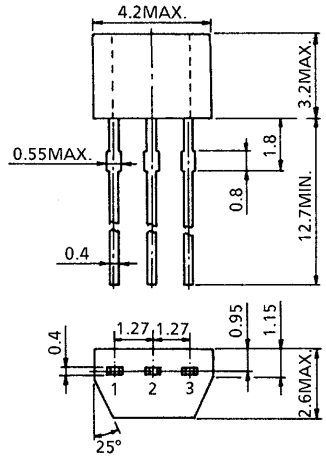
TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC2995

FM / AM RF, MIX, OSC, IF
HIGH FREQUENCY AMPLIFIER APPLICATIONS.

Unit in mm



1. EMITTER
2. COLLECTOR
3. BASE

JEDEC	—
EIAJ	—
TOSHIBA	2-4E1A

Weight : 0.13g

- High stability Oscillation Voltage On FM Local Oscillator.
- Recommend FM / AM RF, MIX, OSC and IF.

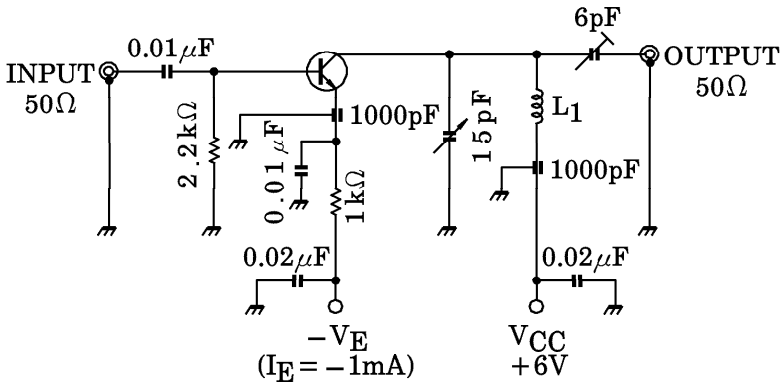
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	50	mA
Base Current	I_B	10	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	−55~125	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

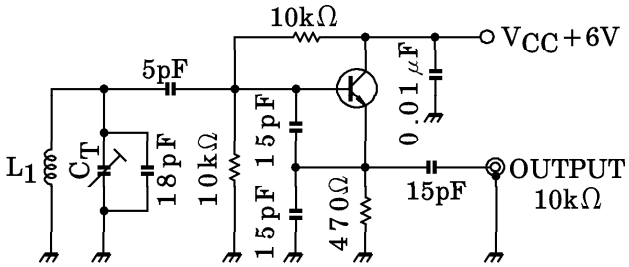
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB} = 40V, I_E = 0	—	—	0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 4V, I_C = 0	—	—	0.5	μA
DC Current Gain	h_{FE} (Note)	V_{CE} = 6V, I_C = 1mA	40	—	240	—
Reverse Transfer Capacitance	C_{re}	V_{CE} = 6V, f = 1MHz	—	0.9	1.3	pF
Transition Frequency	f_T	V_{CE} = 6V, I_E = −1mA	150	350	—	MHz
Collector-Base Time Constant	$C_c.r_{bb'}$	V_{CE} = 6V, I_E = −1mA, f = 30MHz	—	15	30	ps
Noise Figure	NF	V_{CC} = 6V, I_E = −1mA, f = 100MHz (Fig.1)	—	4.0	—	dB
Power Gain	G_{pe}		—	15	—	
Oscillation Output Voltage	V_{OSC}	V_{CC} = 6V, f = 100MHz (Fig.2)	—	150	—	mV

