UHF TV TUNER RF AMPLIFIER APPLICATIONS.

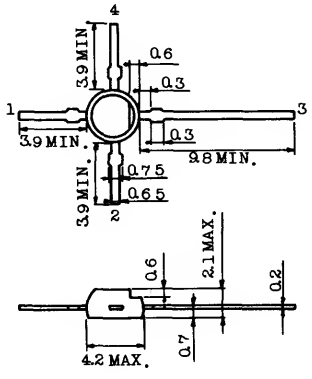
Unit in mm

FEATURES:

. Low Noise Figure : NF=3.5dB(Typ.), f=800MHz

. High Power Gain : G_{pb}=16dB(Typ.), f=800MHz

. Excellent Forward AGC Characteristics



1. EMITTER
2, 4. BASE
3. COLLECTOR

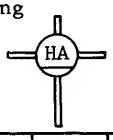
JEDEC	—
EIAJ	—
TOSHIBA	2-4F1B

Weight : 0.08g

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	25	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	3	V
Base Current	I_B	10	mA
Collector Current	I_C	20	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	Tstg	-55~125	°C

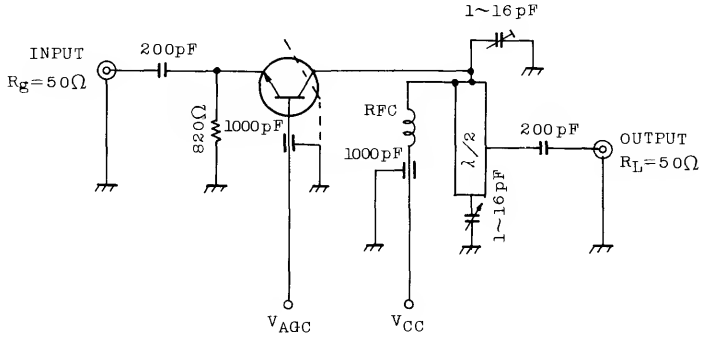
Marking



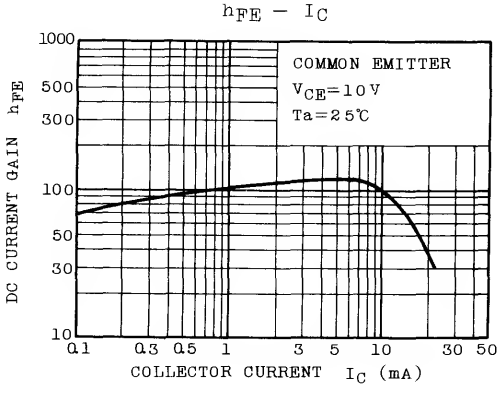
ELECTRICAL CHARACTERISTICS (Ta=25°C)

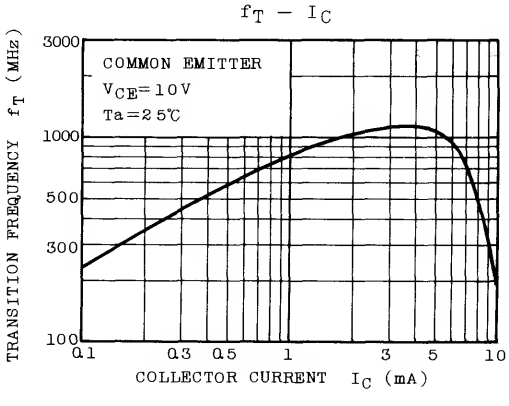
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=10V, I_E=0	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=2V, I_C=0	-	-	1	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	20	-	-	V
DC Current Gain	h_{FE}	V_{CE}=10V, I_C=2mA	25	100	-	
Transition Frequency	f_T	V_{CE}=10V, I_C=2mA	600	900	-	MHz
Reverse Transfer Capacitance	Crb	V_{CE}=10V, I_B=0, f=1MHz	-	0.25	0.45	pF
Power Gain	G_{pb}	V_{CC}=12V, V_{AGC}=3.0V	10	16	-	dB
Noise Figure	NF	f=800MHz (Fig. 1)	-	3.5	5.5	dB
AGC Voltage	V_{AGC}	V_{CC}=12V, G.R.=-20dB f=800MHz (Fig. 1)	4.75	6.0	7.25	V

Fig. 1 : 800MHz G_{pb}, NF, AND V_{AGC} TEST CIRCUIT

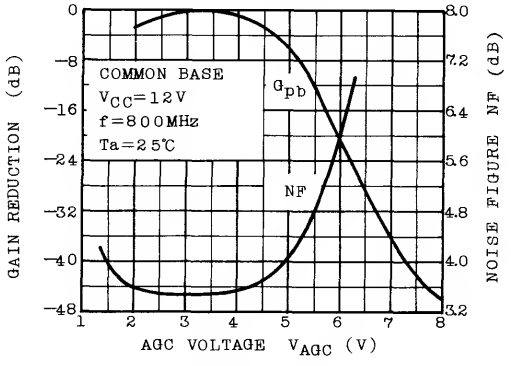


Note : V_{AGC} measured by the test circuit shown in Fig.1, when the power gain is reduced to 20dB compared with G_{pb} shown above Table.

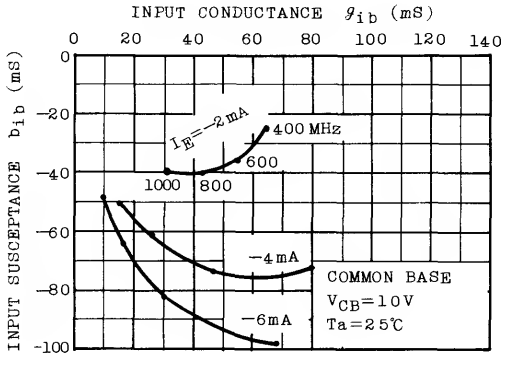




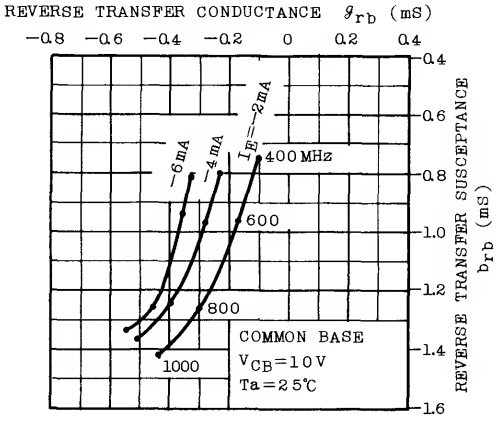
G_{pb}, NF — V_{AGC}



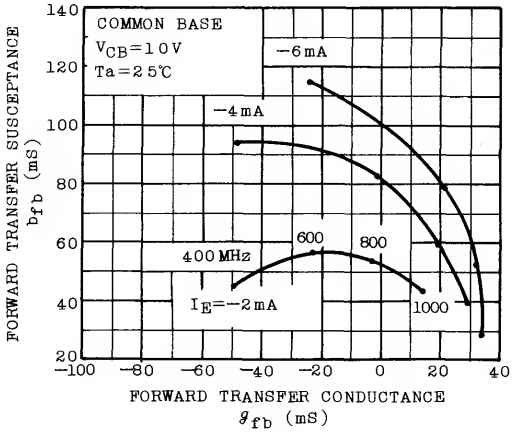
y_{ib} — f



y_{rb} — f



y_{fb} — f



y_{ob} — f