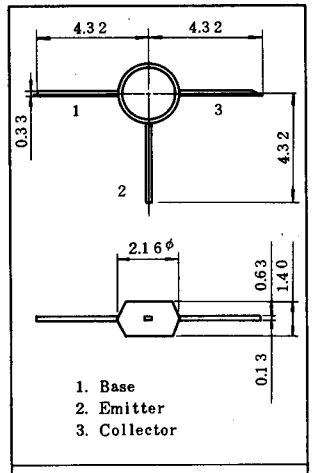
2SC2116

TENTATIVE

○ VHF～UHF 低雑音増幅用

○ VHF～UHF Low Noise Amplifier Application

- 小型外回器…… 2.2mmφ モールド形
- Mini-Package…… 2.2mmφ mold type



JEDEC	
EIAJ	
TOSHIBA	2-2B1A

最大定格 MAXIMUM RATINGS (T_a=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
コレクタベース間電圧	V_{CBO}	30	V
コレクタエミッタ間電圧	V_{CEO}	20	V
エミッタベース間電圧	V_{EBO}	3	V
コレクタ電流	I_C	50	mA
コレクタ損失	P_C	225	mW
接合部温度	T_j	125	℃
保存温度	T_{stg}	-65～125	℃

マイクロ波特性 MICROWAVE CHARACTERISTICS (T_a=25℃)

CHARACTERISTIC	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
ﾄﾗﾝｼﾞｼｮﾝ周波数	f_T	V_{CE}=10V I_C=5mA	—	3	—	GHz
挿入電力利得	$\|S_{21e}\|^2$(1)	V_{CE}=10V I_C=5mA f=500MHz	11.0	13.5	—	dB
	$\|S_{21e}\|^2$(2)	V_{CE}=10V I_C=5mA f=1GHz	—	8	—	dB
雑音指数	NF(1)	V_{CE}=10V I_C=5mA f=500MHz	—	2.5	3.5	dB
	NF(2)	V_{CE}=10V I_C=5mA f=1GHz	—	4	—	dB

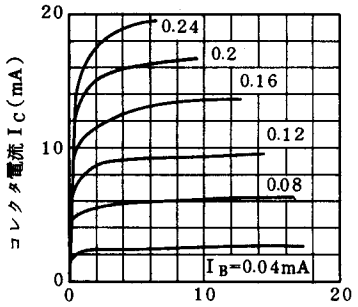
電気的特性 ELECTRICAL CHARACTERISTICS (T_a=25℃)

CHARACTERISTIC	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
コレクタしゃ断電流	I_{CBO}	V_{CB}=10V, I_E=0	—	—	1	μA
エミッタしゃ断電流	I_{EBO}	V_{EB}=2V, I_C=0	—	—	1	μA
直流電流増幅率	h_{FE}	V_{CE}=10V, I_C=10mA	30	80	300	—
コレクタ出力容量	C_{ob}	V_{CB}=10V, I_E=0 f=1MHz	—	1.2	1.5	pF
帰還容量	C_{re} Note 1		—	0.72	—	

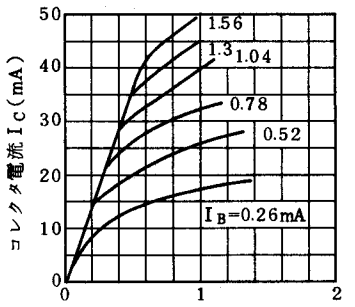
Note 1 ; Cre は Boonton Electronics Corp. 製 75D Direct Capacitance Bridge によって三端子法で測定。

Cre is Measured by 3 — Terminal Method with Boonton Electronics Corp. 75D Direct Capacitance Bridge.

