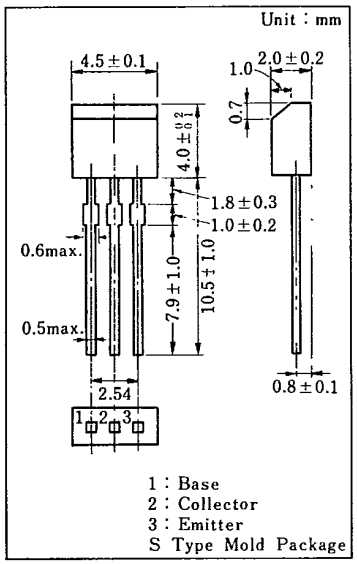
2SC2519

シリコン NPN エピタキシャルプレーナ形／Si NPN Epitaxial Planar

高周波増幅用／RF Amplifier



■ 特　徴／Features

- FM／AM ラジオの RF 増幅，発振，混合，IF に最適です。／
  Suitable for RF amp., OSC, mix. and IF amp. in FM／AM radios.

■ 絶対最大定格／Absolute Maximum Ratings (Ta＝25 ℃)

Item	Symbol	Value	Unit
コレクタ・ベース電圧	V_{CBO}	30	V
コレクタ・エミッタ電圧	V_{CEO}	20	V
エミッタ・ベース電圧	V_{EBO}	5	V
コレクタ電流	I_C	30	mA
コレクタ損失	P_C	250	mW
接合部温度	T_j	125	℃
保存温度	T_{stg}	−55～＋125	℃

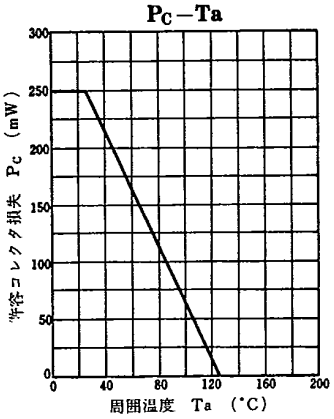
■ 電気的特性／Electrical Characteristics (Ta＝25 ℃)

Item	Symbol	Condition	min.	typ.	max.	Unit
コレクタ・ベース電圧	V_{CBO}	I_C＝10 μA, I_E＝0	30			V
コレクタ・エミッタ電圧	V_{CEO}	I_C＝2 mA, I_B＝0	20			V
エミッタ・ベース電圧	V_{EBO}	I_E＝10 μA, I_C＝0	5			V
直流電流増幅率	h_{FE}*	V_{CB}＝10 V, $-I_E$＝1 mA	70		250	
トランジション周波数	f_T	V_{CB}＝10 V, $-I_E$＝1 mA	150	230		MHz
コレクタ帰還容量	C_{re}	V_{CB}＝10V, $-I_E$＝1mA, f＝10.7MHz		1.3	1.6	pF
帰還インピーダンス	$\|Z_{rb}\|$	V_{CB}＝10 V, $-I_E$＝1 mA			60	Ω

