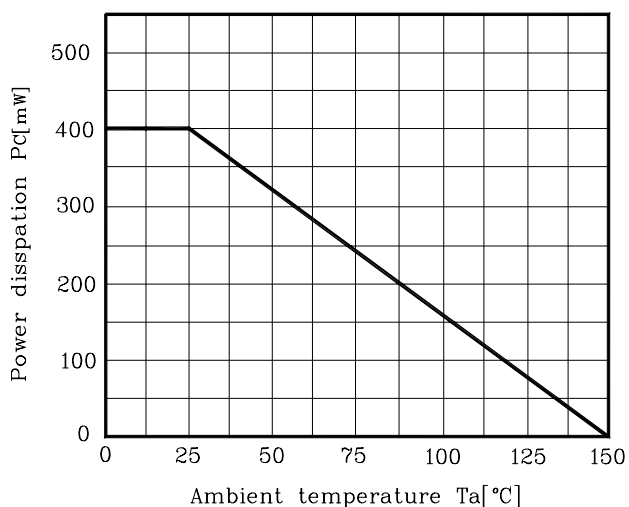


Fig. 2 $I_C - V_{CE}$

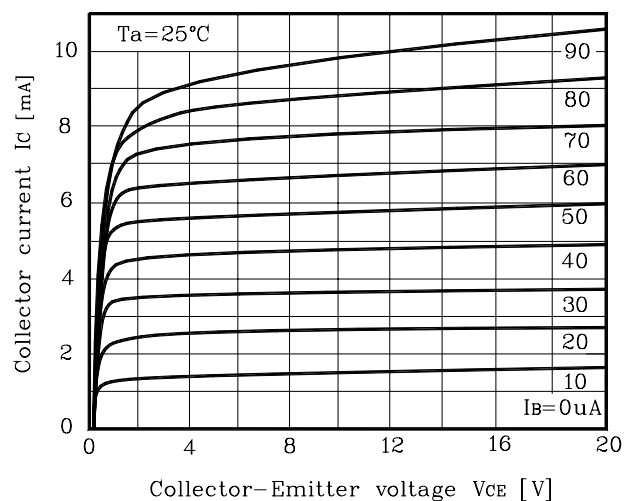


Fig. 3 $h_{FE} - I_C$

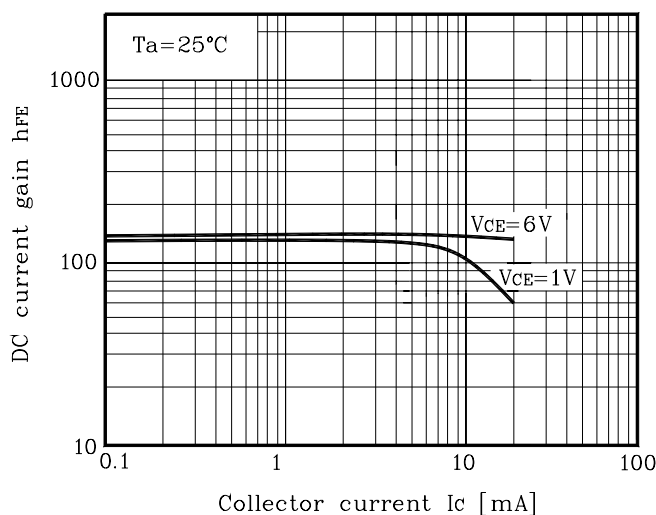