Note : h_{FE} Classification R : 40~80 O : 70~140 Y : 120~240



L_1 : 0.8mmϕ SILVER PLATED COPPER WIRE, 4T, 10ID, 8 LENGTH

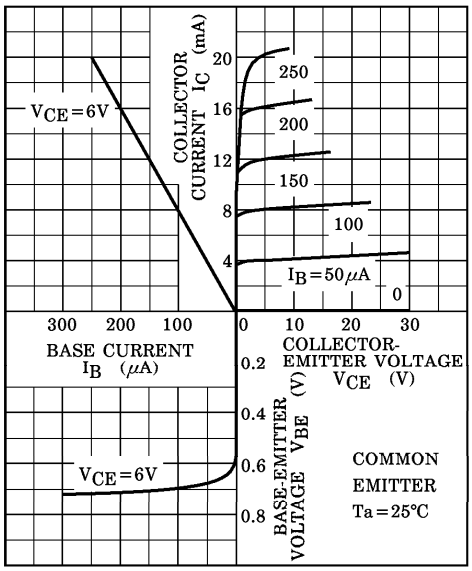
Fig.1 NF, G_{pe} TEST CIRCUIT



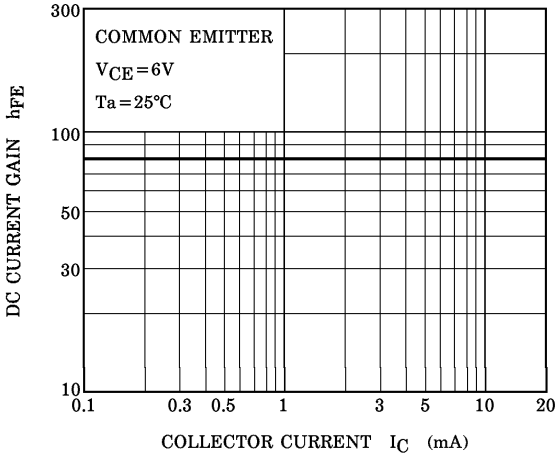
L_1 : 0.8mmϕ SILVER PLATED COPPER WIRE, 4T, 10ID, 8 LENGTH