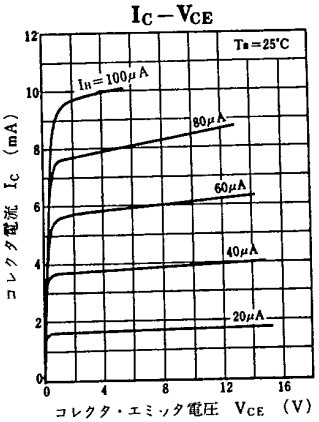
* h_{FE} ランク分類／h_{FE} Classifications

Class	B	C
h_{FE}	70～160	110～250

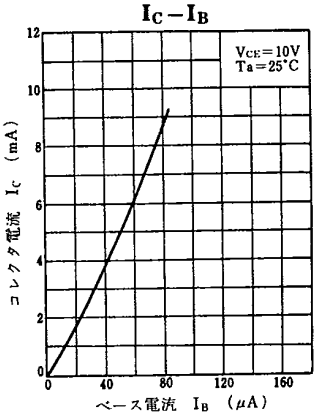
P_C-T_a



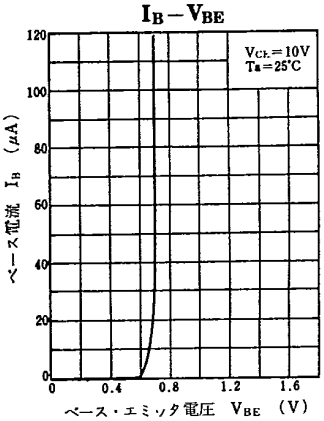
I_C-V_{CE}



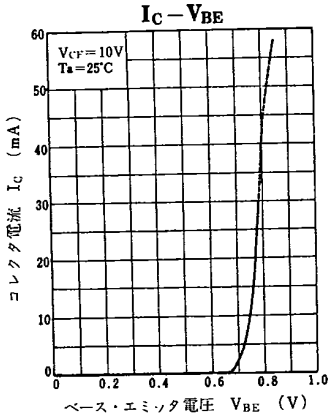
I_C-I_B



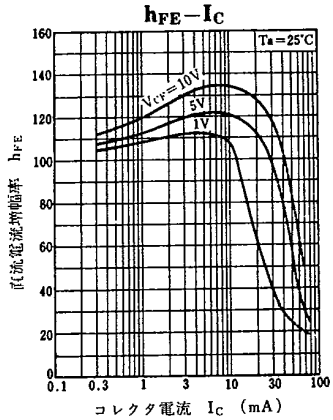
I_B-V_{BE}



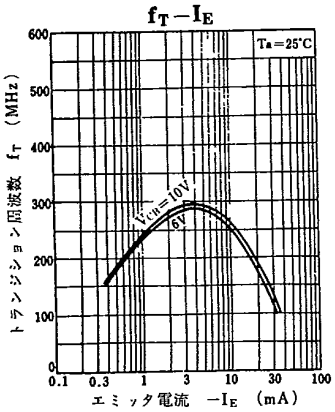
I_C-V_{BE}



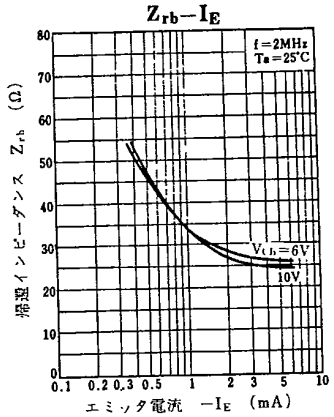
$h_{FE}-I_C$



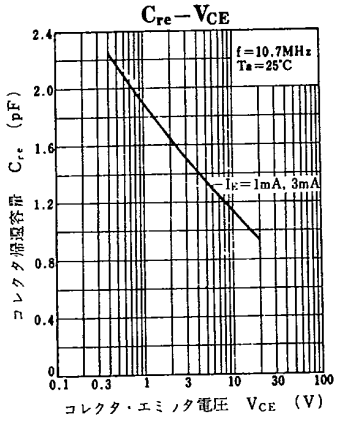
f_T-I_E

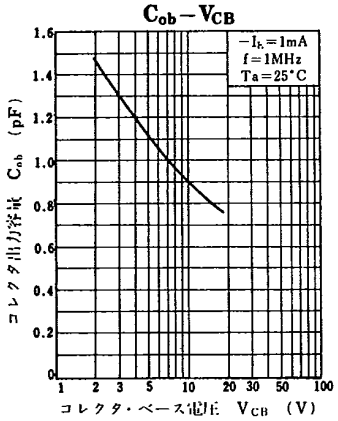


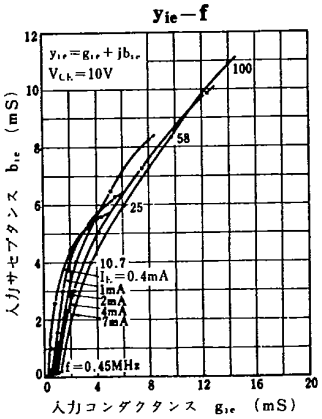
$Z_{rb}-I_E$

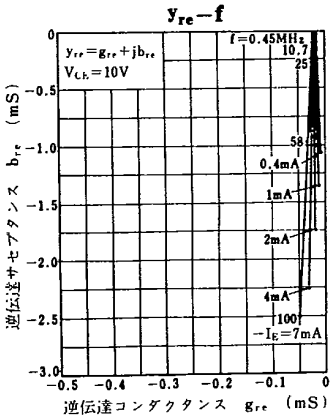


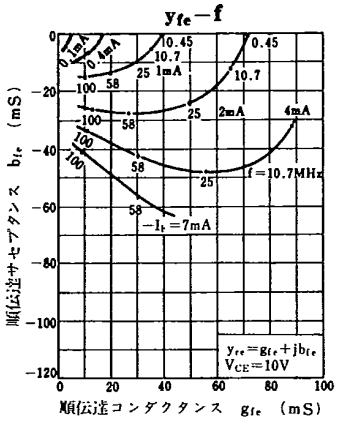
