

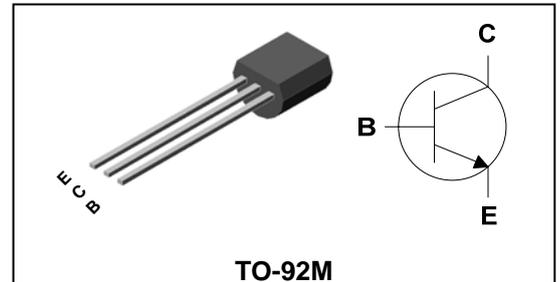
## Description

- 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	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4\text{V}$ , $I_C=0$	-	-	0.5	$\mu\text{A}$
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  $P_C - T_a$

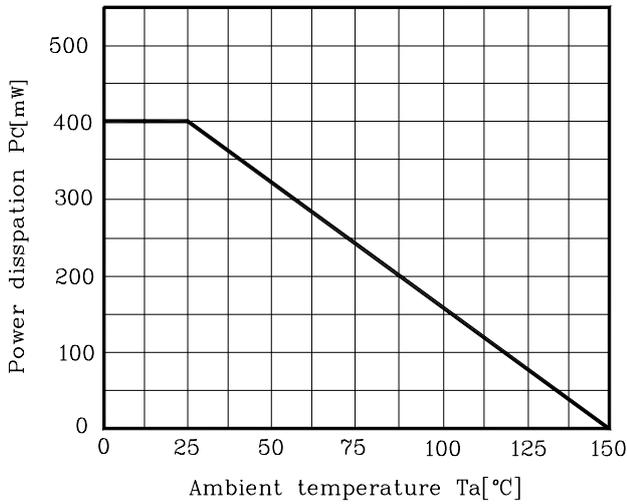


