

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

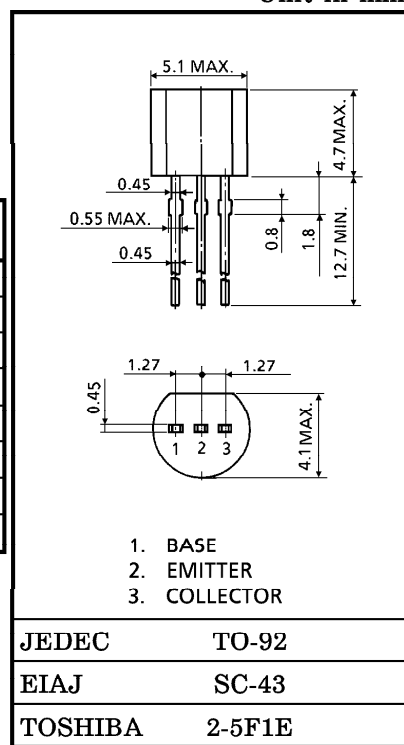
2SC2498

VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATION

Unit in mm

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	3	V
Collector Current	I_C	50	mA
Base Current	I_B	25	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	-55~125	°C



MICROWAVE CHARACTERISTICS (Ta = 25°C)

Weight : 0.21g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Transition Frequency	f_T	$V_{CE} = 10V, I_C = 10mA$	—	3.5	—	GHz
Insertion Gain	$ S_{21e} ^2 (1)$	$V_{CE} = 10V, I_C = 10mA, f = 500MHz$	—	14.5	—	dB
	$ S_{21e} ^2 (2)$	$V_{CE} = 10V, I_C = 10mA, f = 1GHz$	—	9	—	
Noise Figure	NF (1)	$V_{CE} = 10V, I_C = 5mA, f = 500MHz$	—	2.5	—	dB
	NF (2)	$V_{CE} = 10V, I_C = 5mA, f = 1GHz$	—	4	—	