$C_{re}-V_{CE}$

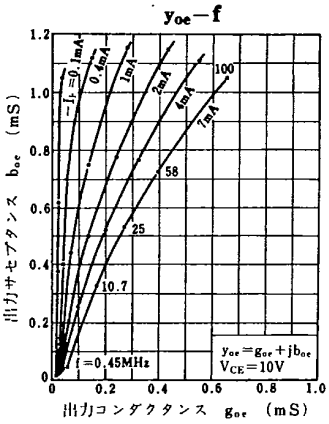



$C_{ob}-V_{CB}$
$-I_E=1mA$
f=1MHz
Ta=25°C
コレクタ出力容量 C_{ob} (pF)
コレクタ・ベース電圧 V_{CB} (V)


$y_{ie}-f$
$y_{ie}=g_{ie}+jb_{ie}$
$V_{CE}=10V$
入力サセプタンス b_{ie} (mS)
入力コンダクタンス g_{ie} (mS)
$I_E=0.4mA$
1mA
2mA
4mA
7mA
f=0.45MHz


$y_{re}-f$
$y_{re}=g_{re}+jb_{re}$
$V_{CE}=10V$
f=0.45MHz
逆伝達サセプタンス b_{re} (mS)
逆伝達コンダクタンス g_{re} (mS)
0.4mA
1mA
2mA
4mA
$-I_E=7mA$

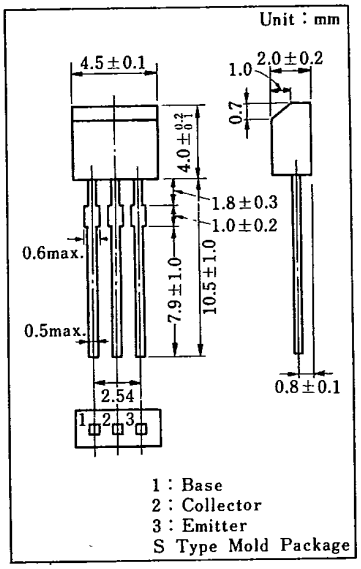

$y_{fe}-f$
$y_{fe}=g_{fe}+jb_{fe}$
$V_{CE}=10V$
順伝達サセプタンス b_{fe} (mS)
順伝達コンダクタンス g_{fe} (mS)
f=10.7MHz
$-I_E=7mA$


$y_{oe}-f$
$y_{oe}=g_{oe}+jb_{oe}$
$V_{CE}=10V$
出力サセプタンス b_{oe} (mS)
出力コンダクタンス g_{oe} (mS)
f=0.45MHz

