

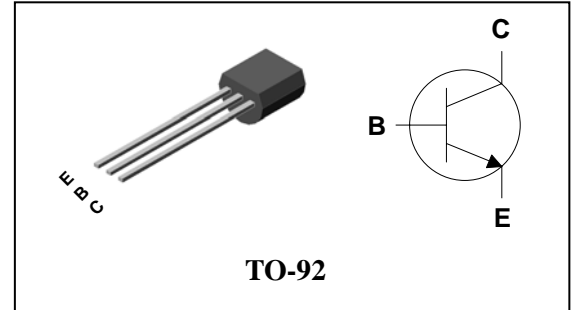
Description

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

Features

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

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 $P_C - T_a$

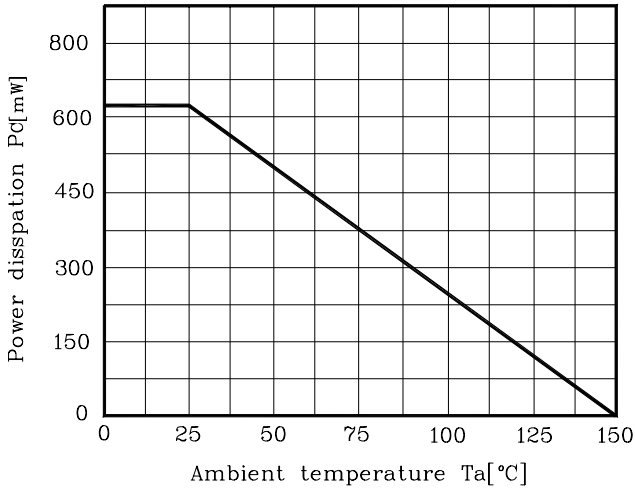


Fig. 2 $I_C - V_{CE}$

