

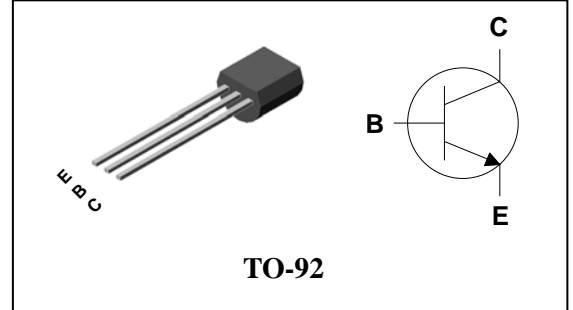
Description

- High frequency low noise amplifier application
- VHF band amplifier application

Features

- Low noise figure : NF = 4dB(Max.) at f= 100MHz
- High transition frequency $f_T = 800\text{MHz}$ (Typ.)

PIN Connection



Ordering Information

Type NO.	Marking	Package Code
STS9018	STS9018	TO-92

Absolute maximum ratings

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

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CB0}	40	V
Collector-Emitter voltage	V_{CEO}	30	V
Emitter-Base voltage	V_{EBO}	4	V
Collector current	I_C	20	mA
Emitter current	I_E	-20	mA
Collector dissipation	P_C	625	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 cut-off current	I_{CB0}	$V_{CB} = 40\text{V}, I_E = 0$	-	-	0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$	-	-	0.1	μA
DC current gain	h_{FE}^*	$V_{CE} = 5\text{V}, I_C = 1\text{mA}$	54	-	198	-
Transistor frequency	f_T	$V_{CE} = 10\text{V}, I_E = -8\text{mA}$	500	800	-	MHz
Noise figure	NF	$V_{CB} = 6\text{V}, I_E = -1\text{mA},$ $f = 100\text{MHz}$	-	-	4	dB
Power gain	G_{PE}		15	-	-	

* : h_{FE} rank / F : 54~80, G : 70~108, H : 97~146, I : 132~198.