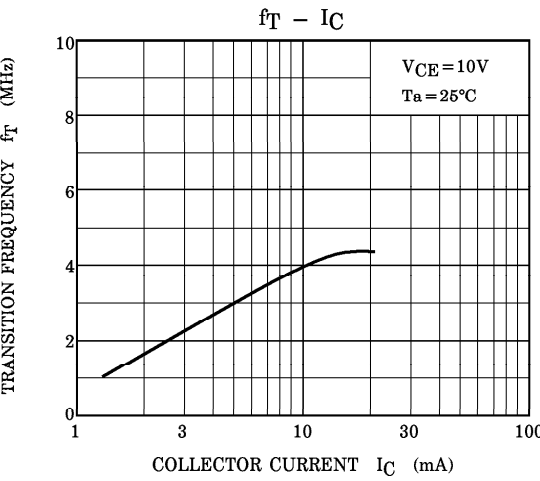
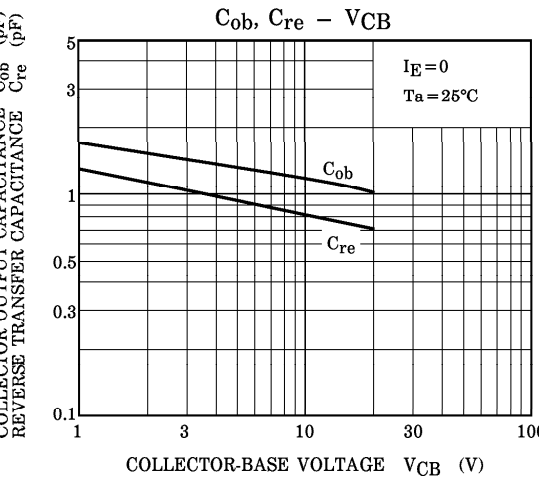
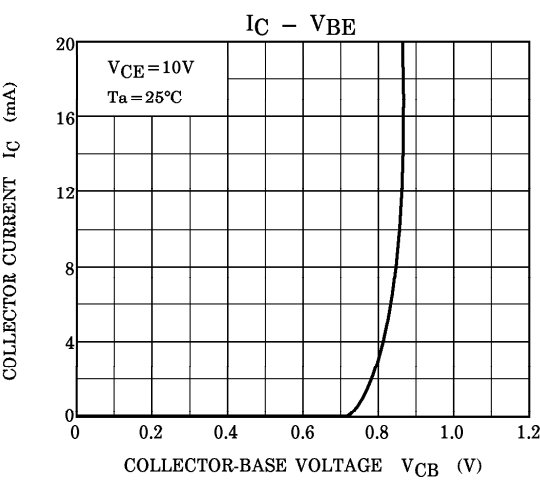
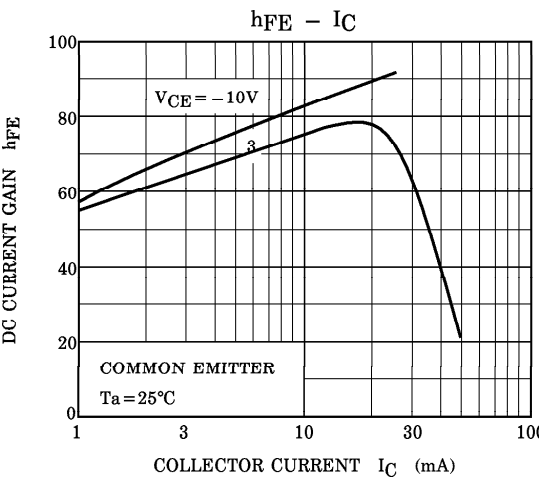
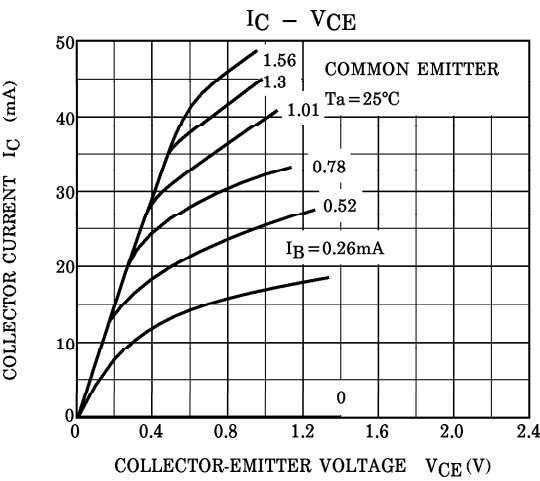
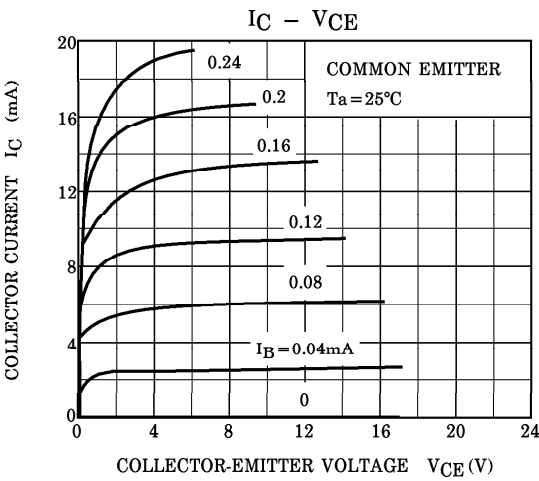
MICROWAVE CHARACTERISTICS (Ta = 25°C)