Fig. 4 $f_T - I_E$

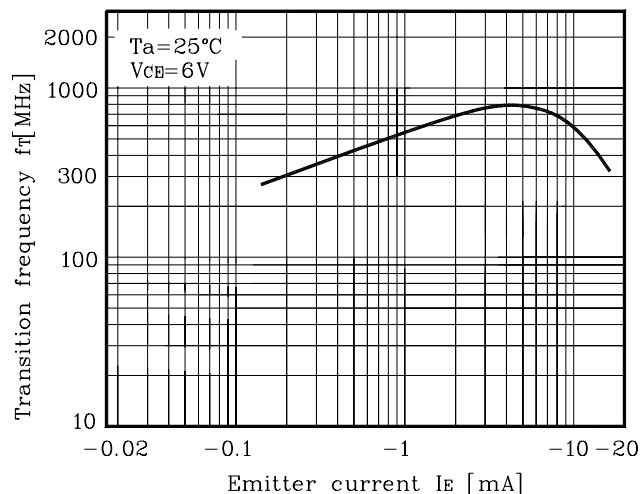


Fig. 5 $C_{ob} - V_{CB}$, $C_{ib} - V_{EB}$

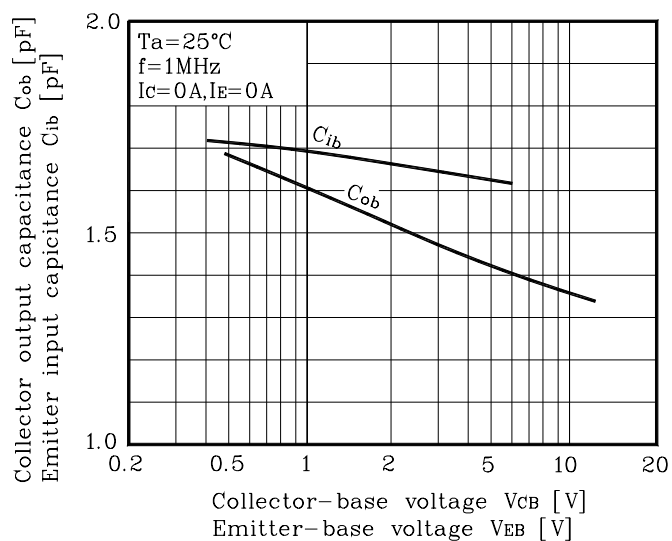
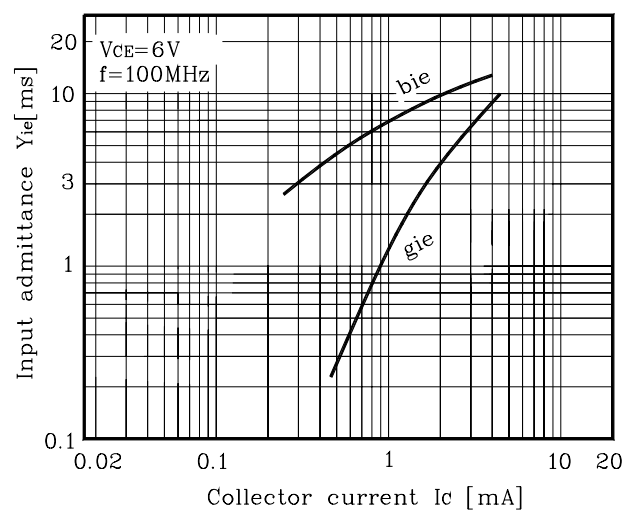


