

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL PLANAR TYPE

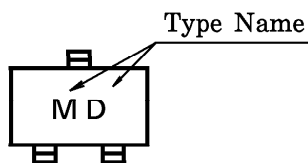
2SA1245

- HIGH FREQUENCY AMPLIFIER AND SWITCHING APPLICATIONS.
- VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS.

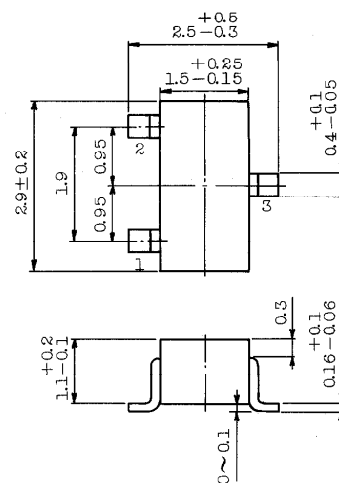
MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-15	V
Collector-Emitter Voltage	V_{CEO}	-8	V
Emitter-Base Voltage	V_{EBO}	-2	V
Collector Current	I_C	-30	mA
Base Current	I_B	-15	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~125	$^\circ\text{C}$

Marking



Unit in mm



1. EMITTER
2. BASE
S-MINI 3. COLLECTOR

JEDEC

—

EIAJ

SC-59

TOSHIBA

2-3F1A

MICROWAVE CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Weight : 0.012g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Transition Frequency	f_T	$V_{CE} = -5V, I_C = -10mA$	—	4	—	GHz
Insertion Gain	$ S_{21e} ^2 (1)$	$V_{CE} = -5V, I_C = -10mA, f = 500MHz$	—	14	—	dB
	$ S_{21e} ^2 (2)$	$V_{CE} = -5V, I_C = -10mA, f = 1GHz$	—	9.5	—	dB
Noise Figure	NF (1)	$V_{CE} = -5V, I_C = -3mA, f = 500MHz$	—	2.5	—	dB
	NF (2)	$V_{CE} = -5V, I_C = -3mA, f = 1GHz$	—	3.0	—	dB

