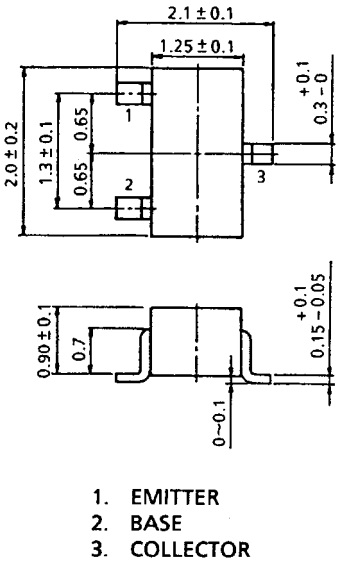
TOSHIBA Transistor Silicon NPN Epitaxial Planar Type

2SC4527

TV Tuner, UHF Oscillator Applications (common base)
TV Tuner, UHF Converter Applications (common base)

- Transition frequency is high and dependent on current excellently.
- Exchange of emitter for base in 2SC4246.

Unit: mm



JEDEC	—
JEITA	SC-70
TOSHIBA	2-2E1D

Weight: 0.006 g (typ.)

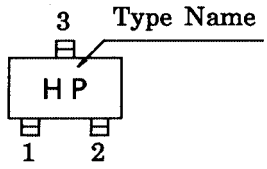
Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	30	V
Collector-emitter voltage	V_{CEO}	15	V
Emitter-base voltage	V_{EBO}	3	V
Base current	I_B	25	mA
Collector current	I_C	50	mA
Collector power dissipation	P_C	100	mW
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	−55~125	°C

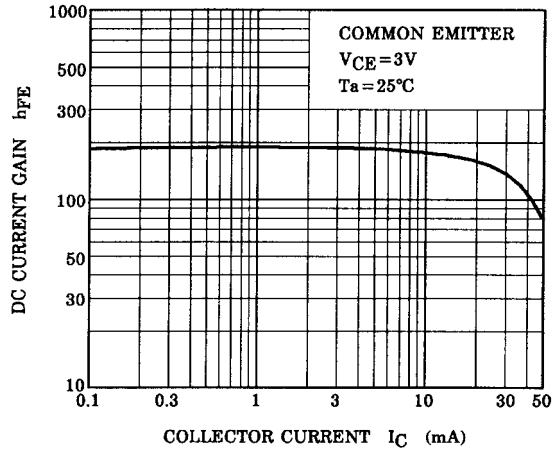
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = 15 V, I_E = 0	—	—	0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 3 V, I_C = 0	—	—	1.0	μA
Collector-emitter breakdown voltage	$V_{(BR)\ CEO}$	I_C = 1 mA, I_B = 0	15	—	—	V
DC current gain	h_{FE}	V_{CE} = 3 V, I_C = 8 mA	60	150	320	
Transition frequency	f_T	V_{CE} = 10 V, I_C = 8 mA	1100	1500	—	MHz
Collector output capacitance	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz	—	0.9	1.3	pF
Collector-base time constant	C_c.rbb'	V_{CB} = 10 V, I_C = 8 mA, f = 30 MHz	—	7	12	ps

