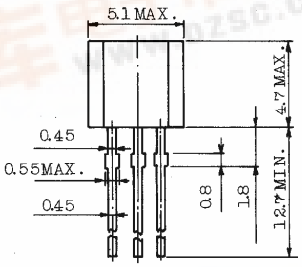
TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

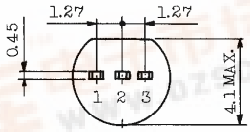
2SC2644

VHF~UHF BAND WIDEBAND AMPLIFIER APPLICATIONS.

Unit in mm

- High Gain
- Low IMD
- f_T = 4GHz (Typ.)





1. BASE
2. EMITTER
3. COLLECTOR

JEDEC	TO-92
EIAJ	SC-43
TOSHIBA	2-5F1E

Weight : 0.21g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	25	V
Collector-Emitter Voltage	V_{CEO}	12	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current	I_C	120	mA
Emitter Current	I_B	40	mA
Collector Power Dissipation	P_C	0.5	W
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	−55~125	°C

MICROWAVE CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Transition Frequency	f_T	V_{CE} = 10V, I_C = 30mA	—	4.0	—	GHz
Insertion Gain	$\|S_{21e}\|^2$(1)	V_{CE} = 10V, I_C = 30mA, f = 0.5GHz	—	14.0	—	dB
	$\|S_{21e}\|^2$(2)	VCE = 10V, IC = 30mA, f = 1GHz	—	8.5	—	dB
Noise Figure	NF(1)	V_{CE} = 10V, I_C = 10mA, f = 0.5GHz	—	2.3	—	dB
	NF(2)	V_{CE} = 10V, I_C = 10mA, f = 1GHz	—	3.0	—	dB

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDTION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB} = 10V, I_E = 0	—	—	1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 1.0V, I_C = 0	—	—	10	μA
DC Current Gain	h_{FE}	V_{CE} = 5V, I_C = 50mA	20	50	—	—
Collector Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz (Note)	—	1.6	—	pF
Reverse Transfer Capacitance	C_{re}		—	1.1	—	pF

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

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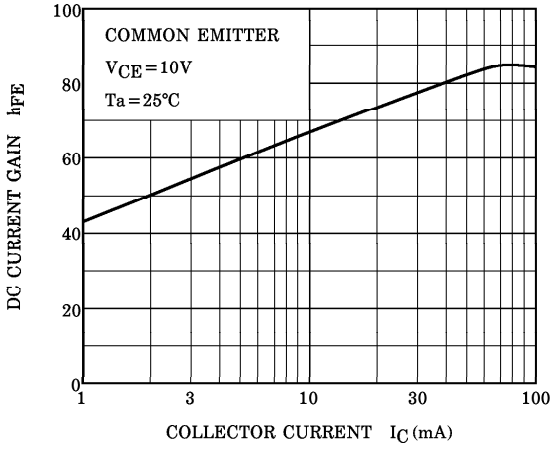
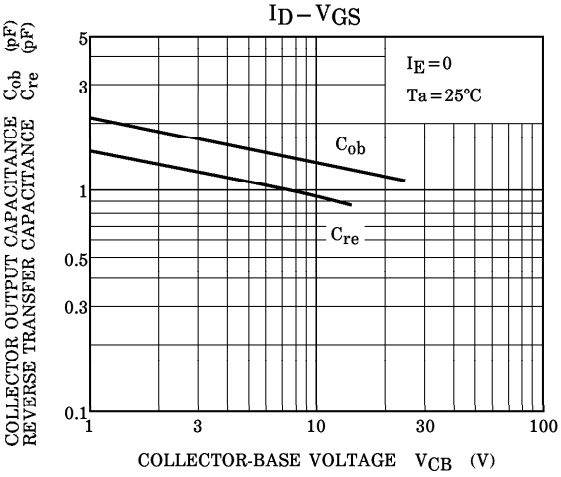
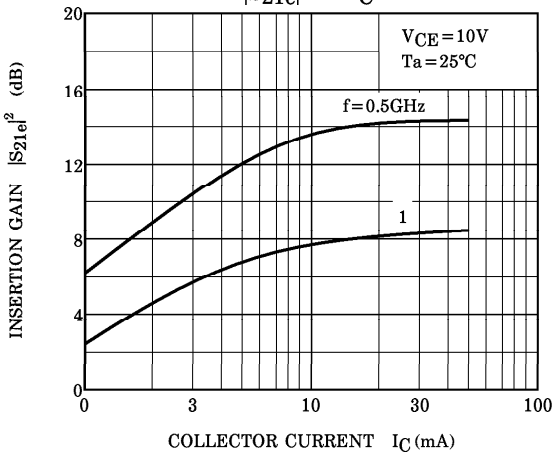
h_{FE} – I_C