2SC2561

シリコン NPN エピタキシャルプレーナ形／Si NPN Epitaxial Planar

高周波増幅用／RF Amplifier



■ 特　徴／Features

- FM／AM ラジオの RF 増幅に最適です。／Suitable for RF Amplifier in FM/AM radios
- トランジション周波数 f_T が高い。／High f_T

■ 絶対最大定格／Absolute Maximum Ratings (Ta=25 ℃)

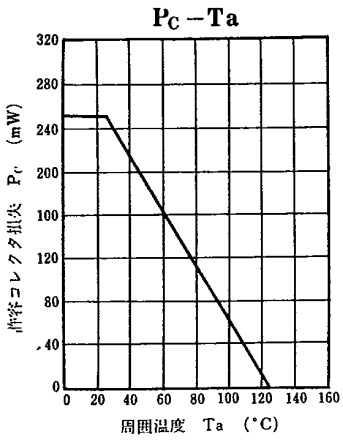
Item	Symbol	Value	Unit
コレクタ・ベース電圧	V_{CBO}	30	V
コレクタ・エミッタ電圧	V_{CEO}	20	V
エミッタ・ベース電圧	V_{EBO}	5	V
コレクタ電流	I_C	30	mA
コレクタ損失	P_C	250	mW
接合部温度	T_j	125	℃
保存温度	T_{stg}	−55～+125	℃

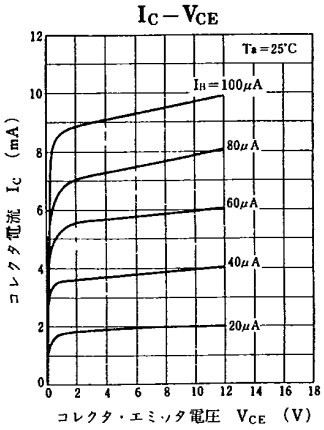
■ 電気的特性／Electrical Characteristics (Ta=25 ℃)

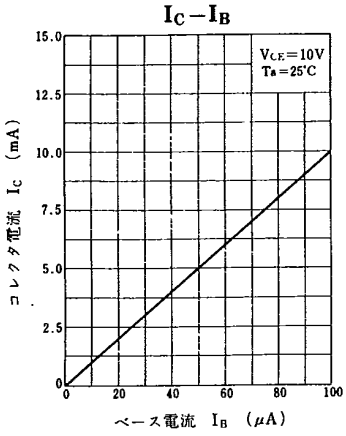
Item	Symbol	Condition	min.	typ.	max.	Unit
コレクタしゃ断電流	I_{CBO}	V_{CB}=10 V, I_E=0			0.1	μA
直流電流増幅率	h_{FE}*	V_{CB}=10 V, I_C=1 mA	50		220	
トランジション周波数	f_T	V_{CB}=10 V, I_C=1 mA	150	250		MHz
雑音指数	NF	V_{CB}=10 V, $-I_E$=1 mA, f=5 MHz		2.8	4	dB
帰還容量	C_{re}	V_{CB}=10V, $-I_E$=1mA, f=10.7MHz		0.9	1.5	pF
帰還インピーダンス	Z_{rb}	V_{CB}=10 V, $-I_E$=1 mA, f=2 MHz		22	50	Ω

