9097250 TOSHIBA (DISCRETE/OPTO)
39C 00390 D T-31-17

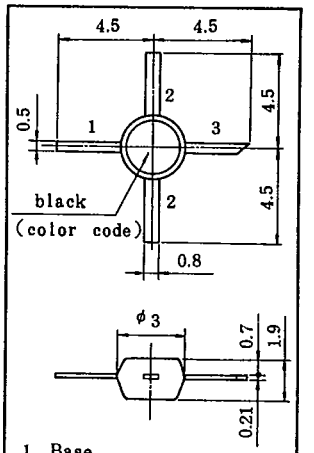
マイクロモールド

2SC2417

- ○ UHF～Cバンド低雑音増幅用
- ○ 超高速スイッチング用
- ○ UHF～C Band Low Noise Amplfier Applications
- ○ High Speed Switching Applications

- • f_T = 6.5GHz
- • Gpe = 9.5dB (f = 2GHz)

Unit in mm



1. Base
2. Emitter
3. Colleotor

JEDEC	
EIAJ	
TOSHIBA	

最大定格 MAXIMUM RATINGS (Ta = 25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
コレクタ・ベース間電圧	V_{CBO}	20	V
コレクタ エミッタ間電圧	V_{CEO}	10	V
エミッタ・ベース間電圧	V_{EBO}	2	V
コレクタ電流	I_C	30	mA
エミッタ電流	I_E	−30	mA
コレクタ損失(Ta=25℃)	P_C	250	mW
コレクタ損失(Tc=75℃)	P_C	250	mW
接合部温度	Tj	125	℃
保存温度	Tstg	−55～125	℃

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

CHARACTERISTIC	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
トランジション周波数	f_T	V_{CE} = 5V I_C = 10mA	—	6.5	—	GHz
電力利得	Gpe	V_{CE} = 5V I_C = 10mA, f = 2GHz	—	9.5	—	dB
雑音指数	NF	V_{CE} = 5V I_C = 5mA, f = 2GHz	—	4.0	—	dB
最大発振周波数	f_{max}	V_{CE} = 5V I_C = 10mA	—	10.0	—	GHz

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電気的特性 ELECTRICAL CHARACTERISTICS (Ta=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	—	—	1.0	μA
エミッタしゃ断電流	I_{EBO}	V_{EB}=1V, I_C=0	—	—	1.0	μA
直流電流増幅率	h_{FE}	V_{CE}=5V, I_C=10mA	30	120	—	—
コレクタ・エミッタ間飽和電圧	V_{CE} (sat)	I_C=10mA, I_B=1mA	—	0.20	—	V
ベース・エミッタ間飽和電圧	V_{BE} (sat)	I_C=10mA, I_B=1mA	—	0.87	—	V
コレクタ出力容量	Cob	V_{CB}=5V, I_E=0 f=1MHz	—	0.8	1.0	pF
帰還容量	Cre		—	0.5	—	pF
エミッタ入力容量	Cib	V_{EB}=0, I_C=0 f=1MHz	—	1.25	—	pF

Note :

Cre は Boonton, Electronics Corp. 製 750 Direct Capacitance Bridge によって三端子法で測定

Cre is measured by 3 Terminal Methed with Boonton Electronics Corp. 750 Direct Capacitance Bridge

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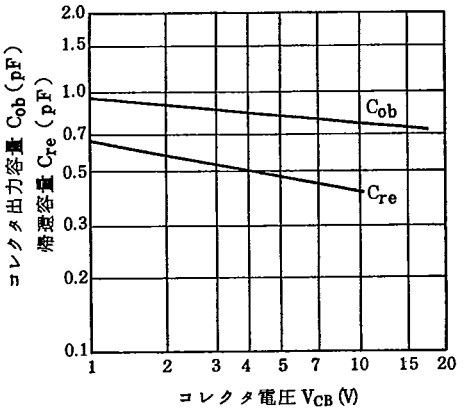
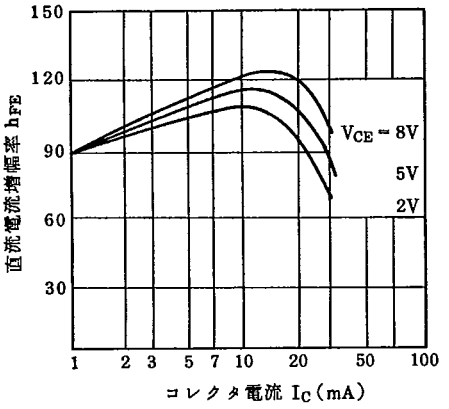
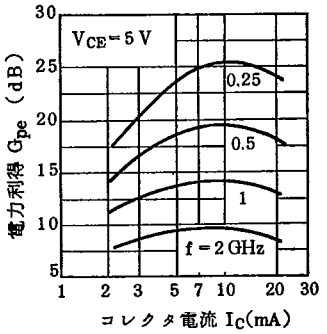
C_{ob}, C_{re} – V_{CB}