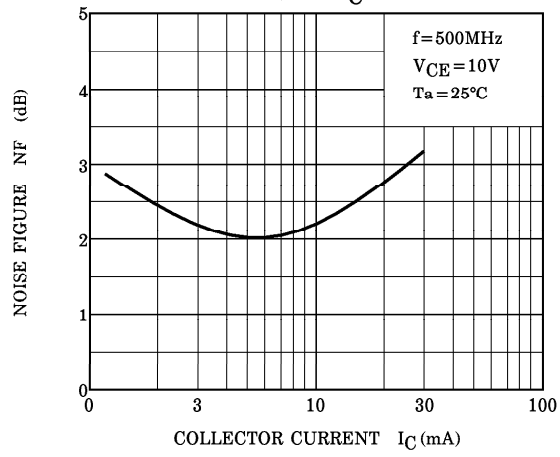
I_D – V_{GS}



$|S_{21e}|^2$ – I_C



NF – I_C



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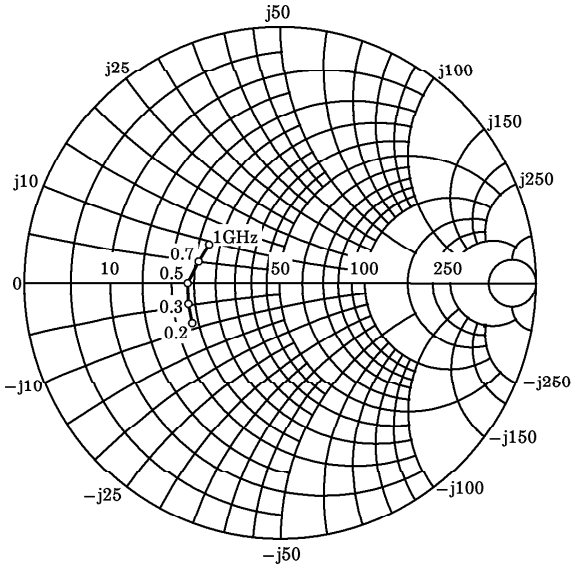
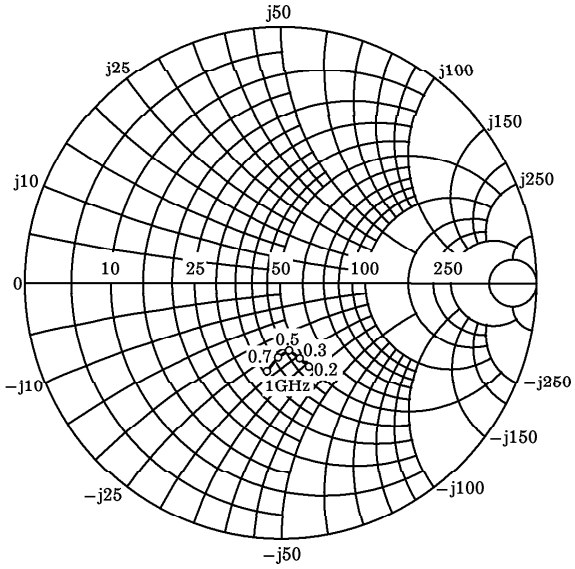
COMMON EMITTER SMALL S−PARAMETERS OF 2SC2644

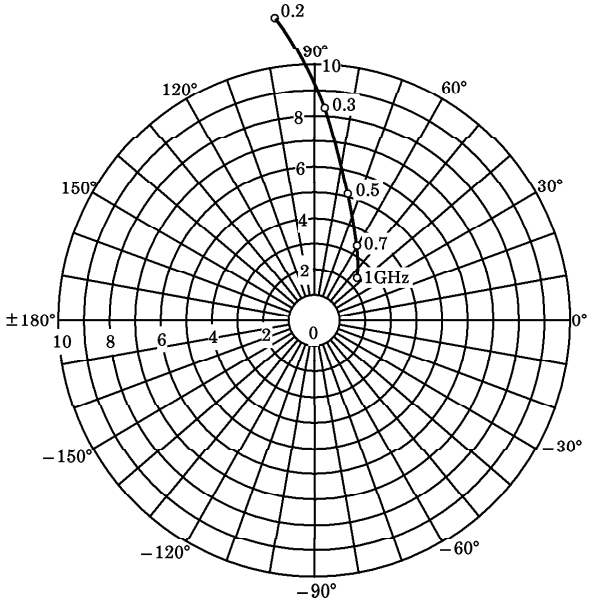
V_{CE} = 10V, I_C = 30mA



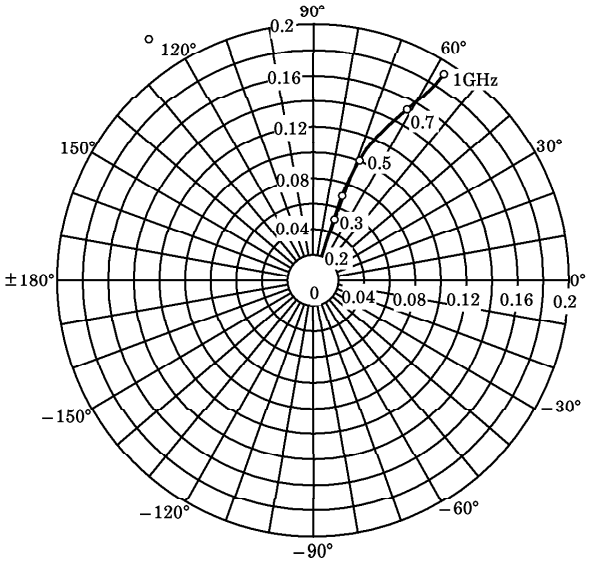
S_{11e} (UNIT : Ω)



S_{22e} (UNIT : Ω)



S_{21e}



S_{12e}