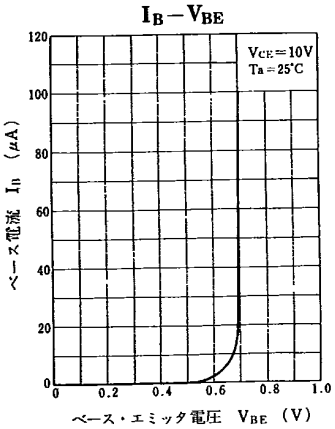
* h_{FE} ランク分類／h_{FE} Classifications

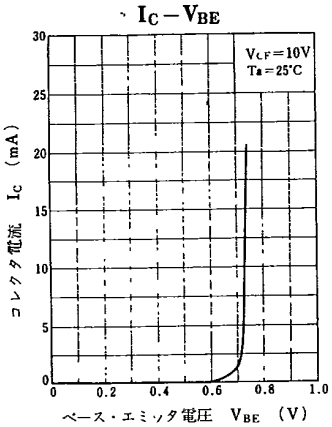
Class	A	B	C
h_{FE}	50～100	70～140	110～220

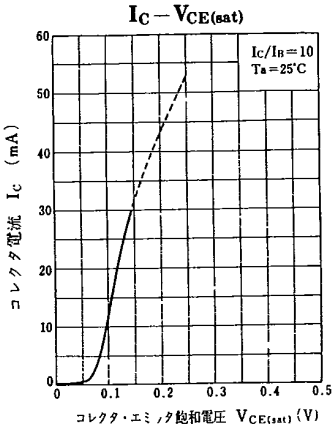

Pc－Ta
許容コレクタ損失 Pc (mW)
周囲温度 Ta (°C)

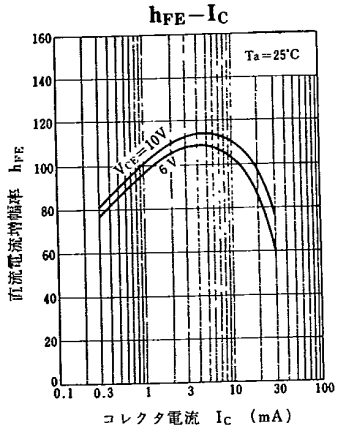

Ic－VCE
Ta=25°C
IB=100μA
80μA
60μA
40μA
20μA
コレクタ電流 Ic (mA)
コレクタ・エミッタ電圧 VCE (V)

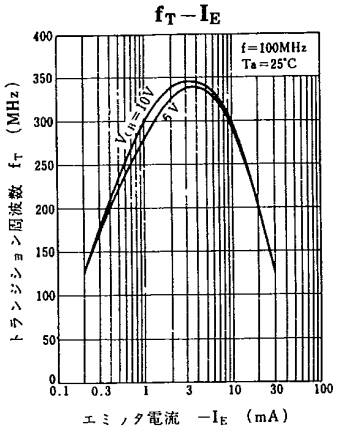

Ic－IB
VCE=10V
Ta=25°C
コレクタ電流 Ic (mA)
ベース電流 IB (μA)

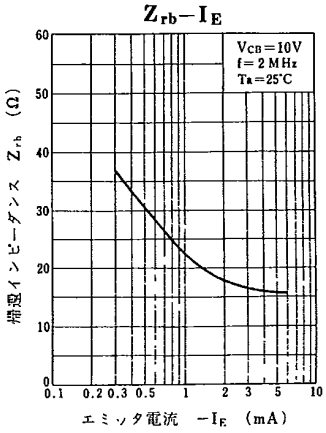

IB－VBE
VCE=10V
Ta=25°C
ベース電流 IB (μA)
ベース・エミッタ電圧 VBE (V)


Ic－VBE
VCE=10V
Ta=25°C
コレクタ電流 Ic (mA)
ベース・エミッタ電圧 VBE (V)

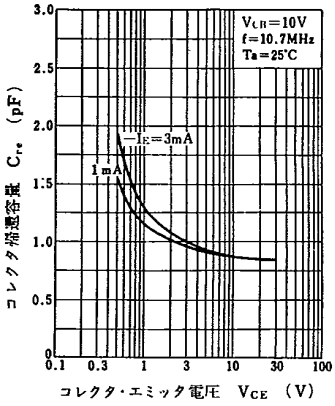

Ic－VCE(sat)
Ic/IB=10
Ta=25°C
コレクタ電流 Ic (mA)
コレクタ・エミッタ飽和電圧 VCE(sat) (V)


hFE－Ic
Ta=25°C
VCE=10V
6V
直流電流増幅率 hFE
コレクタ電流 Ic (mA)