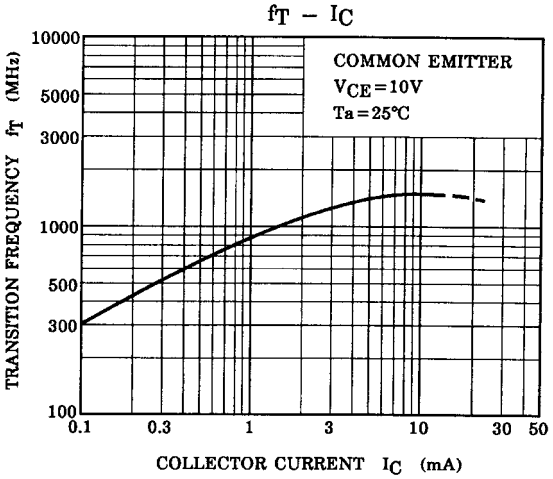
Marking



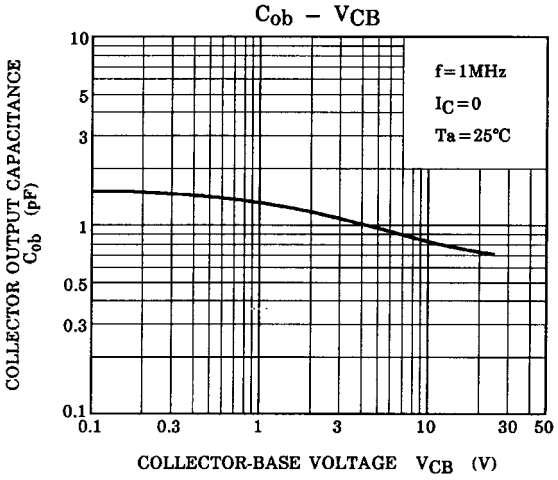
h_{FE} – I_C



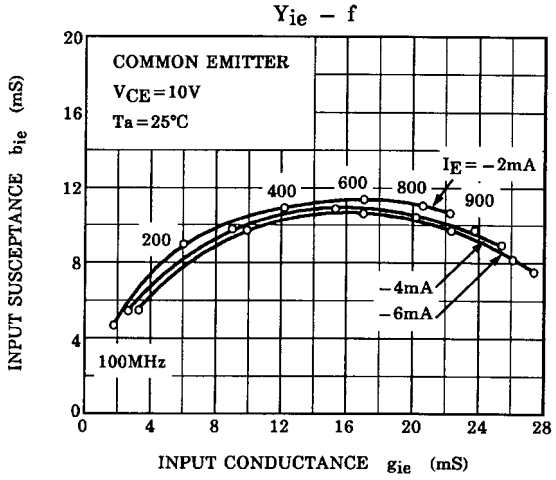
f_T – I_C



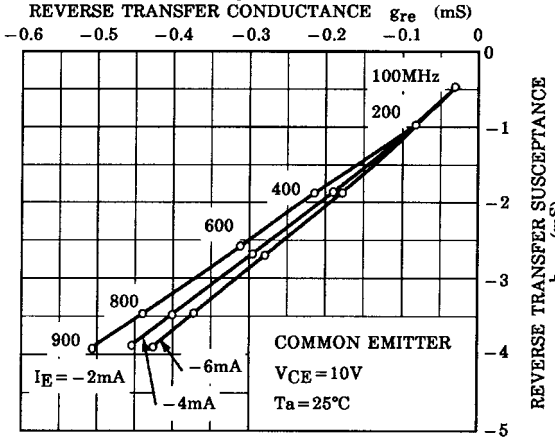
C_{ob} – V_{CB}



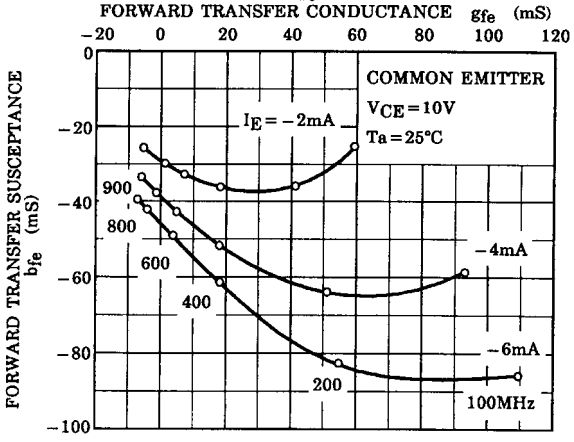
Y_{ie} – f

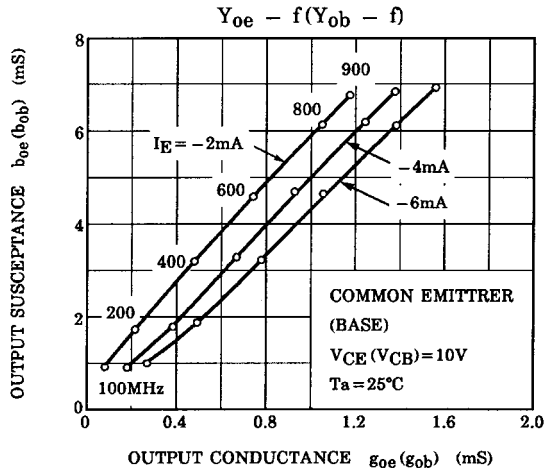


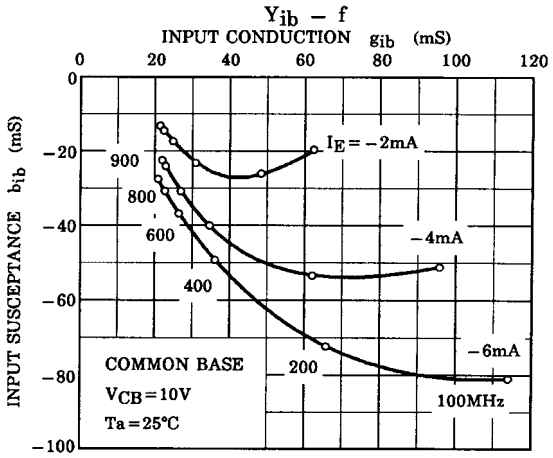
Y_{re} – f

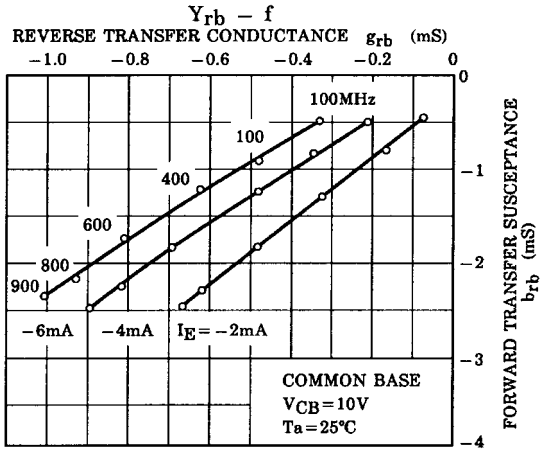


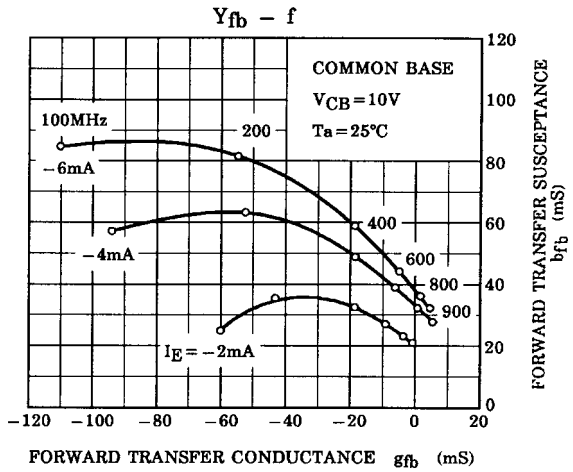
Y_{fe} – f

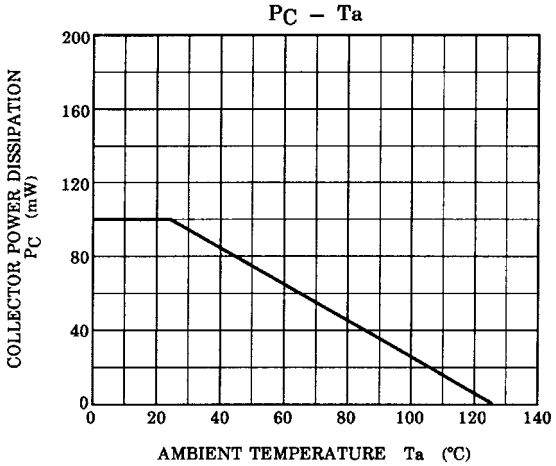



Yoe – f(Yob – f)
OUTPUT SUSCEPTANCE boe(bob) (mS)
OUTPUT CONDUCTANCE goe(gob) (mS)
IE = –2mA
–4mA
–6mA
100MHz
200
400
600
800
900
COMMON EMITTRER
(BASE)
VCE (VCB) = 10V
Ta = 25°C


Yib – f
INPUT CONDUCTION gib (mS)
INPUT SUSCEPTANCE bib (mS)
IE = –2mA
–4mA
–6mA
100MHz
200
400
600
800
900
COMMON BASE
VCB = 10V
Ta = 25°C


Yrb – f
REVERSE TRANSFER CONDUCTANCE grb (mS)
FORWARD TRANSFER SUSCEPTANCE brb (mS)
100MHz
100
400
600
800
900
–6mA
–4mA
IE = –2mA
COMMON BASE
VCB = 10V
Ta = 25°C


Yfb – f
FORWARD TRANSFER CONDUCTANCE gfb (mS)
FORWARD TRANSFER SUSCEPTANCE bfb (mS)
COMMON BASE
VCB = 10V
Ta = 25°C
100MHz
200
–6mA
400
–4mA
600
800
900
IE = –2mA


PC – Ta
COLLECTOR POWER DISSIPATION PC (mW)
AMBIENT TEMPERATURE Ta (°C)

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