Fig.2 V_{OSC} TEST CIRCUIT

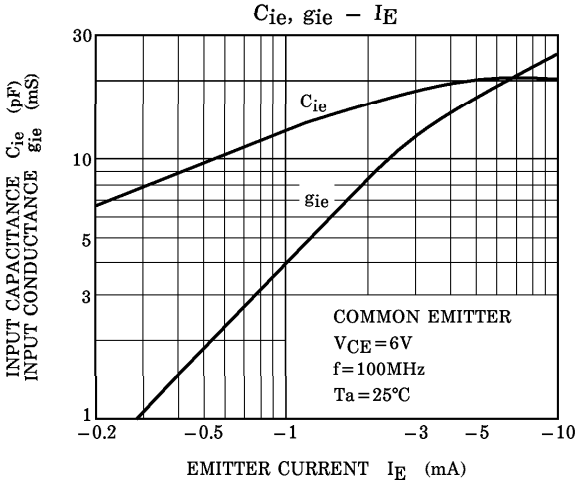
STATIC CHARACTERISTICS



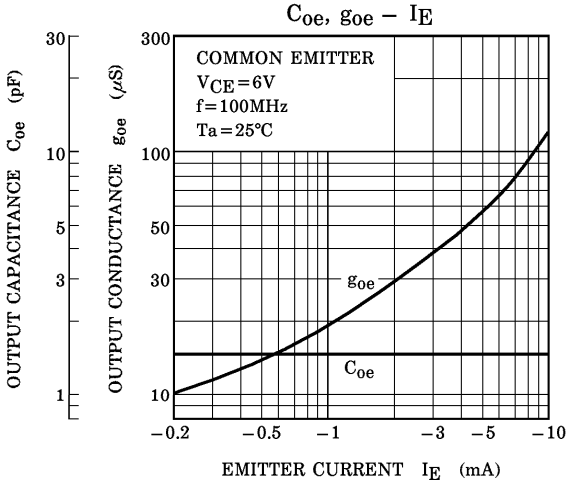
h_{FE} – I_C



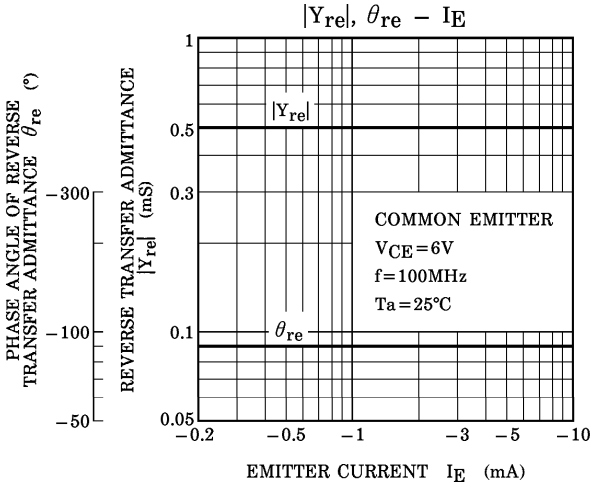
C_{ie}, g_{ie} – I_E



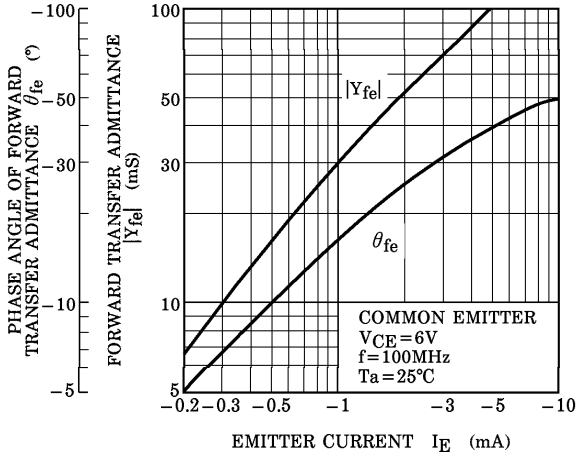
C_{oe}, g_{oe} – I_E



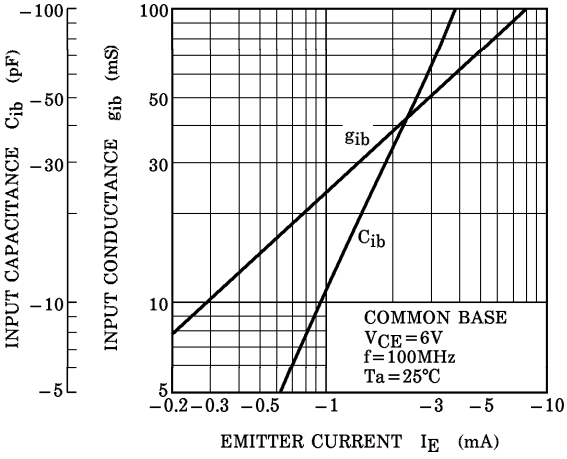
$|Y_{re}|$, θ_{re} – I_E



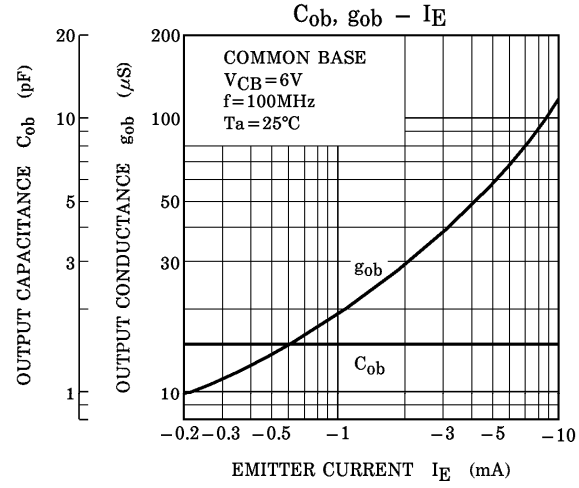
