TOSHIBA Transistor Silicon NPN Epitaxial Planar Type

2SC4249

TV VHF RF Amplifier Applications

Unit: mm

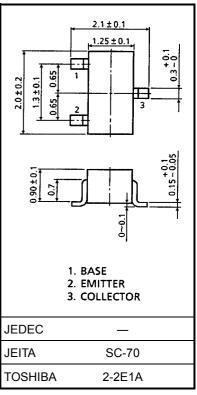
• High gain: $G_{pe} = 24dB$ (typ.) (f = 200 MHz)

• Low noise: NF = 2.0dB (typ.) (f = 200 MHz)

• Excellent forward AGC characteristics

Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	30	V
Collector-emitter voltage	V _{CEO}	30	V
Emitter-base voltage	V _{EBO}	3	V
Collector current	IC	20	mA
Base current	ΙΒ	10	mA
Collector power dissipation	P _C	100	mW
Junction temperature	Tj	125	°C
Storage temperature range	T _{stg}	-55~125	°C

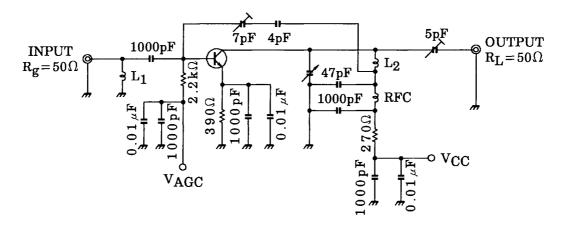


Weight: 0.006 g (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	V _{CB} = 25 V, I _E = 0	_	_	100	nA
Emitter cut-off current	I _{EBO}	V _{EB} = 2 V, I _C = 0	_	_	100	nA
Collector-emitter breakdown voltage	V (BR) CEO	$I_C = 1 \text{ mA}, I_B = 0$	30	_	_	V
DC current gain	h _{FE}	V _{CE} = 10 V, I _C = 2 mA	60	150	300	
Reverse transfer capacitance	C _{re}	V _{CB} = 10 V, I _E = 0, f = 1 MHz	_	0.35	0.5	pF
Transition frequency	f _T	V _{CE} = 10 V, I _C = 2 mA	400	650	_	MHz
Power gain	G _{pe}	V _{CC} = 12 V, V _{AGC} = 1.4 V	20	24	28	dB
Noise figure	NF	f = 200 MHz (Figure 1)	_	2.0	3.2	dB
AGC voltage (Note)	V _{AGC}	V _{CC} = 12 V, GR = 30dB f = 200 MHz	3.6	4.4	5.1	V

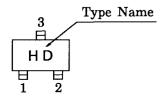
Note: V_{AGC} measured by test circuit shown in Figure 1 when power gain is reduced to 30dB compared that of V_{AGC} at 1.4 V.

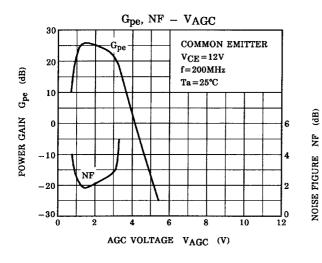


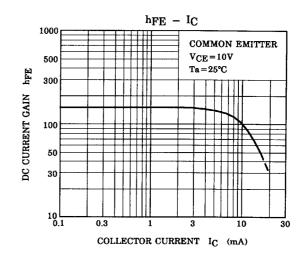
 L_1 : RF coil M-15 T (TOKO Inc.) or equivalent L_2 : RF coil M-25 T (TOKO Inc.) or equivalent

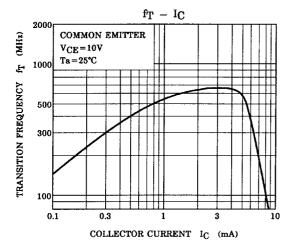
Figure 1 200 MHz Gpe, NF Test Circuit

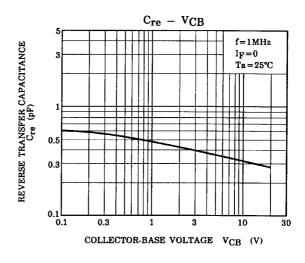
Marking

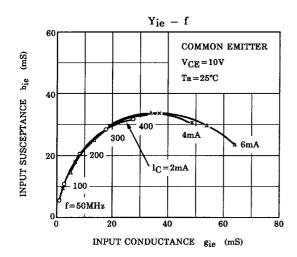


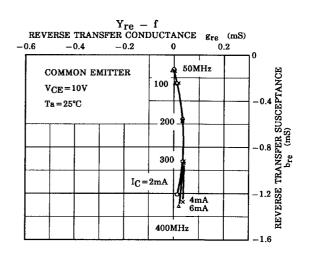


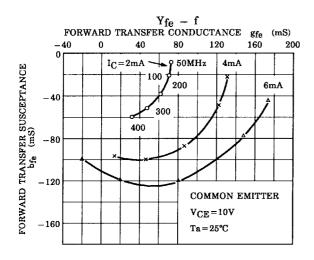


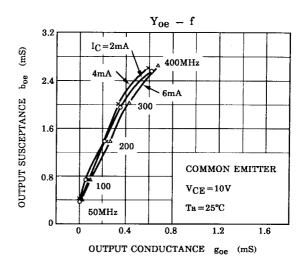


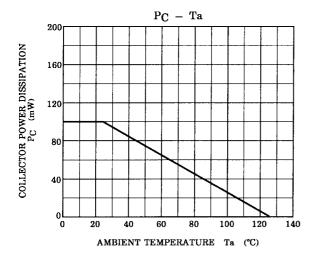












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5

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