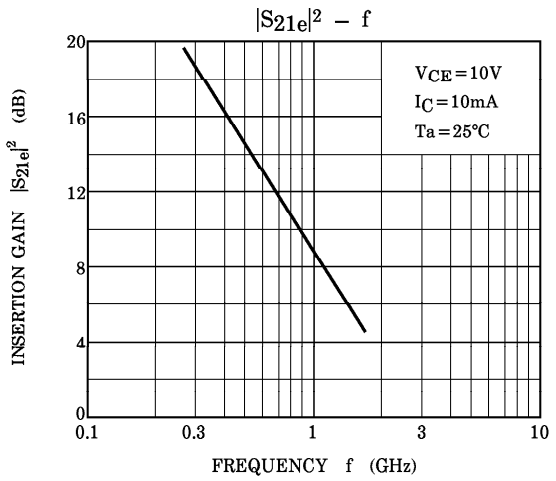
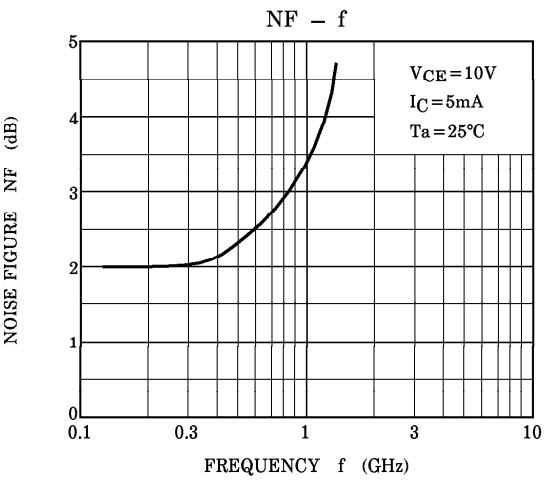
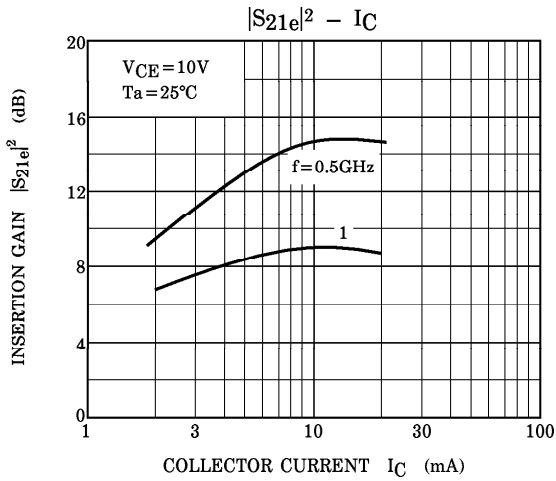
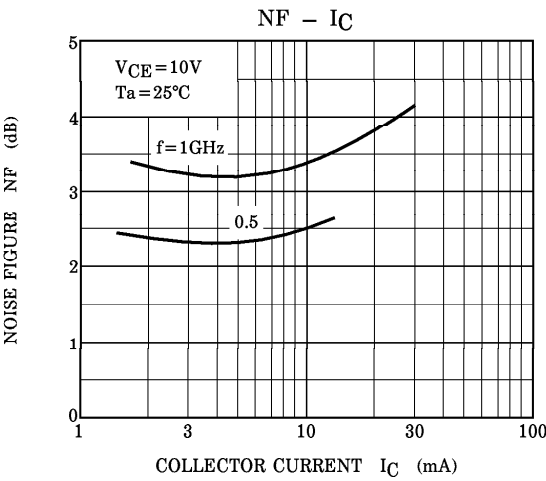
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 10V, I_E = 0$	—	—	1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 1V, I_C = 0$	—	—	1	μA
DC Current Gain	h_{FE}	$V_{CE} = 10V, I_C = 10mA$	30	80	300	—
Collector Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$ (Note)	—	1.15	—	pF
Reverse Transfer Capacitance	C_{re}		—	0.75	—	