$|Y_{fe}|$, θ_{fe} – I_E



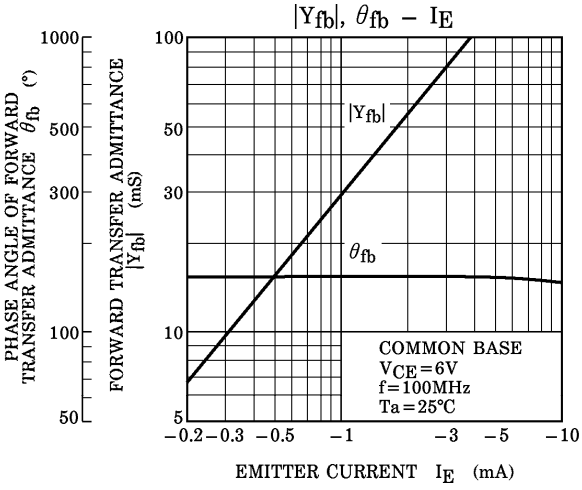
C_{ib}, g_{ib} – I_E



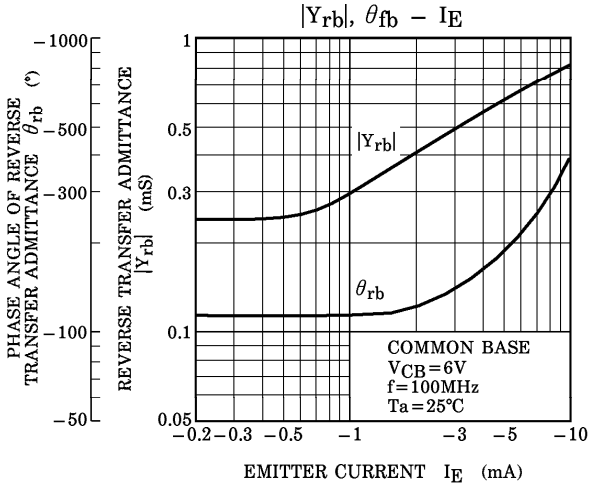
C_{ob}, g_{ob} – I_E



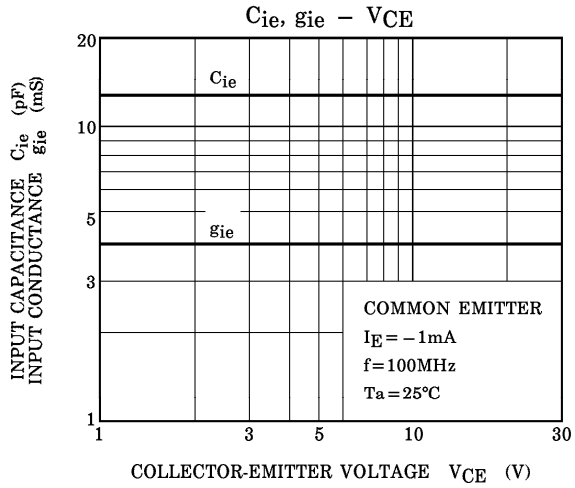
$|Y_{fb}|$, θ_{fb} – I_E



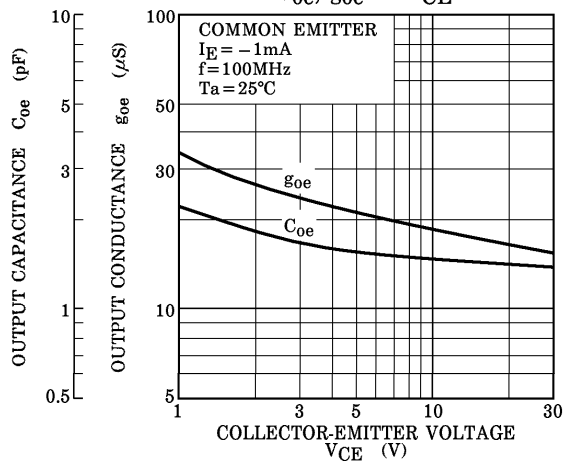
$|Y_{rb}|$, θ_{fb} – I_E



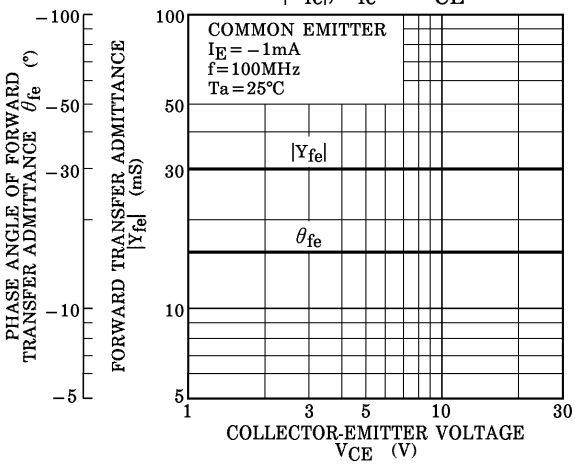
C_{ie}, g_{ie} – V_{CE}



