TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

2SC3605

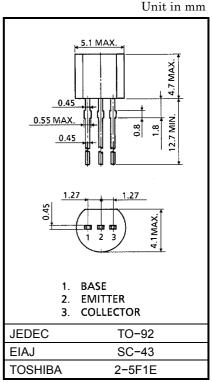
VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS

FEATURES:

- Low Noise Figure, High Gain
- NF = 1.1dB, $|S_{21e}|^2 = 10$ dB (f = 1GHz)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT	
Collector-Base Voltage	V _{CBO}	20	V	
Collector-Emitter Voltage	V _{CEO}	12	V	
Emitter-Base Voltage	V _{EBO}	3	V	
Collector Current	Ι _C	80	mA	
Base Current	Ι _Β	40	mA	
Collector Power Dissipation	P _C	600	mW	
Junction Temperature	Tj	150	°C	
Storage Temperature Range	T _{stg}	-55~150	°C	



Weight: 0.21g

MICROWAVE CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Transition Frequency	f _T	V _{CE} = 10V, I _C = 20mA	5	6.5	_	GHz
Insertion Gain	S _{21e} ² (1)	V_{CE} = 10V, I _C = 20mA, f = 500MHz	—	16		dB
	S _{21e} ² (2)	V _{CE} = 10V, I _C = 20mA, f = 1GHz	7.5	10	_	
Noise Figure	NF (1)	V _{CE} = 10V, I _C = 5mA, f = 1GHz	—	1.1		dB
	NF (2)	V _{CE} = 10V, I _C = 40mA, f = 1GHz	_	1.8	3	uВ

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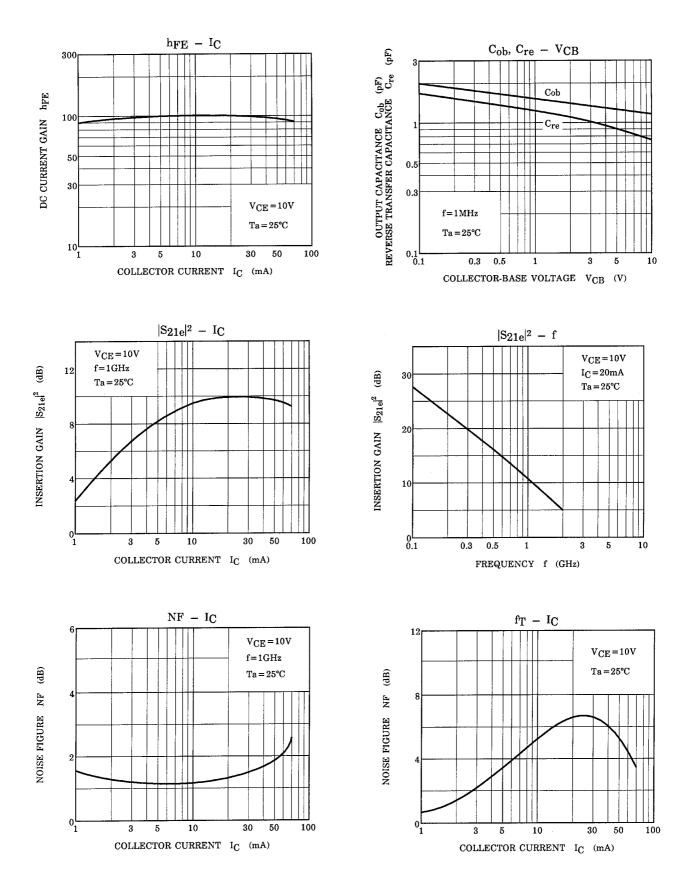
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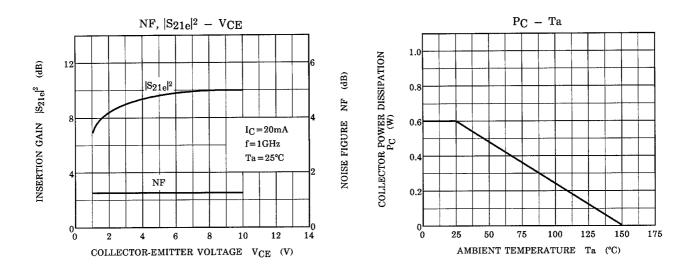
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ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Collector Cut-off Current	I _{CBO}	V _{CE} = 10V, I _E = 0	_	_	1	μA
Emitter Cut-off Current	I _{EBO}	V _{EB} = 1V, I _E = 0		—	1	μA
DC Current Gain	h _{FE}	V _{CE} = 10V, I _C = 20mA	30	_	250	—
Output Capacitance	C _{ob}	V _{CB} = 10V, I _E = 0, f = 1MHz	_	1.2	-	pF
Reverse Transfer Capacitance	C _{re}	(Note)	_	0.75	1.2	pF