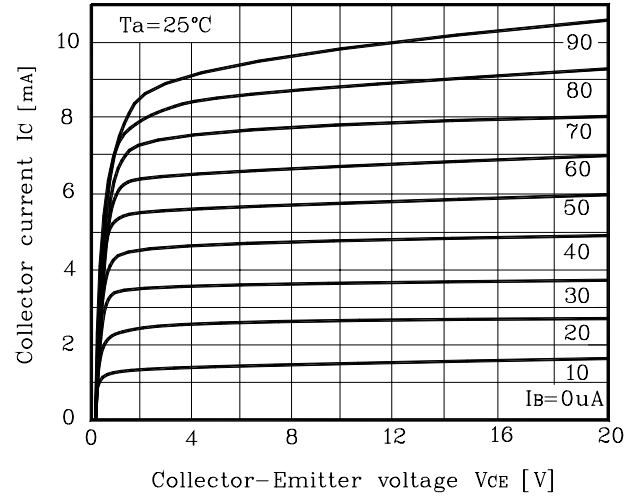


Fig. 3 $h_{FE} - I_C$

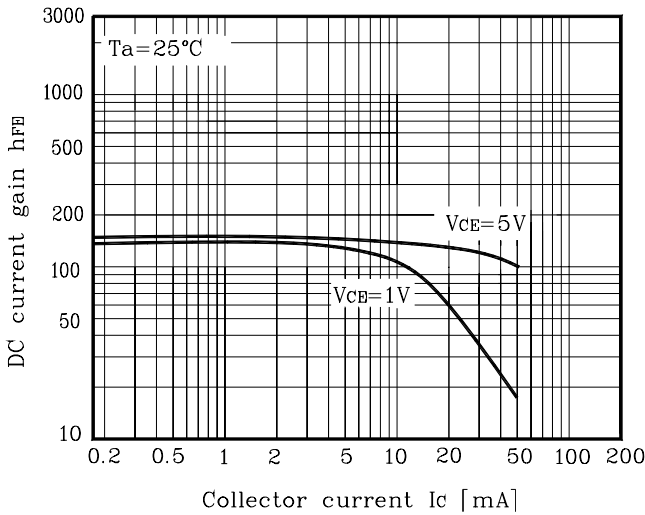


Fig. 4 $f_T - I_E$

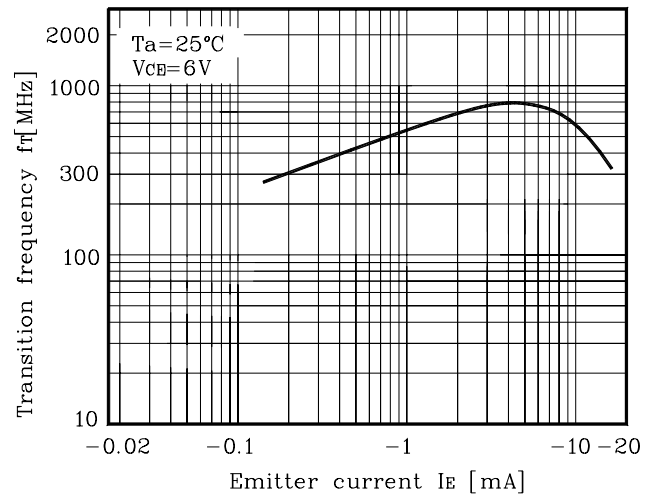


Fig. 5 $C_{ob} - V_{CB}, C_{ib} - V_{EB}$

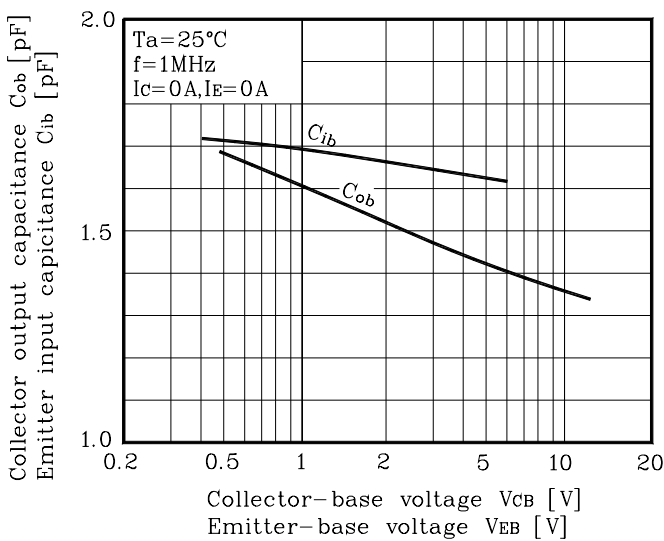
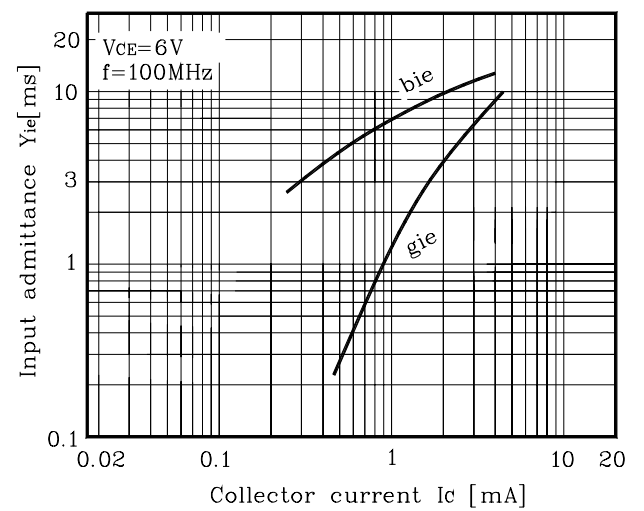