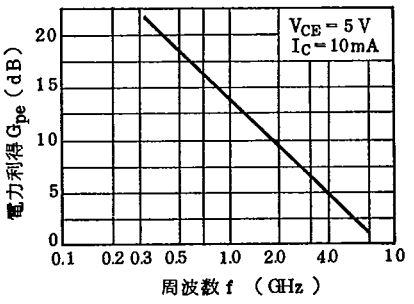
h_{FE} – I_C



G_{pe} – I_C



G_{pe} – f



2SC---2417-3X

9097250 TOSHIBA (DISCRETE/OPTO)
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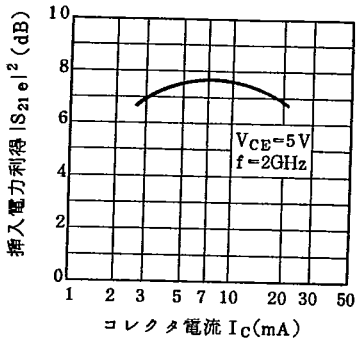
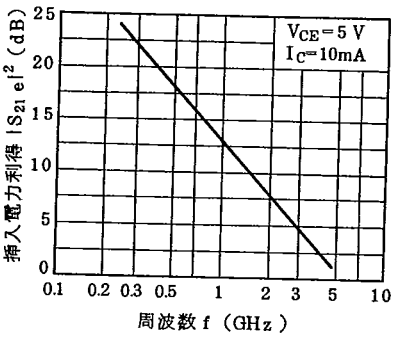
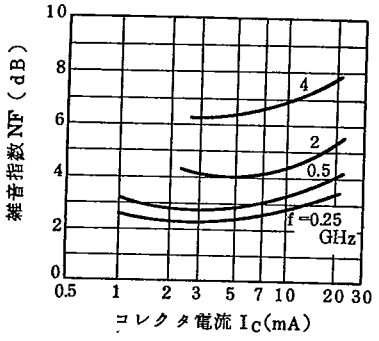
$|S_{21e}|^2 - I_C$



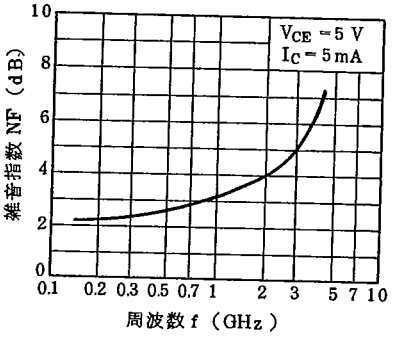
$|S_{21e}|^2 - f$



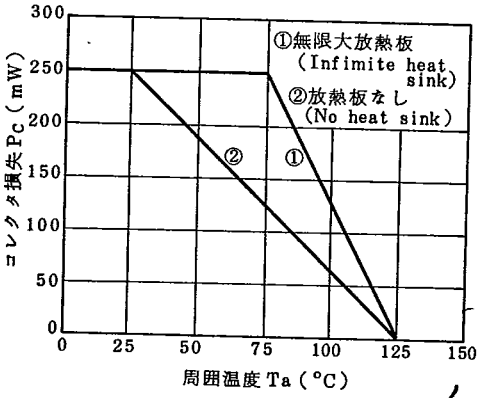
NF - I_C



NF - f



P_C - Ta



2SC---2417-4X

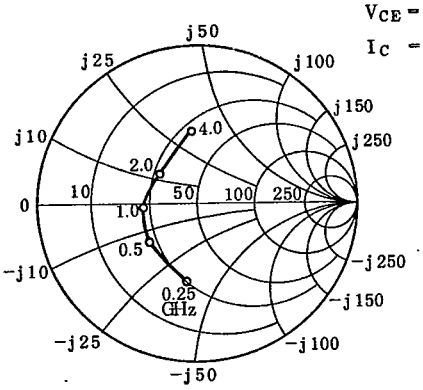
9097250 TOSHIBA (DISCRETE/OPTO)
39C 00394 D T-31-17

2SC2417

2SC2417のエミッタ接地，小信号Sパラメータ

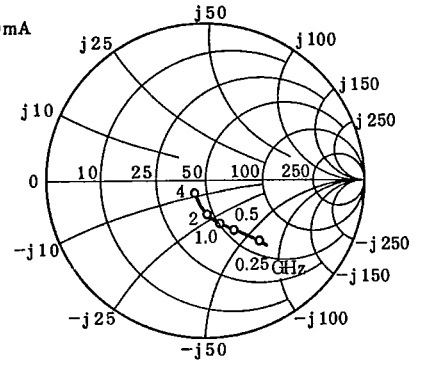
COMMON EMITTER SMALL SIGNAL S-PARAMETERS OF 2SC2417

V_{CE} = 5 V
I_C = 10mA



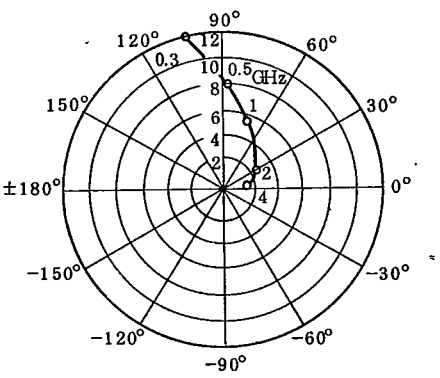
S_{11e}

(Unit in Ω)

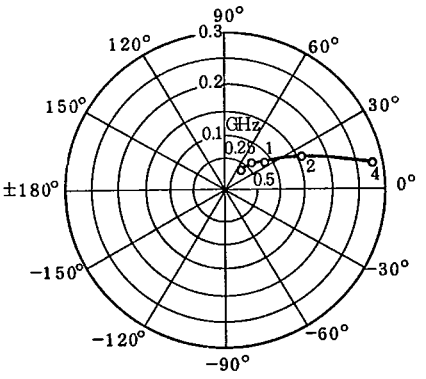


S_{22e}

(Unit in Ω)



S_{21e}



S_{12e}

2SC---2247-5X