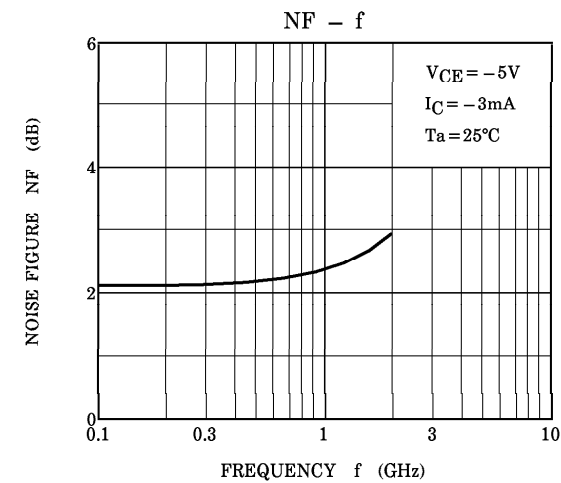
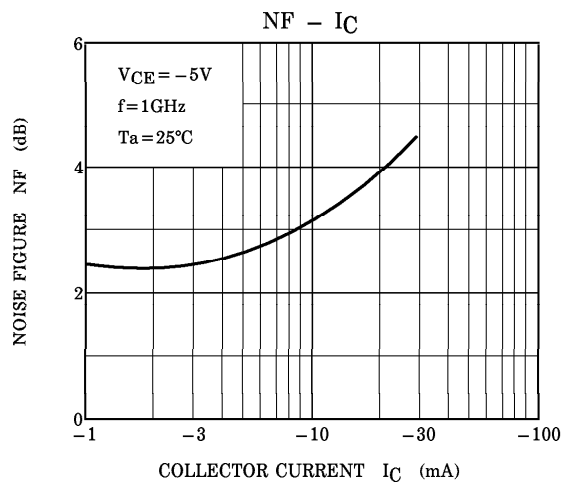
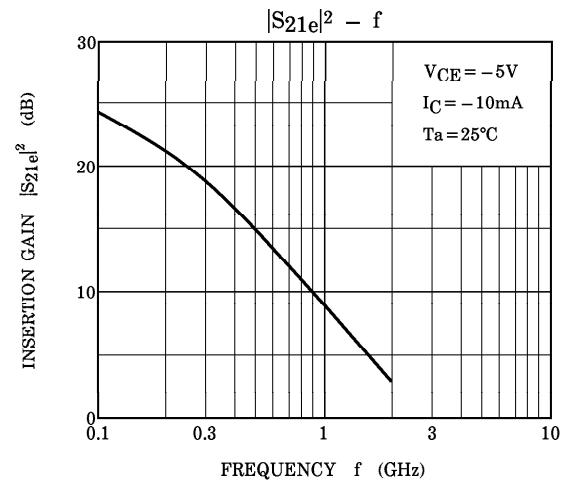
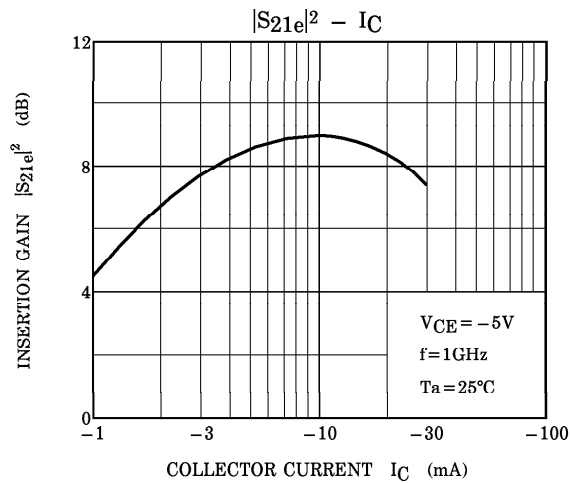
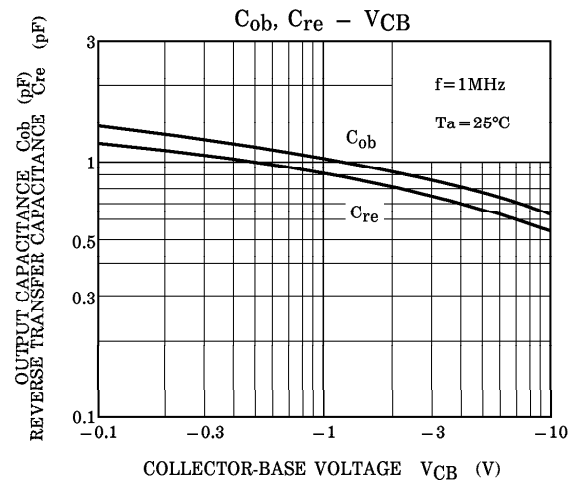
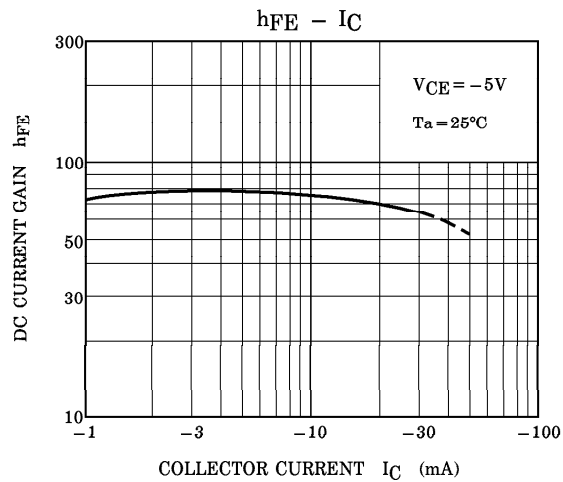
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = -5V, I_E = 0$	—	—	-0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -1V, I_C = 0$	—	—	-0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -5V, I_C = -10mA$	20	—	—	—
Output Capacitance	C_{ob}	$V_{CB} = -5V, I_E = 0, f = 1MHz$ (Note)	—	0.75	—	pF
Reserve Transfer Capacitance	C_{re}		—	0.60	—	pF