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

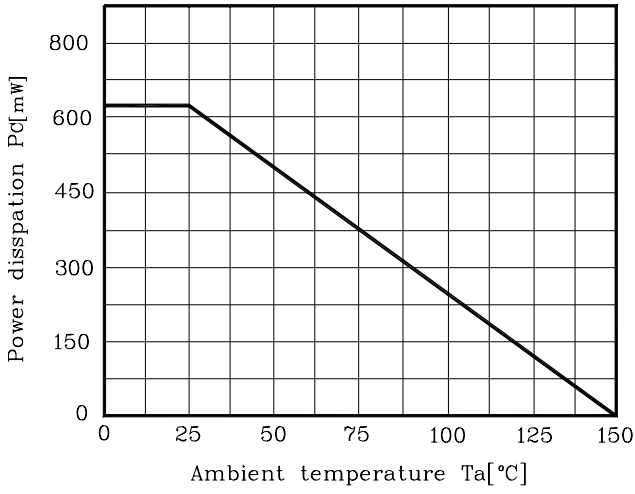


Fig. 2 $I_C - V_{CE}$

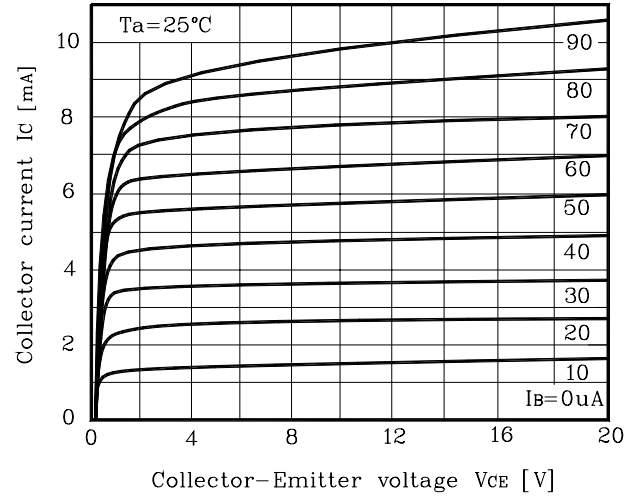


Fig. 3 $h_{FE} - I_C$

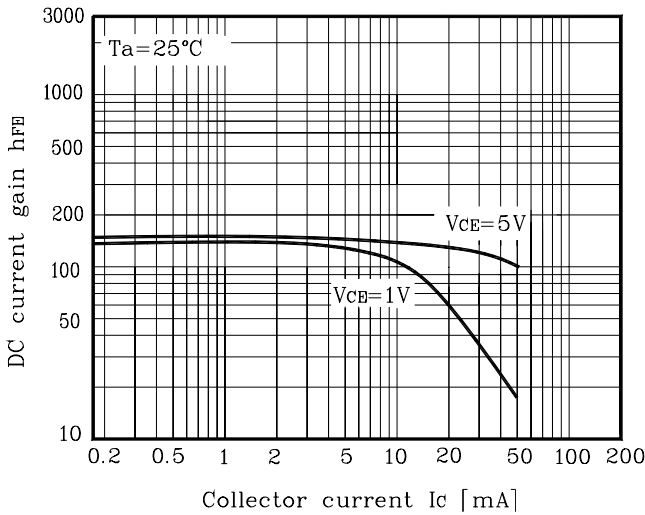


Fig. 4 $f_T - I_E$

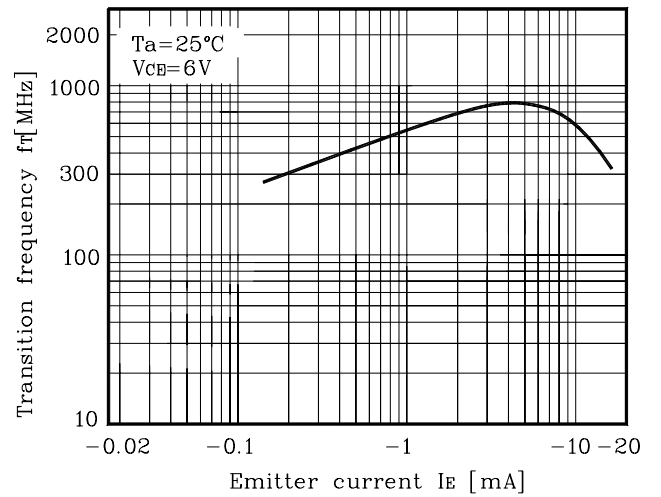


Fig. 5 $C_{ob} - V_{CB}, C_{ib} - V_{EB}$

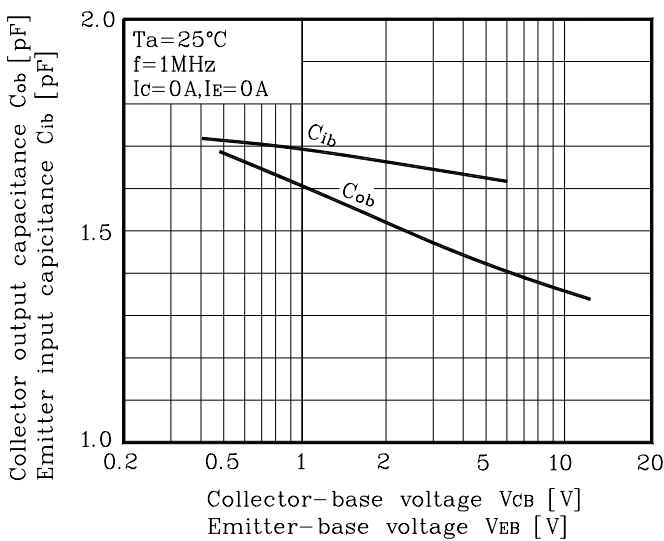
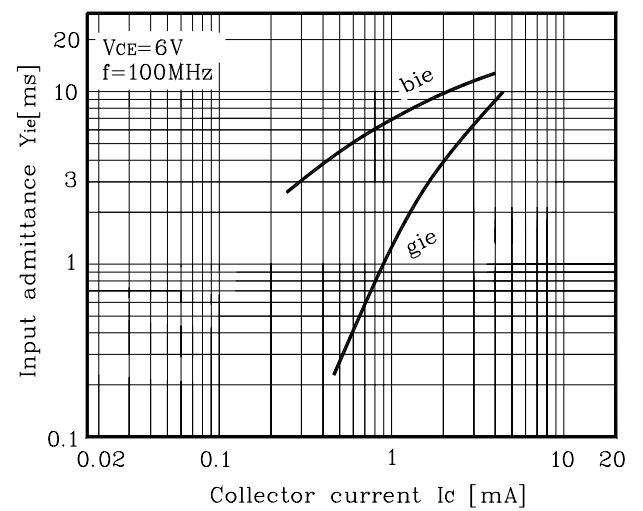