Fig. 2  $I_C - V_{CE}$

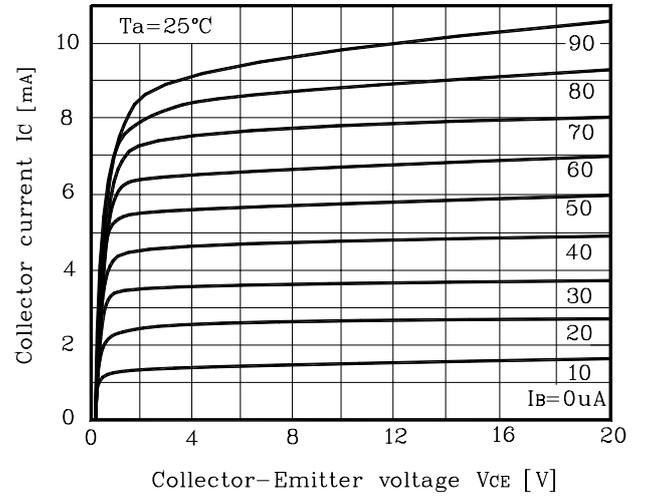


Fig. 3  $h_{FE} - I_C$

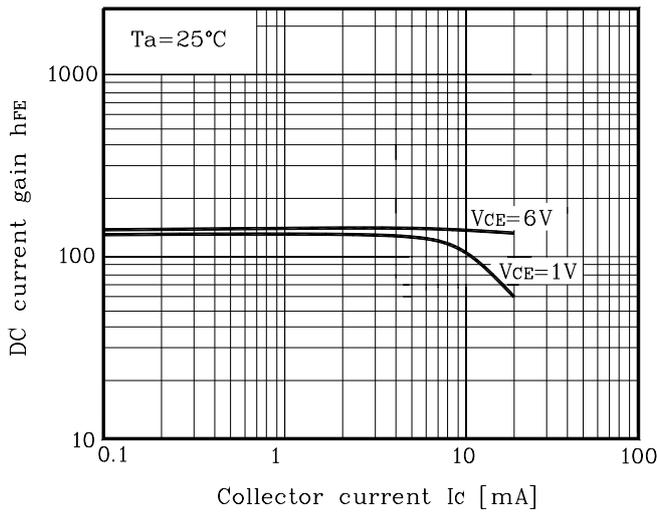


Fig. 4  $f_T - I_E$

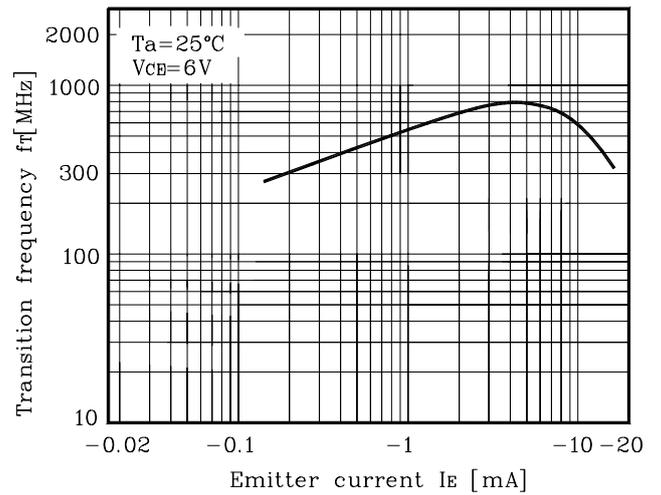


Fig. 5  $C_{ob} - V_{CB}, C_{ib} - V_{EB}$

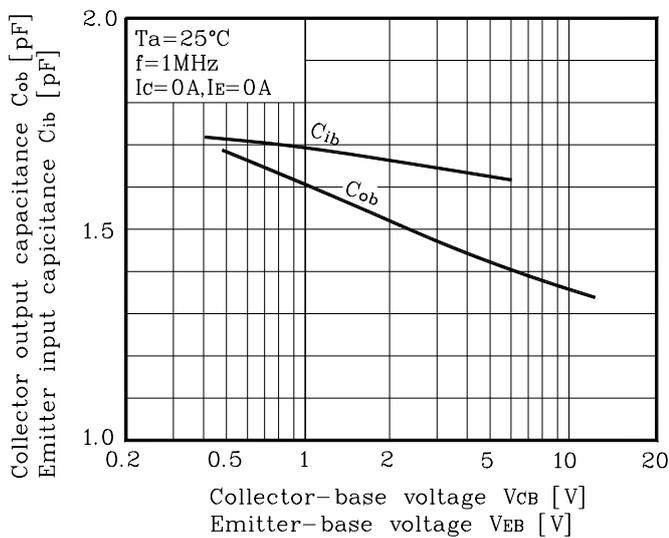
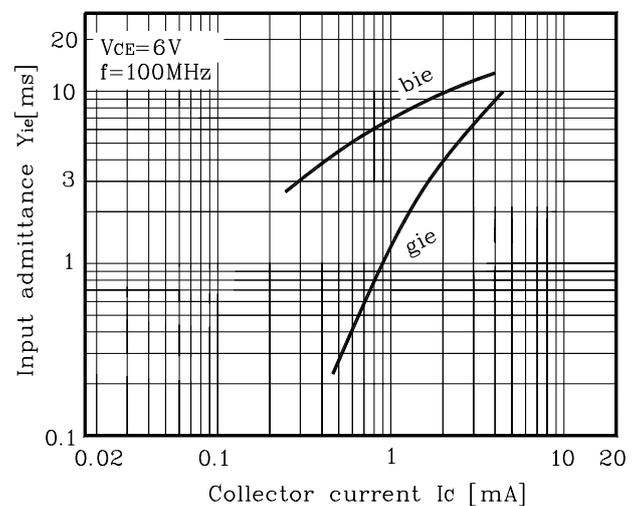


