

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL PLANAR TYPE

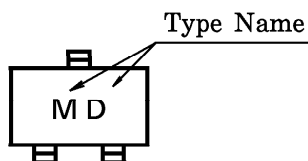
## 2SA1245

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

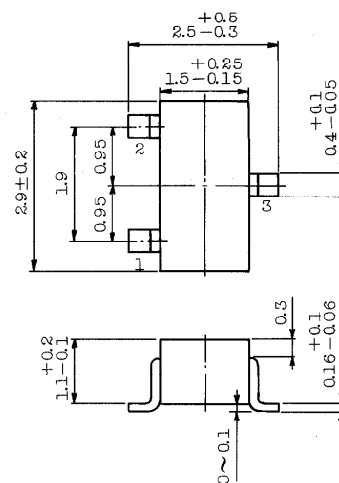
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V <sub>CBO</sub>	-15	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-8	V
Emitter-Base Voltage	V <sub>EBO</sub>	-2	V
Collector Current	I <sub>C</sub>	-30	mA
Base Current	I <sub>B</sub>	-15	mA
Collector Power Dissipation	P <sub>C</sub>	150	mW
Junction Temperature	T <sub>j</sub>	125	°C
Storage Temperature Range	T <sub>stg</sub>	-55~125	°C

Marking



Unit in mm



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

JEDEC

—

EIAJ

SC-59

TOSHIBA

2-3F1A

MICROWAVE CHARACTERISTICS (Ta = 25°C)

Weight : 0.012g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -10mA	—	4	—	GHz
Insertion Gain	S <sub>21e</sub>   <sup>2</sup> (1)	V <sub>CE</sub> = -5V, I <sub>C</sub> = -10mA, f = 500MHz	—	14	—	dB
	S <sub>21e</sub>   <sup>2</sup> (2)	V <sub>CE</sub> = -5V, I <sub>C</sub> = -10mA, f = 1GHz	—	9.5	—	dB
Noise Figure	NF (1)	V <sub>CE</sub> = -5V, I <sub>C</sub> = -3mA, f = 500MHz	—	2.5	—	dB
	NF (2)	V <sub>CE</sub> = -5V, I <sub>C</sub> = -3mA, f = 1GHz	—	3.0	—	dB