Fig. 6 $Y_{ie} - I_C$



Electrical Characteristic Curves

Fig. 7 I_C - Y_{oe}

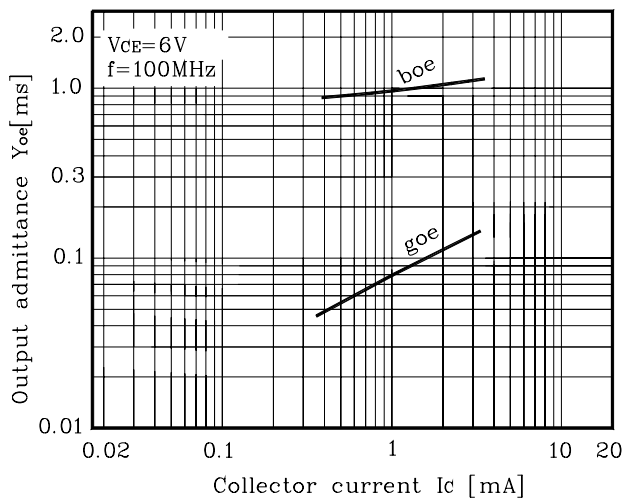


Fig. 8 I_C - Y_{fe}

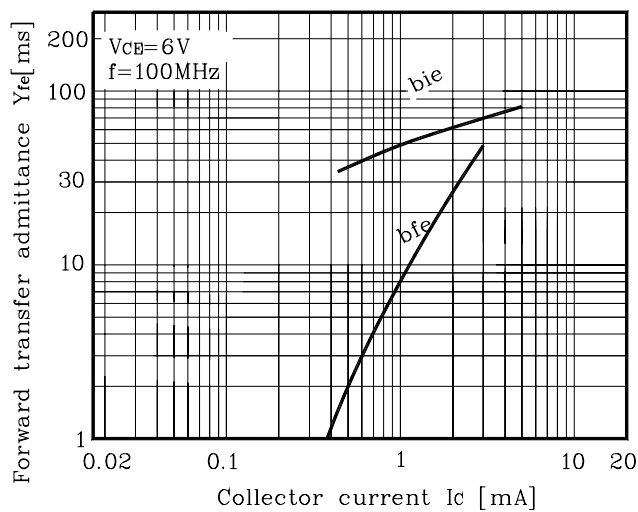
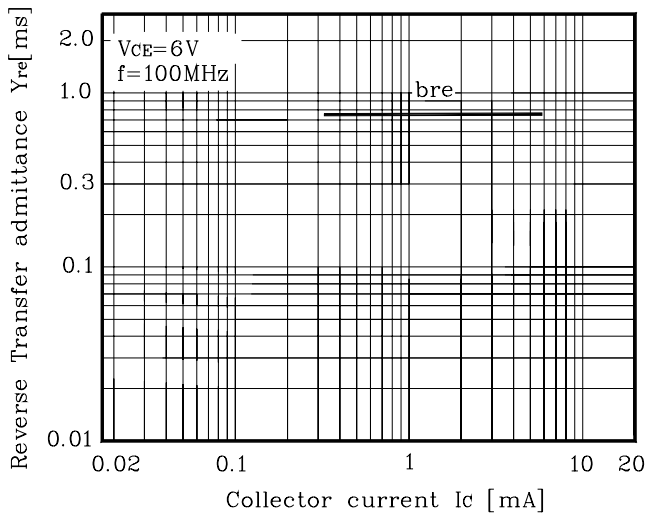
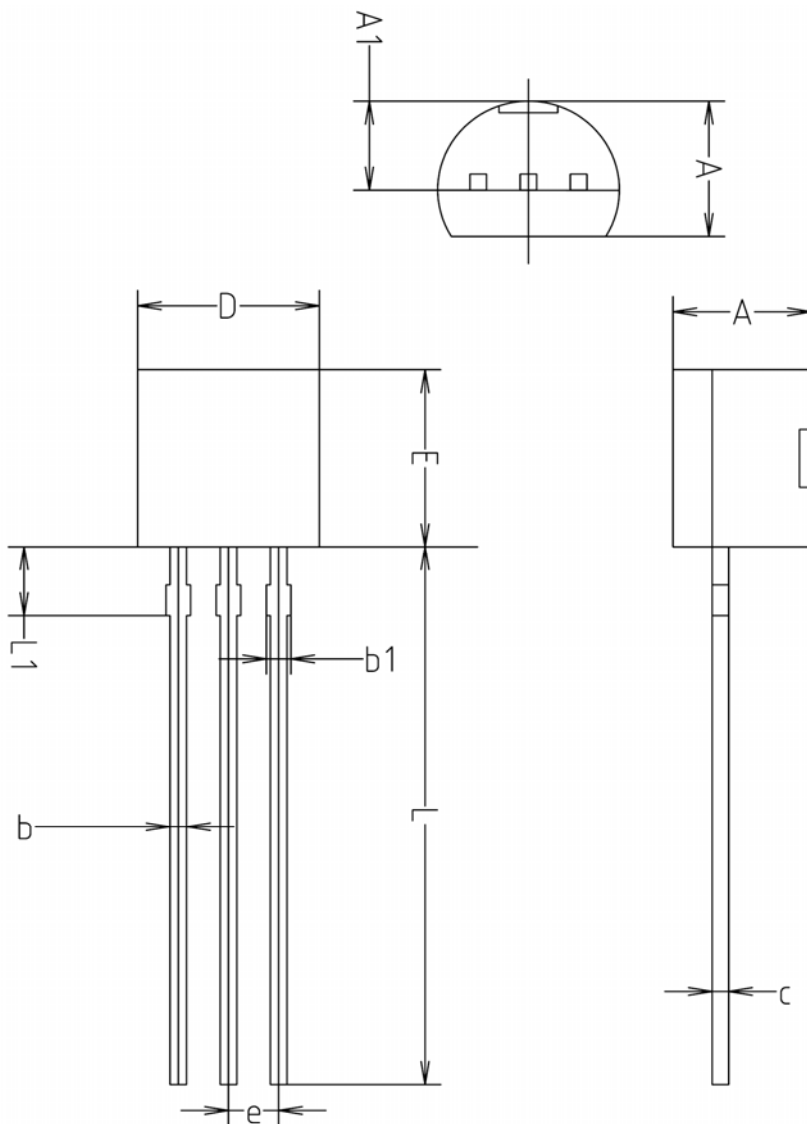


Fig. 9 I_C - Y_{re}



Outline Dimension



SYMBOL	MILLMETERS(mm)		
	MINIMUM	NOMINAL	MAXIMUM
A	3.40	3.50	3.66
A1	2.46	2.51	2.59
b	0.39	0.44	0.53
b1	0.39	—	0.63
c	0.35	0.42	0.47
D	4.48	4.60	4.70
E	4.48	4.60	4.70
e	1.17	1.27	1.37
L	13.70	14.00	14.77
L1	1.55	1.70	2.15

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