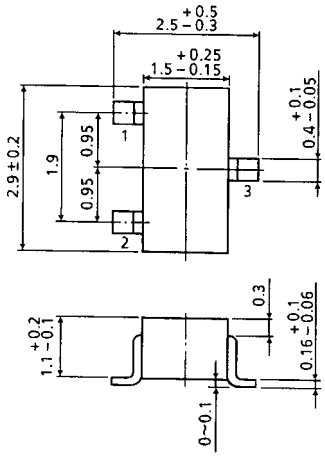
TOSHIBA Transistor Silicon NPN Epitaxial Planar Type

2SC3547B

TV Tuner, UHF Oscillator Applications
(common collector)

- Transition frequency is high and dependent on current excellently.

Unit: mm



JEDEC	—
JEITA	—
TOSHIBA	2-3F1A

Weight: 0.012 g (typ.)

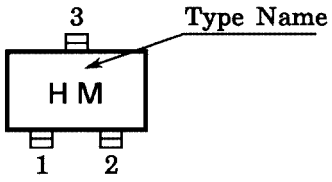
Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	20	V
Collector-emitter voltage	V_{CEO}	12	V
Emitter-base voltage	V_{EBO}	3	V
Base current	I_B	15	mA
Collector current	I_C	30	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	−55~125	°C

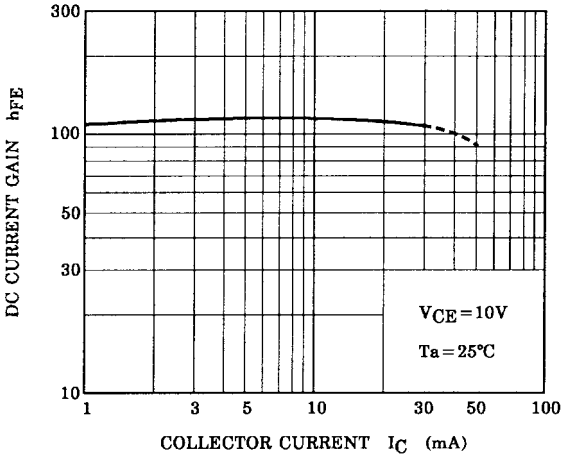
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = 10 V, I_E = 0	—	—	0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 1 V, I_C = 0	—	—	1.0	μA
Collector-emitter breakdown voltage	$V_{(BR)\ CEO}$	I_C = 1 mA, I_B = 0	12	—	—	V
DC current gain	h_{FE}	V_{CE} = 10 V, I_C = 5 mA	70	—	300	
Transition frequency	f_T	V_{CE} = 10 V, I_C = 10 mA	3	4	—	GHz
Output capacitance	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz	—	1.05	1.35	pF
Collector-base time constant	C_c.rbb'	V_{CB} = 10 V, I_C = 5 mA, f = 30 MHz	—	4.5	9	ps

