

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

2SC4244

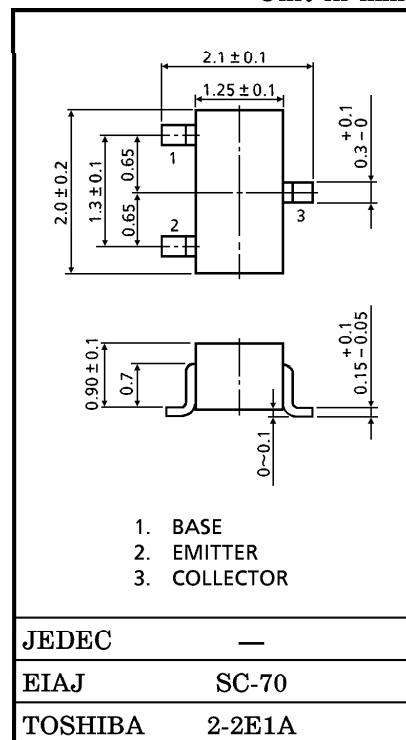
UHF TV TUNER RF AMPLIFIER APPLICATIONS

Unit in mm

- Low Noise Figure : NF=4dB (Typ.)
- High Power Gain : G_{pb}=17dB (Typ.)
- Excellent Forward AGC Characteristics

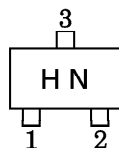
MAXIMUM RATINGS (T_a = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CB0}	25	V
Collector-Emitter Voltage	V _{CEO}	20	V
Emitter-Base Voltage	V _{EBO}	2	V
Base Current	I _B	4	mA
Collector Current	I _C	20	mA
Collector Power Dissipation	P _C	100	mW
Junction Temperature	T _j	125	°C
Storage Temperature Range	T _{stg}	-55~125	°C



Weight : 0.006g

Marking

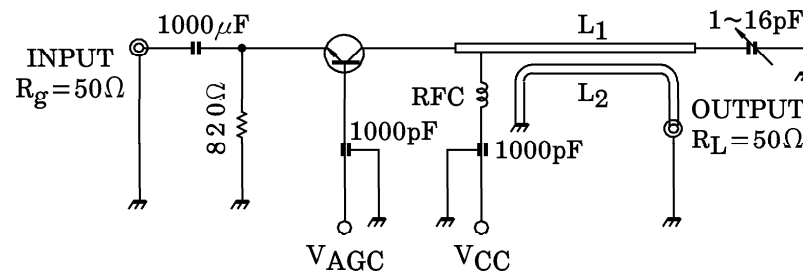


ELECTRICAL CHARACTERISTICS (T_a = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I _{CB0}	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} = 3V, I _C = 1mA	40	100	—	—
Transition Frequency	f _T	V _{CE} = 3V, I _C = 1mA	500	850	—	MHz
Reverse Transfer Capacitance	C _{rb}	V _{CE} = 2V, I _B = 0, f = 1MHz	—	0.4	0.55	pF
Power Gain	G _{pb}	V _{CC} = 4.5V, V _{AGC} = 2V	12	17	—	dB
Noise Figure	NF	f = 800MHz (Fig.1)	—	4	6	dB
AGC Voltage	V _{AGC}	V _{CC} = 4.5V, G.R. = -20dB, f = 800MHz	2.5	3.2	4.0	V

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$L_1, L_2 : \phi 1.0\text{mm SILVER PLATED COPPER WIRE}$

(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.

Fig.1 800MHz G_{pb} , NF TEST CIRCUIT