Fig. 6 $Y_{ie} - I_C$



Electrical Characteristic Curves

Fig. 7 I_C - Y_{oe}

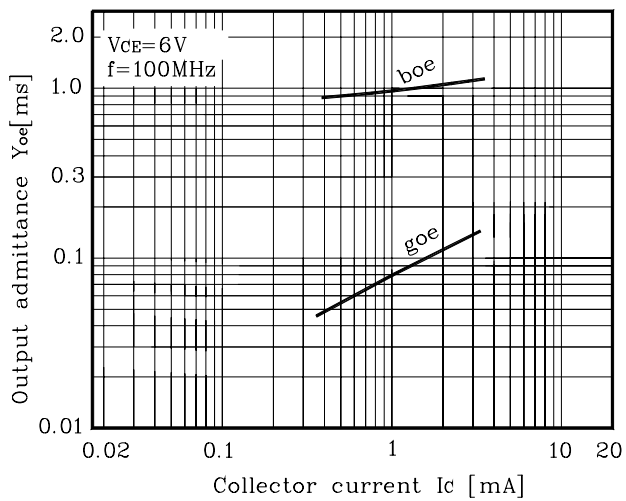


Fig. 8 I_C - Y_{fe}

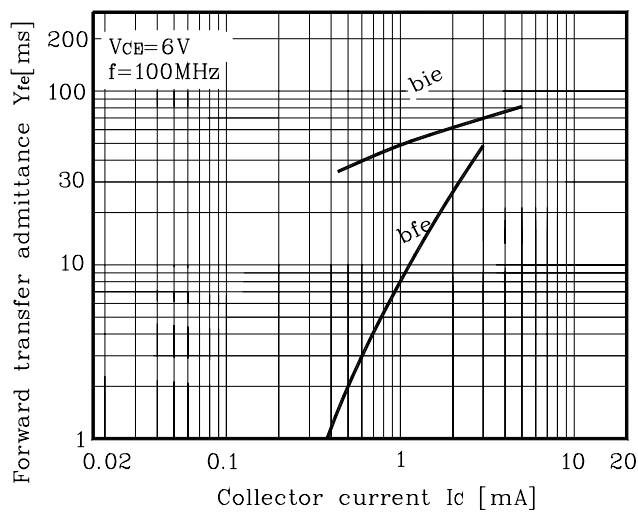
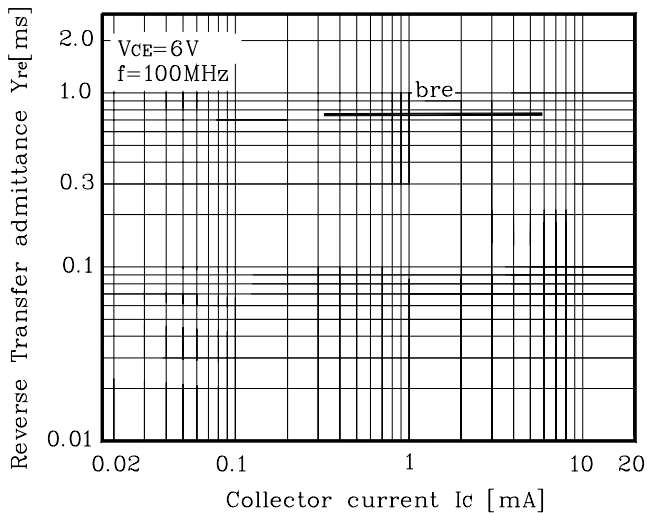
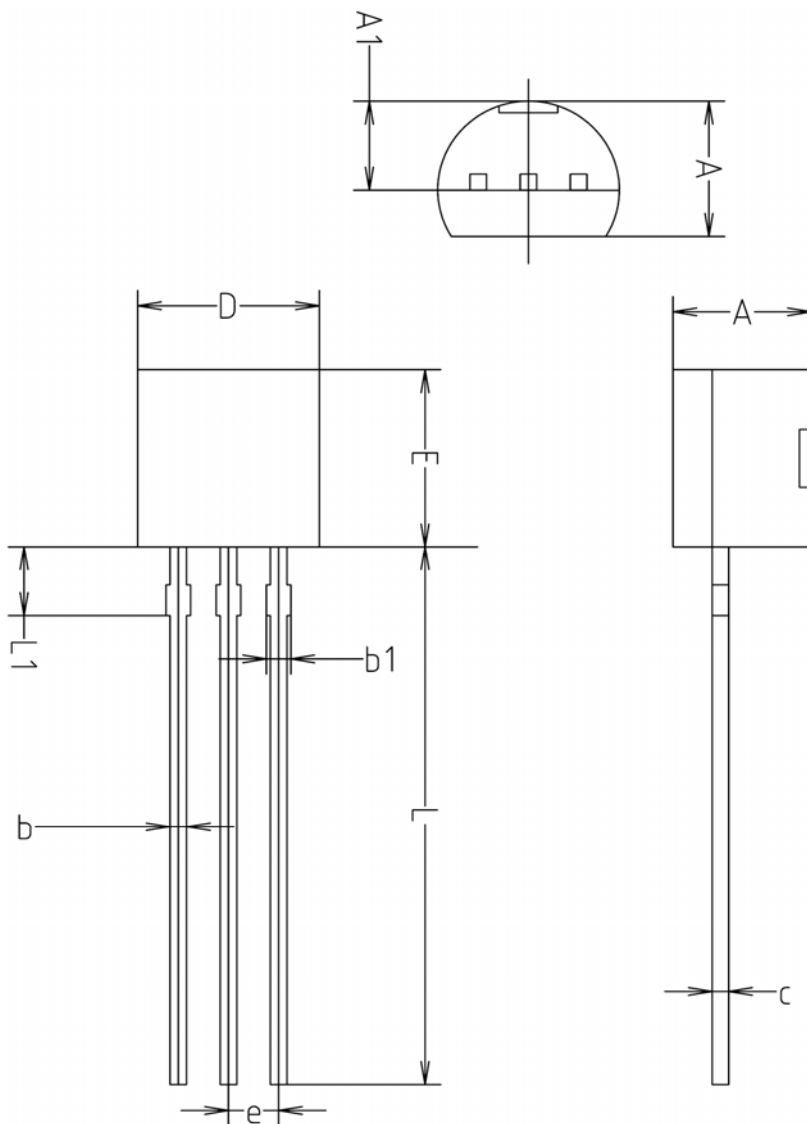


Fig. 9 I_C - Y_{re}



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

The AUK Corp. products are intended for the use as components in general electronic equipment (Office and communication equipment, measuring equipment, home appliance, etc.).

Please make sure that you consult with us before you use these AUK Corp. products in equipments which require high quality and / or reliability, and in equipments which could have major impact to the welfare of human life(atomic energy control, airplane, spaceship, transportation, combustion control, all types of safety device, etc.). AUK Corp. cannot accept liability to any damage which may occur in case these AUK Corp. products were used in the mentioned equipments without prior consultation with AUK Corp..

Specifications mentioned in this publication are subject to change without notice.