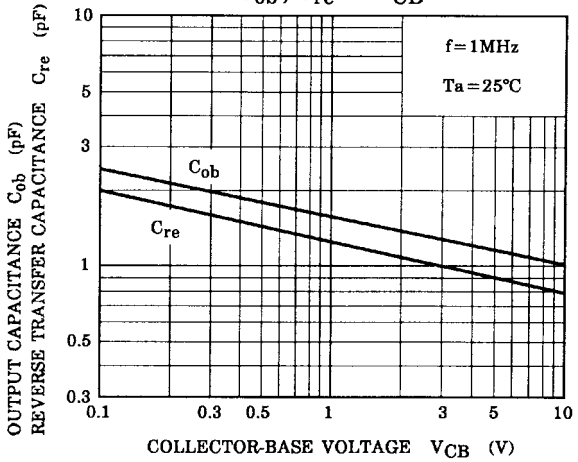
Marking



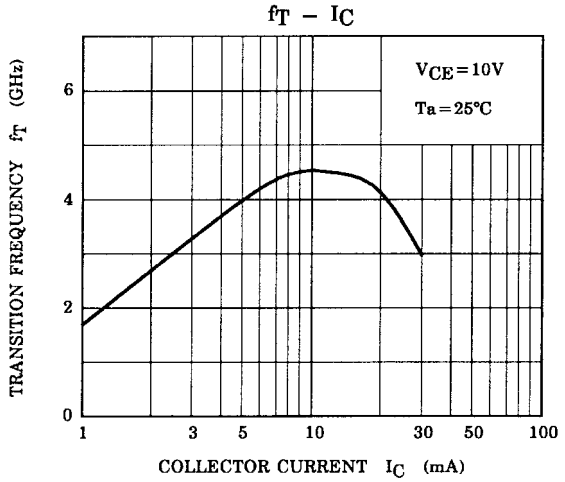
h_{FE} – I_C



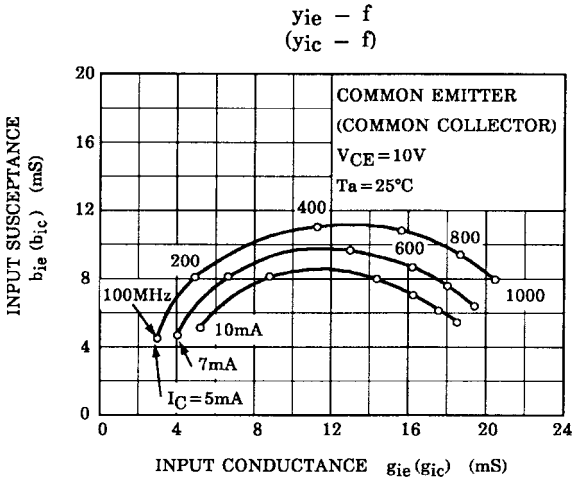
C_{ob}, C_{re} – V_{CB}



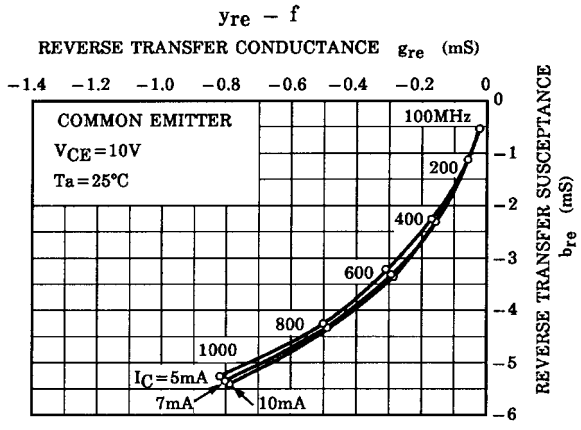
f_T – I_C



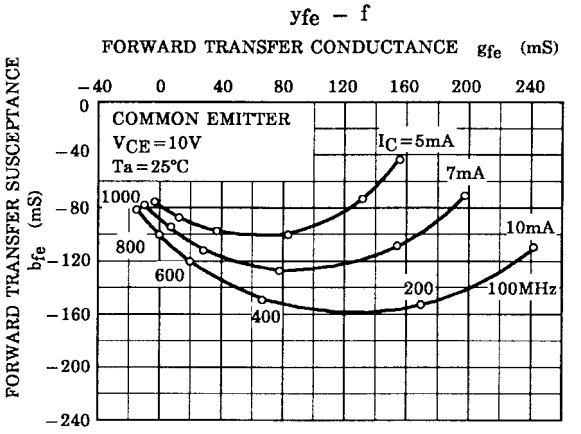
y_{ie} – f
(y_{ic} – f)