Fig. 6  $Y_{ie} - I_C$



Electrical Characteristic Curves

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

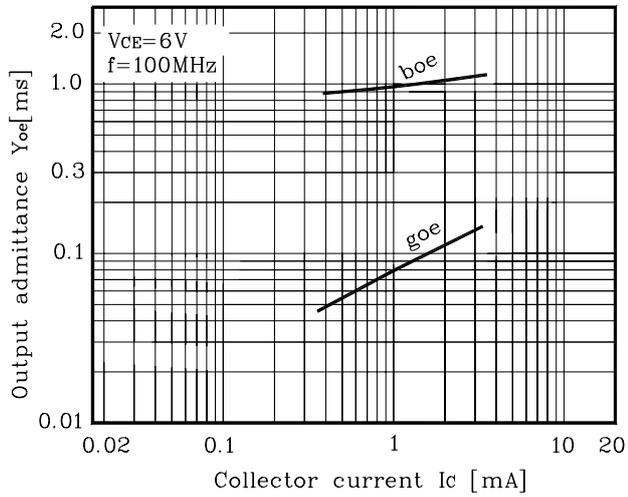


Fig. 8  $I_C$ - $Y_{fe}$

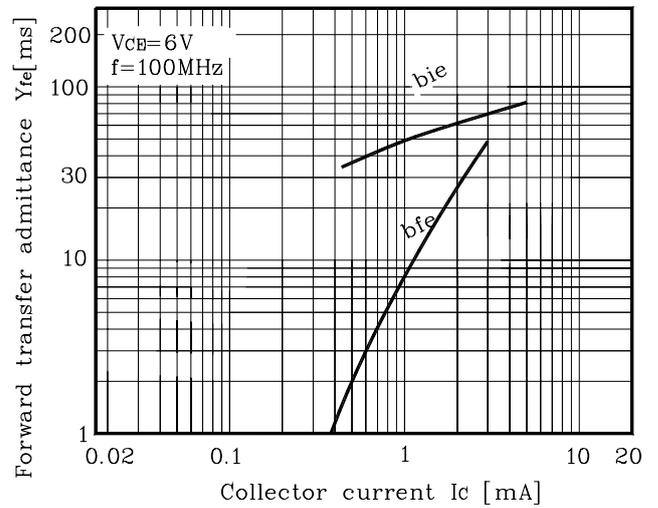
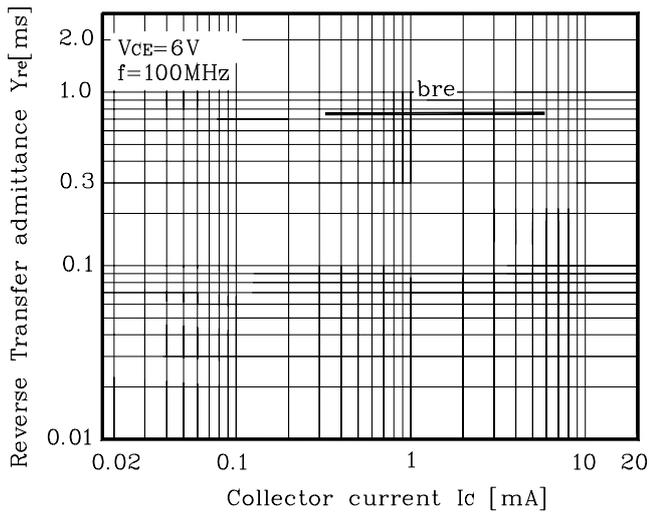
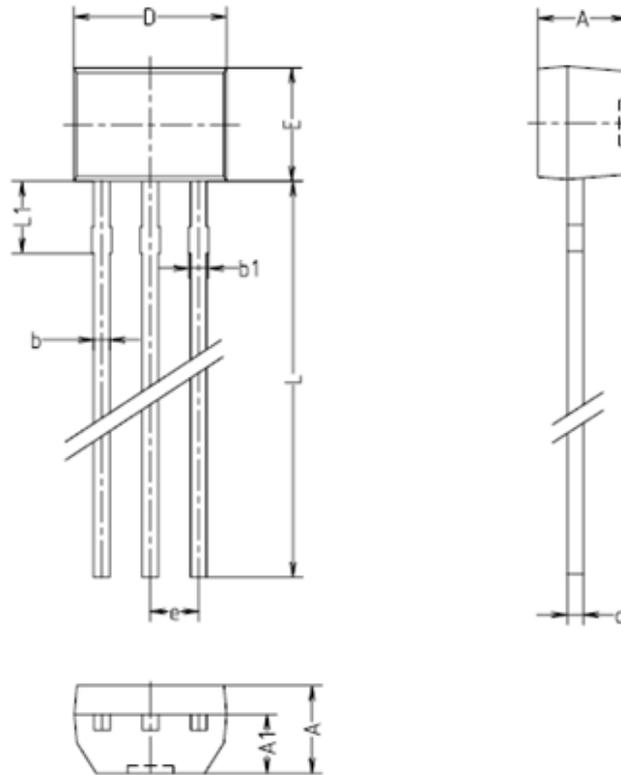


Fig. 9  $I_C$ - $Y_{re}$



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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