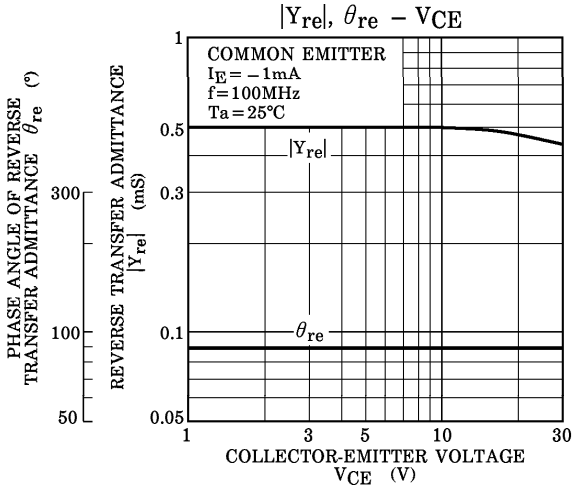
C_{oe}, g_{oe} – V_{CE}



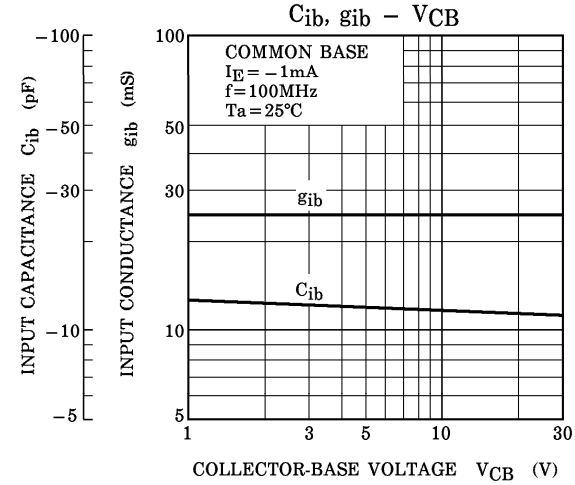
$|Y_{fe}|$, θ_{fe} – V_{CE}



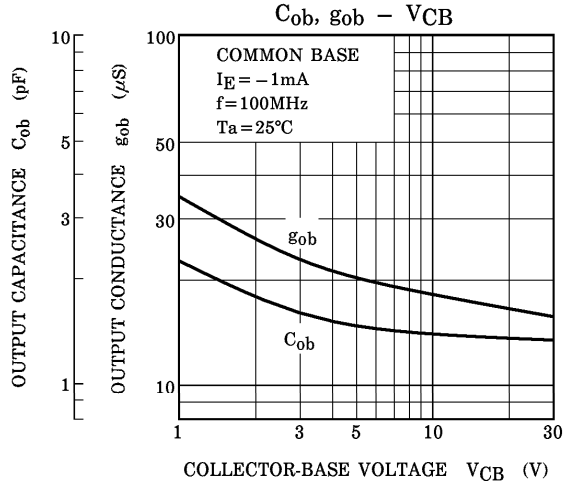
$|Y_{re}|$, θ_{re} – V_{CE}



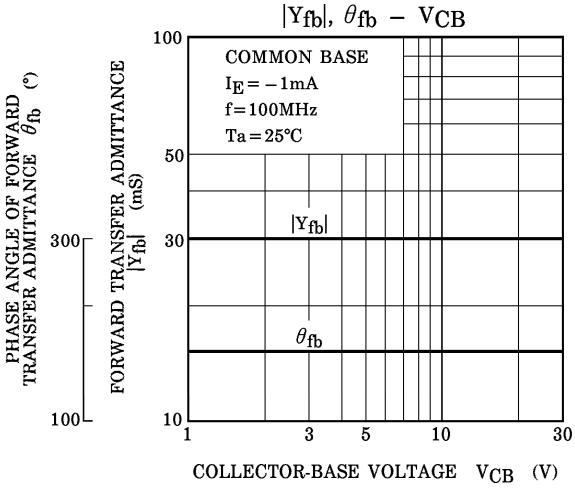
C_{ib}, g_{ib} – V_{CB}



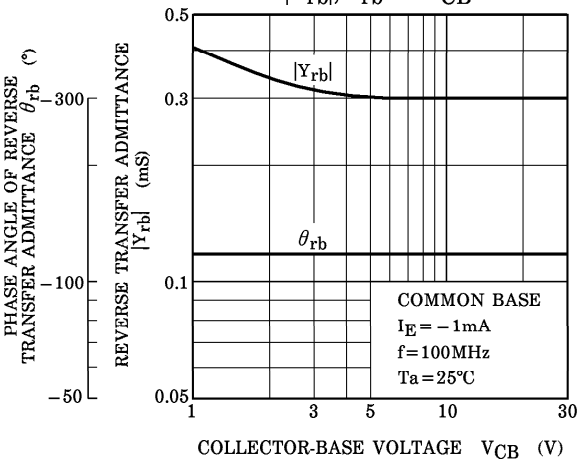
C_{ob}, g_{ob} – V_{CB}



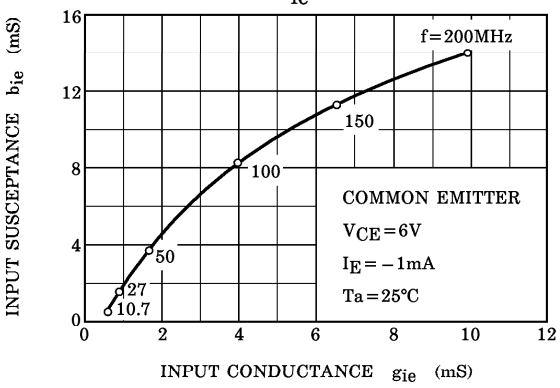