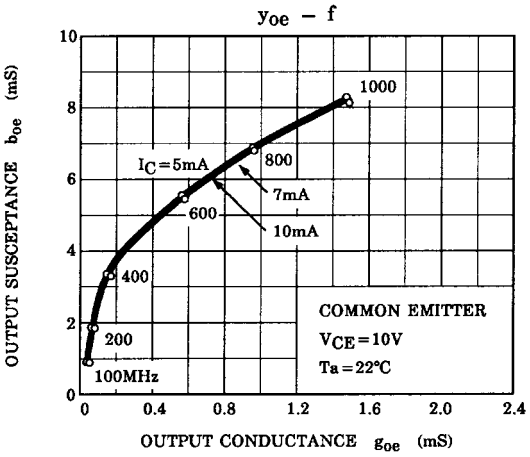


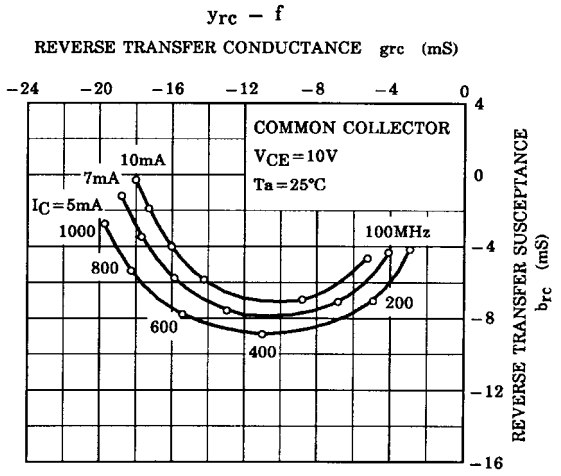
y_{re} – f

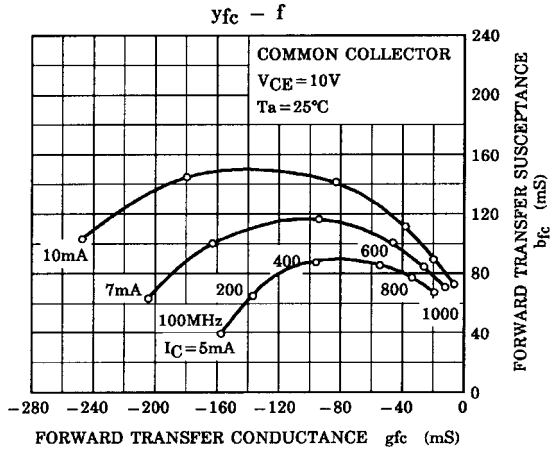


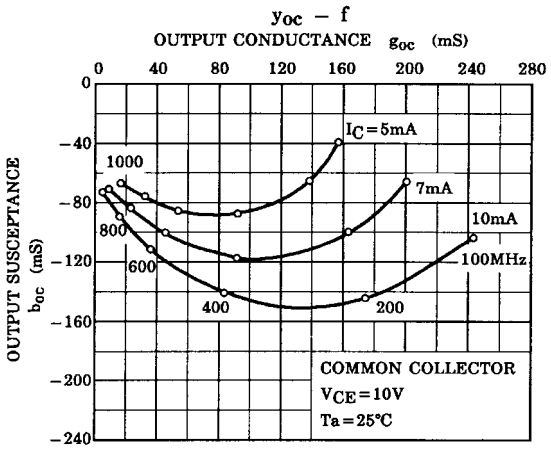
y_{fe} – f




yoe – f
OUTPUT SUSCEPTANCE boe (mS)
OUTPUT CONDUCTANCE goe (mS)
COMMON EMITTER
VCE=10V
Ta=22°C
IC=5mA
7mA
10mA
100MHz
200
400
600
800
1000


yrc – f
REVERSE TRANSFER CONDUCTANCE grc (mS)
REVERSE TRANSFER SUSCEPTANCE brc (mS)
COMMON COLLECTOR
VCE=10V
Ta=25°C
10mA
7mA
IC=5mA
1000
800
600
400
200
100MHz


yfc – f
FORWARD TRANSFER SUSCEPTANCE bfc (mS)
FORWARD TRANSFER CONDUCTANCE gfc (mS)
COMMON COLLECTOR
VCE=10V
Ta=25°C
10mA
7mA
100MHz
IC=5mA
200
400
600
800
1000


yoc – f
OUTPUT CONDUCTANCE goc (mS)
OUTPUT SUSCEPTANCE boc (mS)
COMMON COLLECTOR
VCE=10V
Ta=25°C
IC=5mA
7mA
10mA
100MHz
1000
800
600
400
200

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