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

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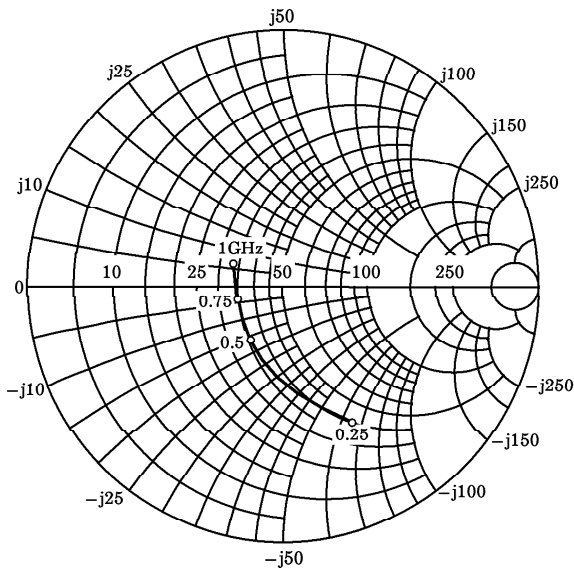
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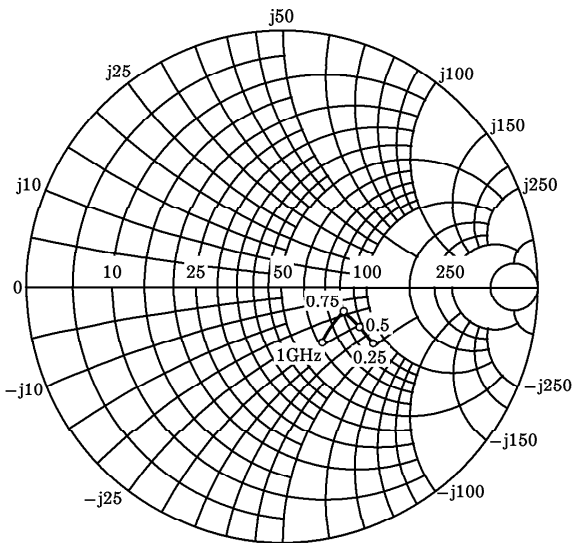


COMMON EMITTER SMALL SIGNAL S-PARAMETERS OF 2SC2498.

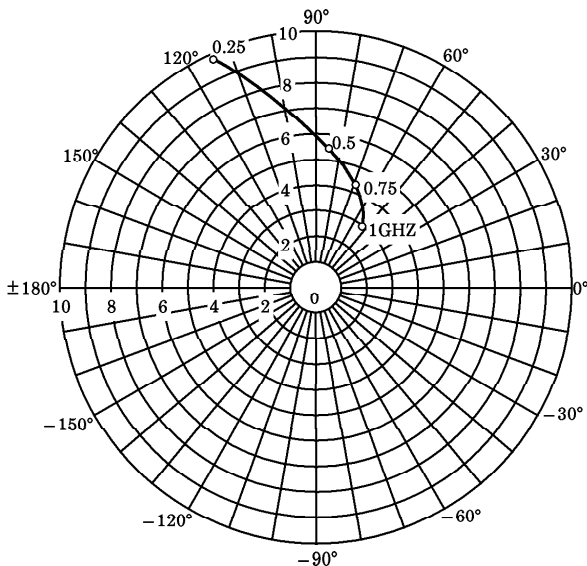
$V_{CE}=10V, I_C=10mA$



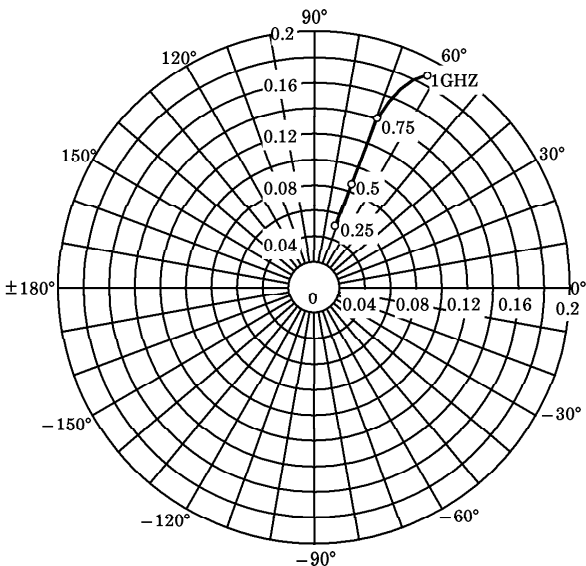
S_{11e} (UNIT : Ω)



S_{22e} (UNIT : Ω)



S_{21e}



S_{12e}