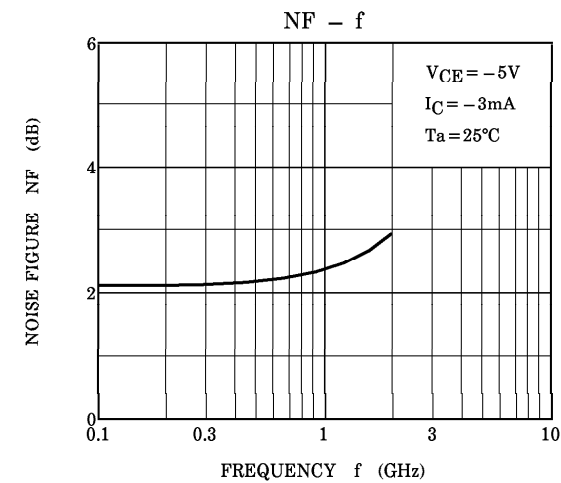
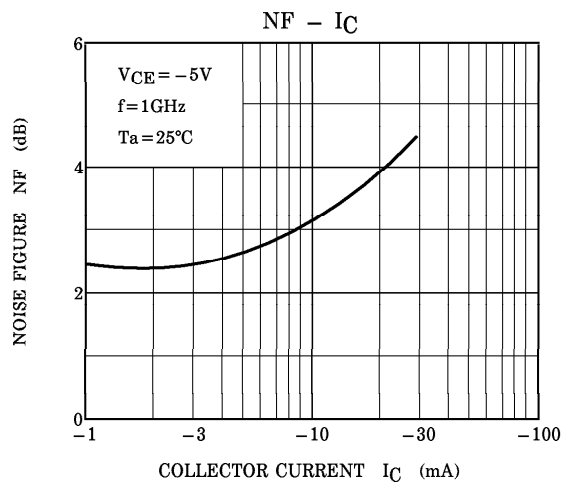
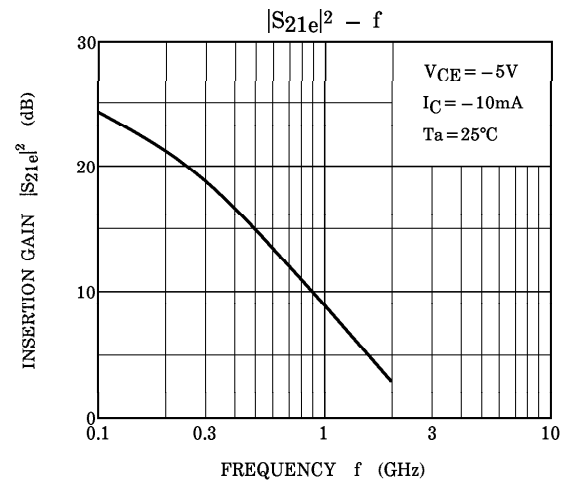
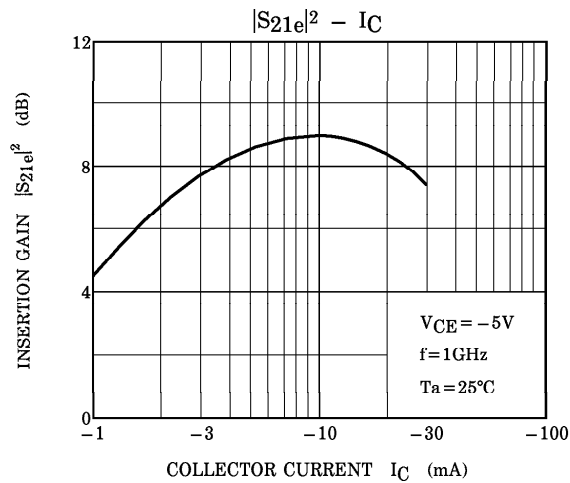
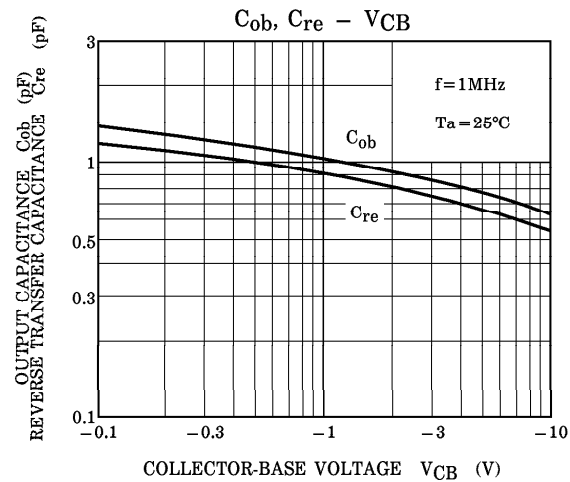
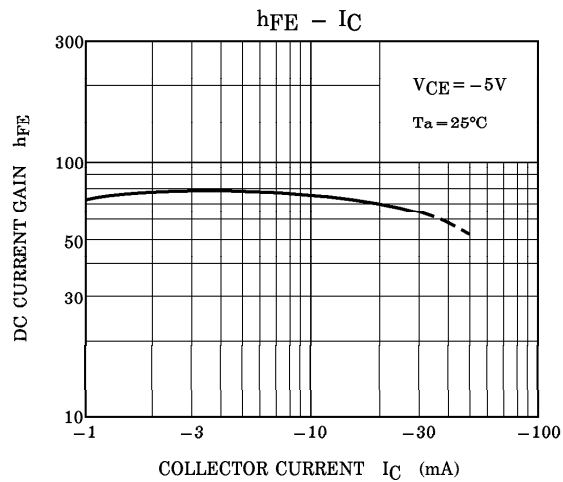
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> = -5V, I <sub>E</sub> = 0	—	—	-0.1	μA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> = -1V, I <sub>C</sub> = 0	—	—	-0.1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = -5V, I <sub>C</sub> = -10mA	20	—	—	—
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -5V, I <sub>E</sub> = 0, f = 1MHz (Note)	—	0.75	—	pF
Reserve Transfer Capacitance	C <sub>re</sub>		—	0.60	—	pF

Note : C<sub>re</sub> is measured by 3 terminal method with Capacitance Bridge.