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

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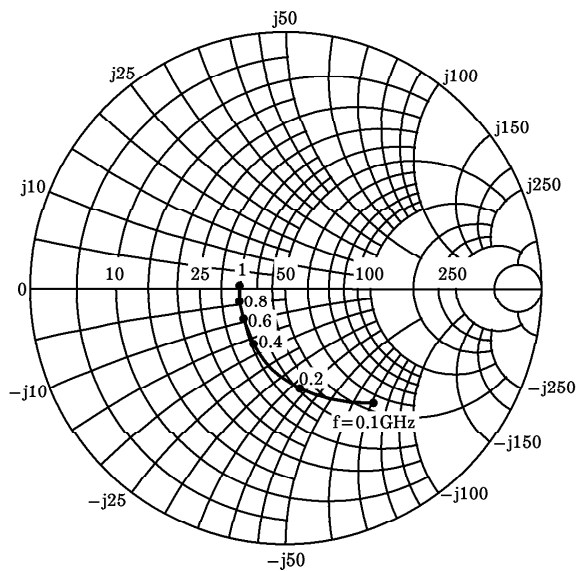
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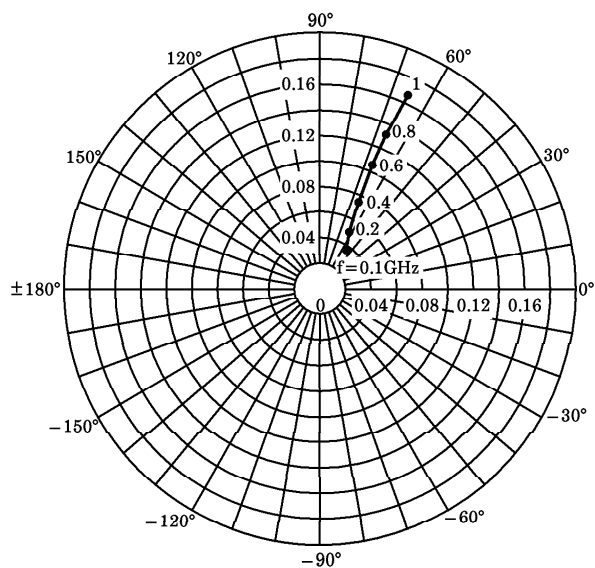
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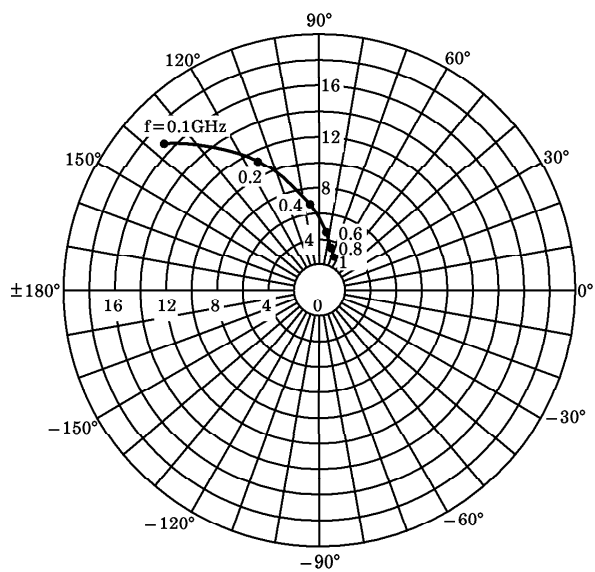
S_{11e}
 $V_{CE} = -5V$
 $I_C = -10mA$
 $T_a = 25^\circ C$
 (UNIT : Ω)



S_{12e}
 $V_{CE} = -5V$
 $I_C = -10mA$
 $T_a = 25^\circ C$



S_{21e}
 $V_{CE} = -5V$
 $I_C = -10mA$
 $T_a = 25^\circ C$



S_{22e}
 $V_{CE} = -5V$
 $I_C = -10mA$
 $T_a = 25^\circ C$
 (UNIT : Ω)