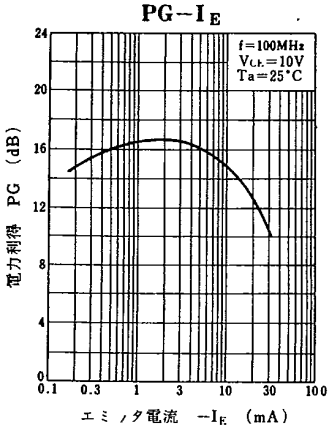

fT－IE
f=100MHz
Ta=25°C
VCB=10V
6V
トランジション周波数 fT (MHz)
エミッタ電流 −IE (mA)


Zrb－IE
VCB=10V
f=2MHz
Ta=25°C
帰還インピーダンス Zrb (Ω)
エミッタ電流 −IE (mA)

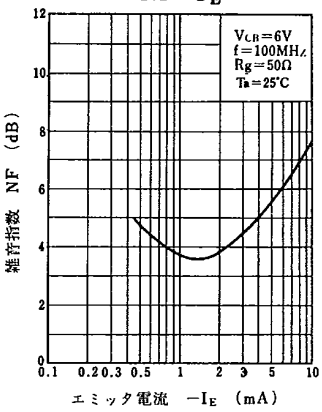
$C_{re}-V_{CE}$



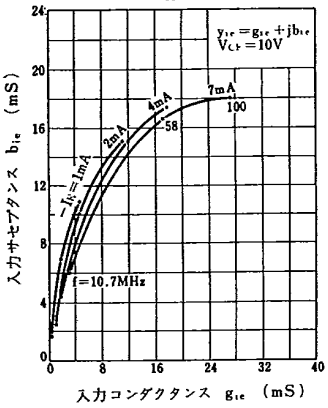
$PG-I_E$



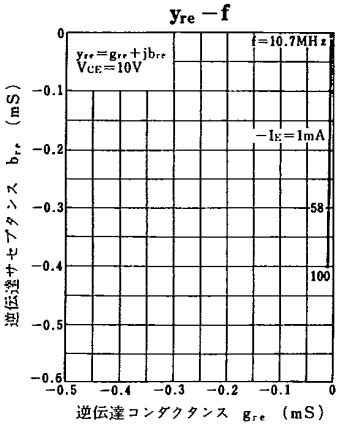
$NF-I_E$



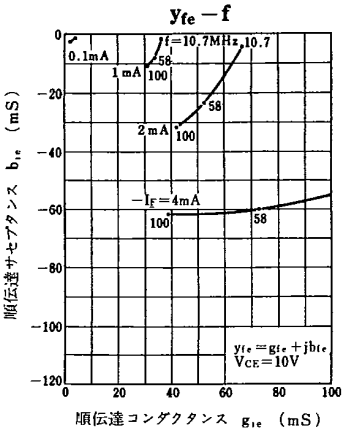
$y_{ie}-f$



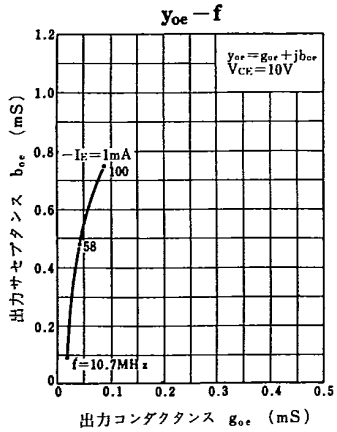
$y_{re}-f$



$y_{fe}-f$



$y_{oe}-f$



This datasheet has been downloaded from:

www.DatasheetCatalog.com

Datasheets for electronic components.