Note: C_{re} is measured by 3-terminal method with Capacitance Bridge.

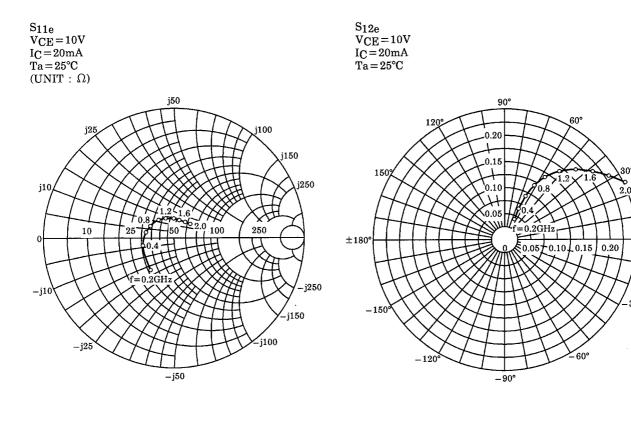


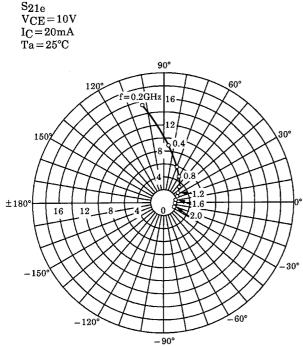


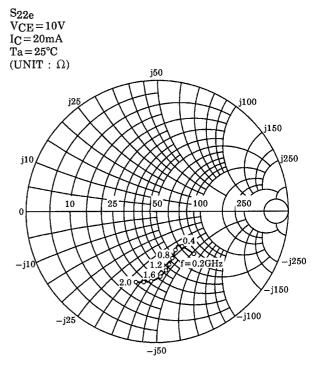
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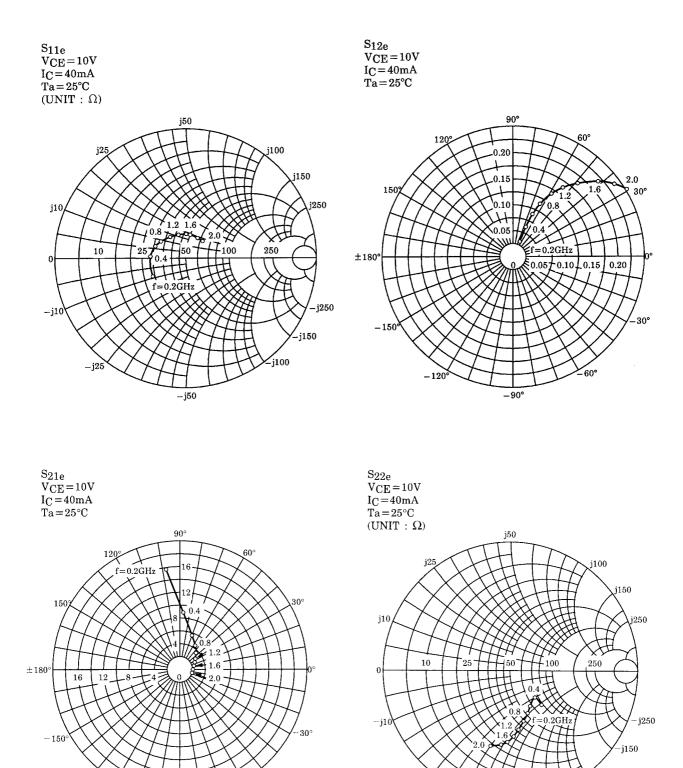
- 30°







<u>TOSHIBA</u>



60°

-90°

-120

-j25

-j50

j100