Fig. 6 $Y_{ie} - I_C$



Electrical Characteristic Curves

Fig. 7 I_C - Y_{oe}

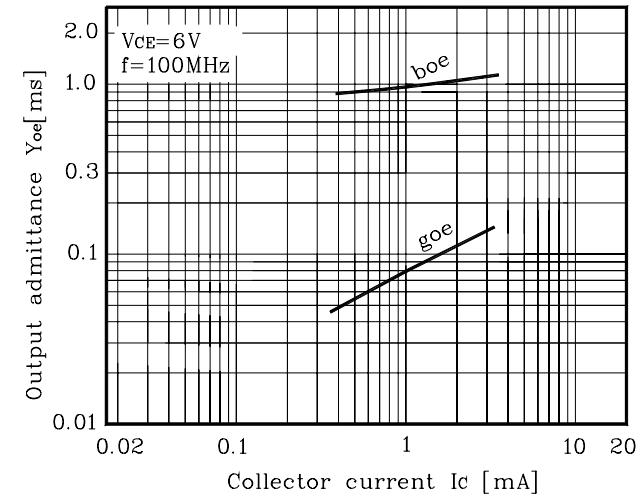


Fig. 8 I_C - Y_{fe}

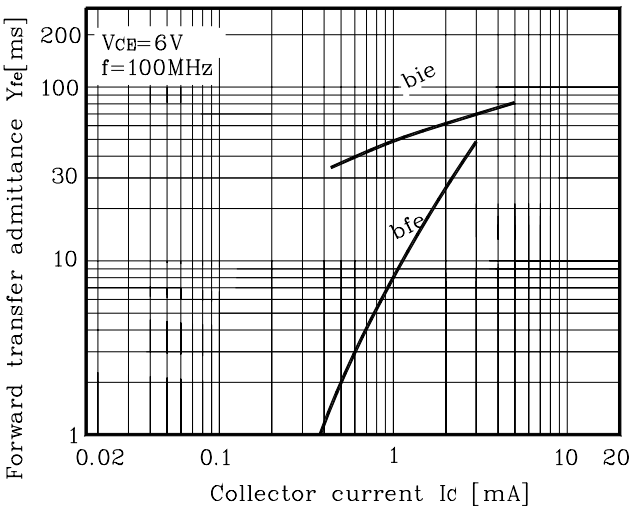
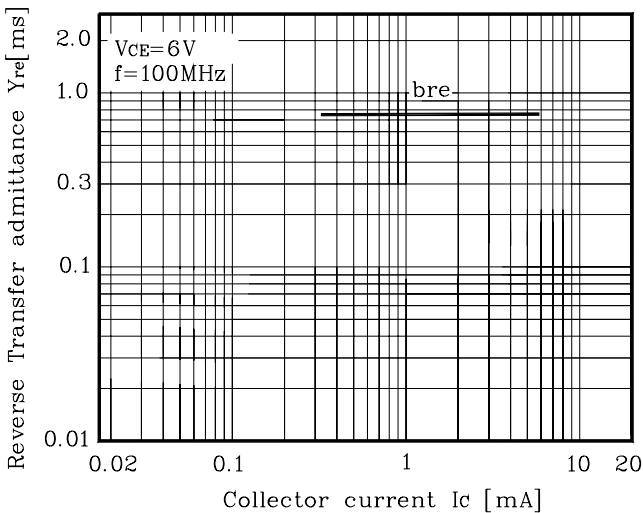
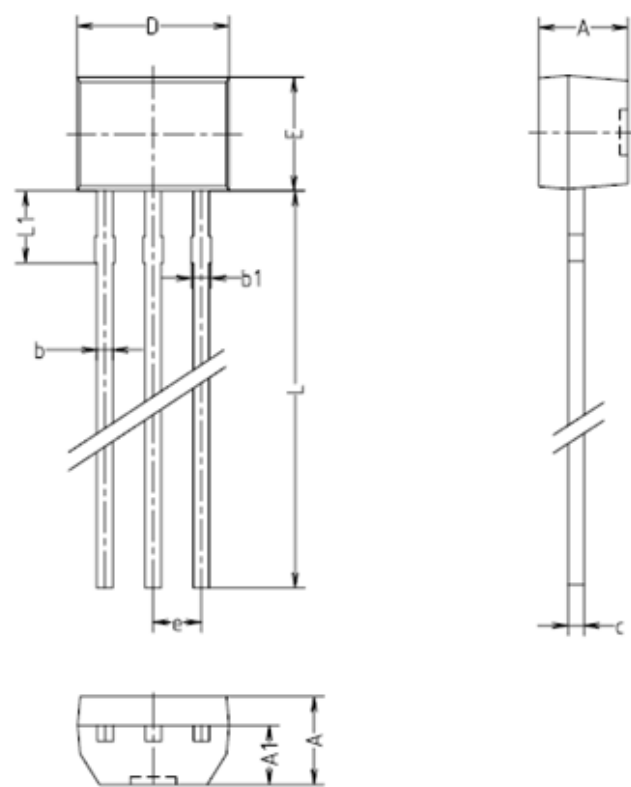


Fig. 9 I_C - Y_{re}



Outline Dimension



SYMBOL	TO-92M		
	MINIMUM	NOMINAL	MAXIMUM
A	2.25	2.30	2.35
A1	1.50	1.55	1.60
b	0.40	0.42	0.44
b1	0.40	—	0.50
c	0.40	0.42	0.44
D	3.93	4.00	4.07
E	2.93	3.00	3.07
e	1.17	1.27	1.37
L	14.30	14.50	14.70
L1	2.05	2.15	2.25

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