$|Y_{fb}|$, θ_{fb} – V_{CB}



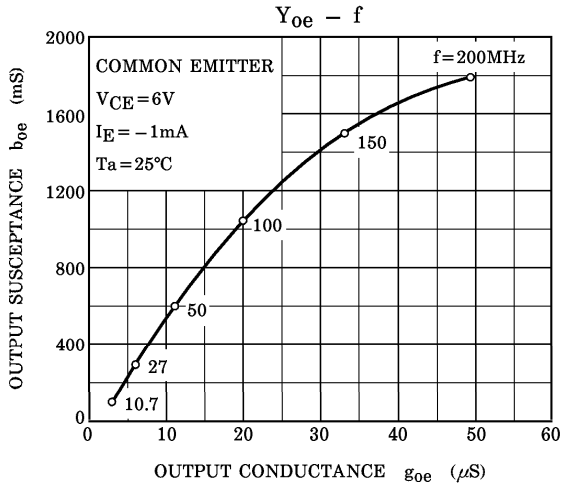
$|Y_{rb}|, \theta_{rb} - V_{CB}$



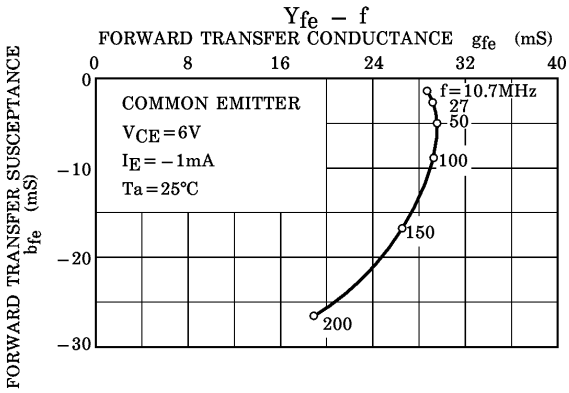
$Y_{ie} - f$



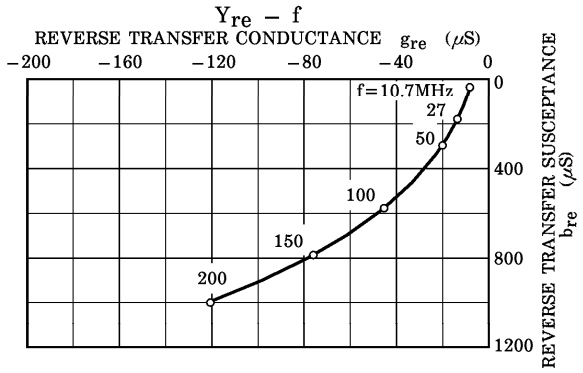
$Y_{oe} - f$



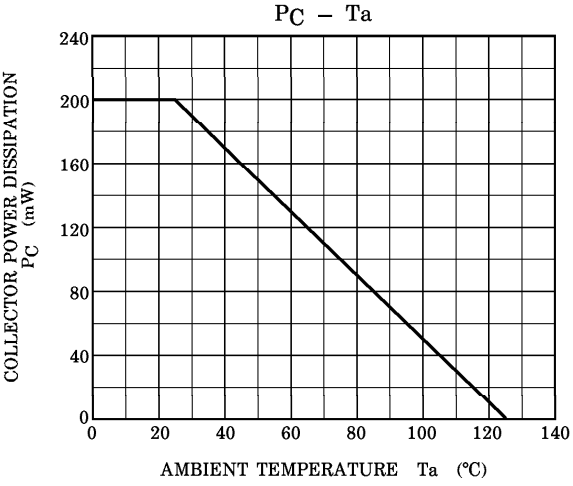
$Y_{fe} - f$



$Y_{re} - f$



$P_C - Ta$



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