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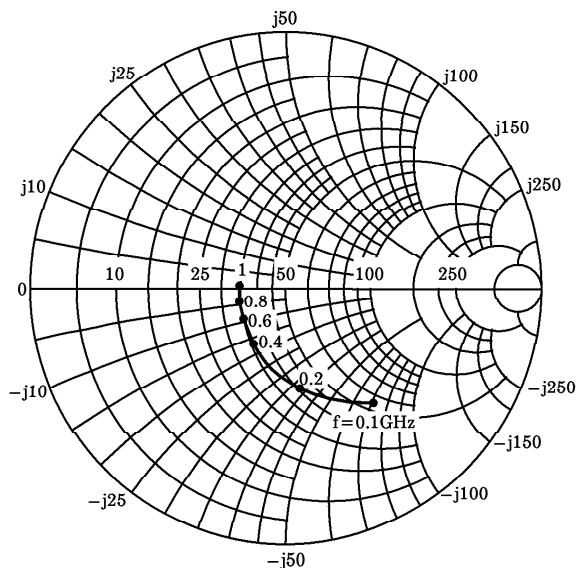
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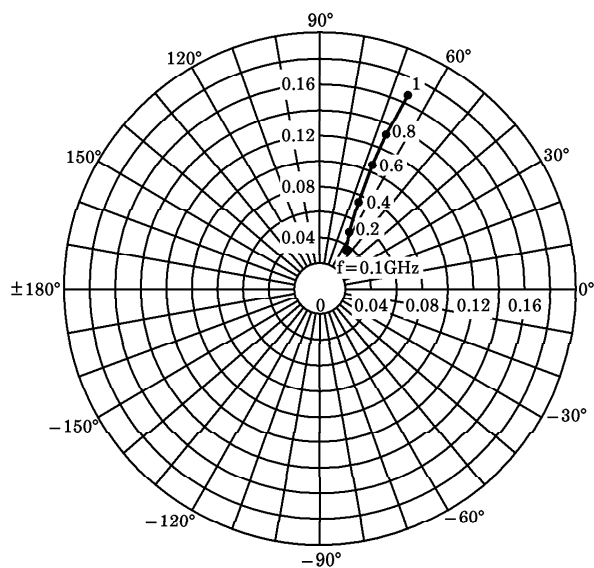
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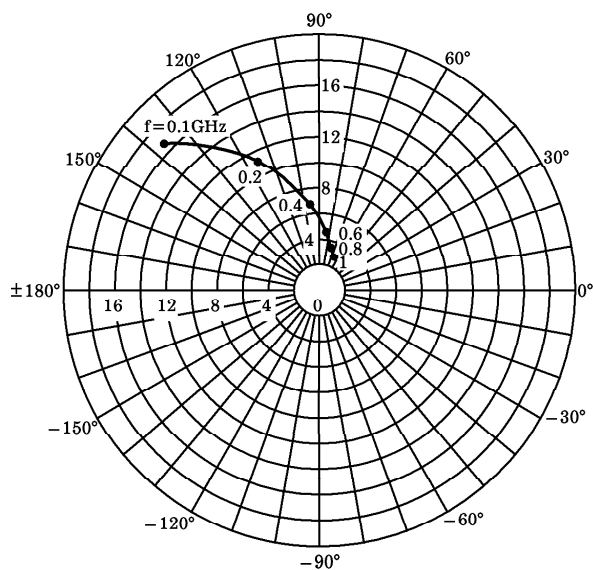
$S_{11e}$   
 $V_{CE} = -5V$   
 $I_C = -10mA$   
 $T_a = 25^\circ C$   
 (UNIT :  $\Omega$ )



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



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



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