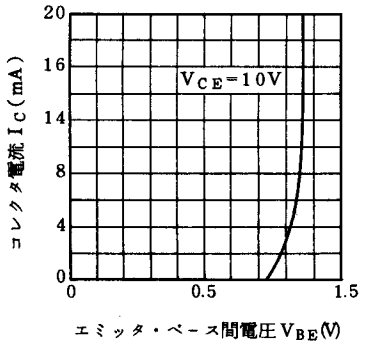
$I_C-V_{CE}(1)$



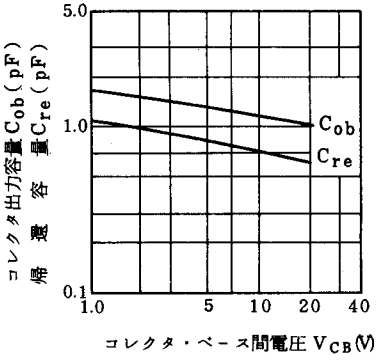
$I_C-V_{CE}(2)$



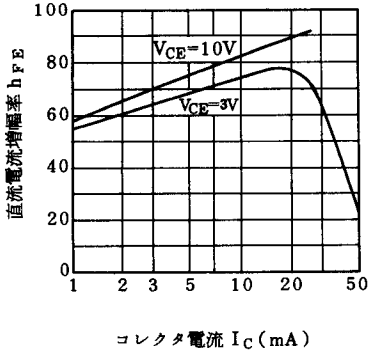
I_C-V_{BE}



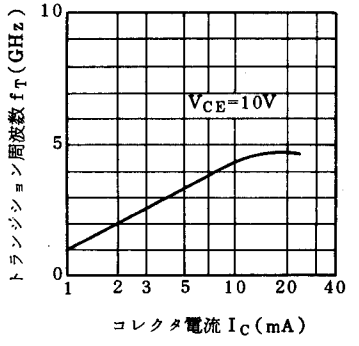
C_{ob}, $C_{re}-V_{CB}$



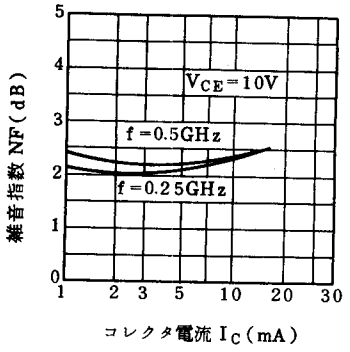
$h_{FE}-I_C$



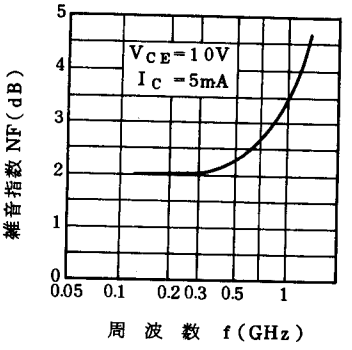
f_T-I_C



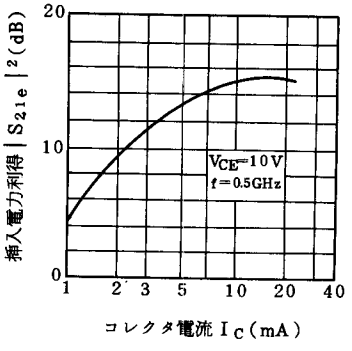
NF－I_C



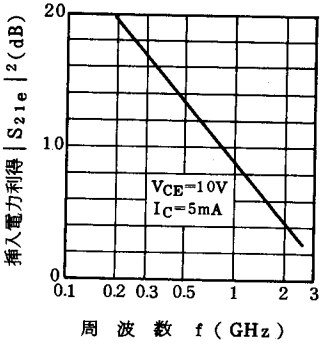
NF－f



$|S_{21e}|^2$－I_C



$|S_{21e}|^2$－f

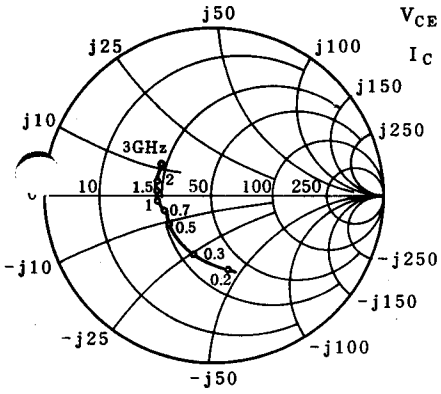


2SC2116のエミッタ接地，小信号Sパラメータ

COMMON EMITTER SMALL SIGNAL S-PARAMETERS OF 2SC2116

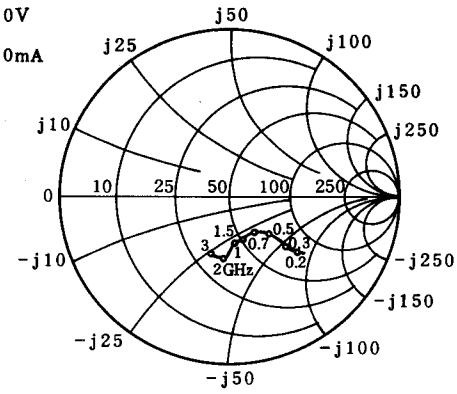
$V_{CE}=10V$

$I_C=10mA$



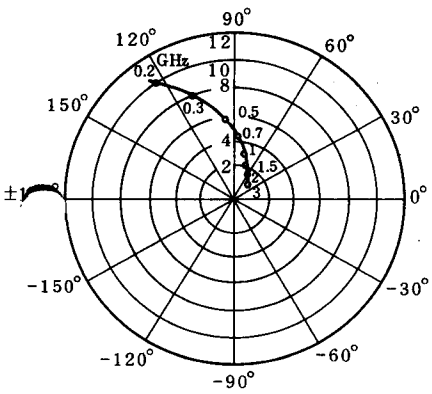
S_{11e}

(Unit in Ω)

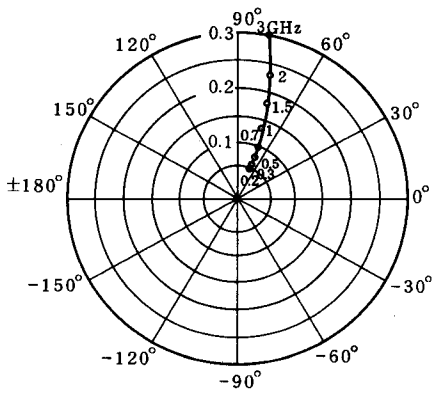


S_{22e}

(Unit in Ω)



S_{21e}



S_{12e}