

VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS.

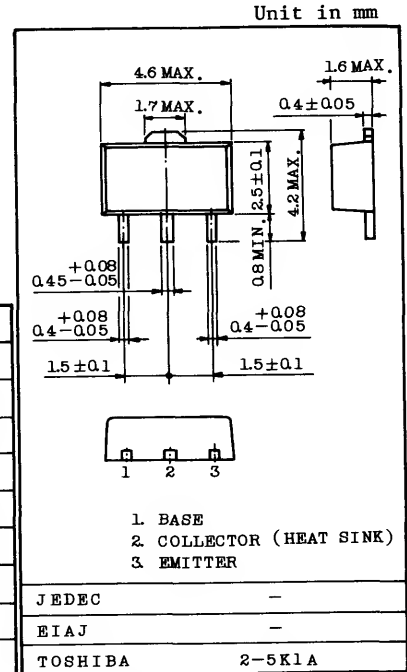
FEATURES:

- . NF=1.7dB, $|S_{21e}|^2=14.5\text{dB}$ (f=500MHz)
- . NF=2.3dB, $|S_{21e}|^2=9\text{dB}$ (f=1000MHz)

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CB0}	15	V
Collector-Emitter Voltage	V _{CE0}	7.5	V
Emitter-Base Voltage	V _{EB0}	3	V
Base Current	I _B	40	mA
Collector Current	I _C	80	mA
Collector Power Dissipation	P _C	300	mW
Collector Power Dissipation	P _C * [‡]	800	mW
Junction Temperature	T _j	125	°C
Storage Temperature Range	T _{stg}	-55 ~ 125	°C

P_C*: When mounted cermic substrate of 250mm² × 0.8t



Marking : MA
Weight : 0.052g

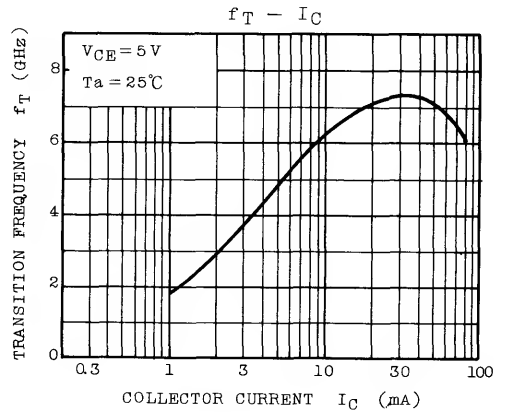
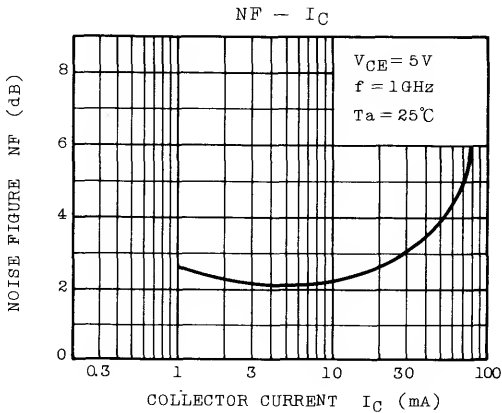
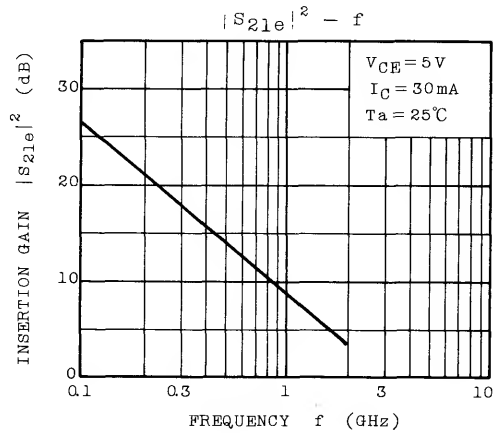
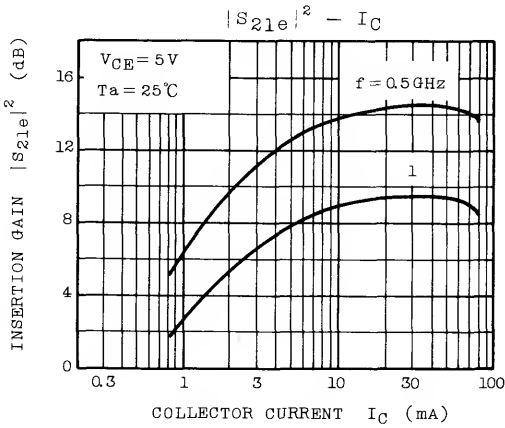
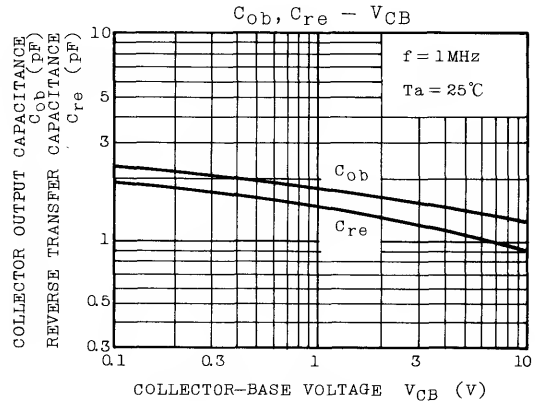
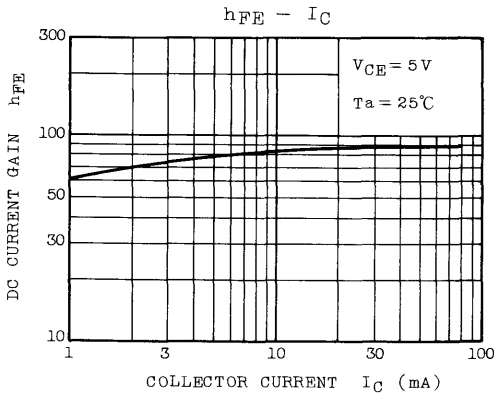
MICROWAVE CHARACTERISTICS (Ta=25°C)

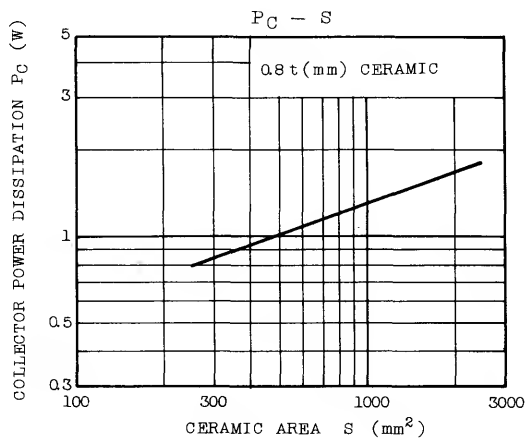
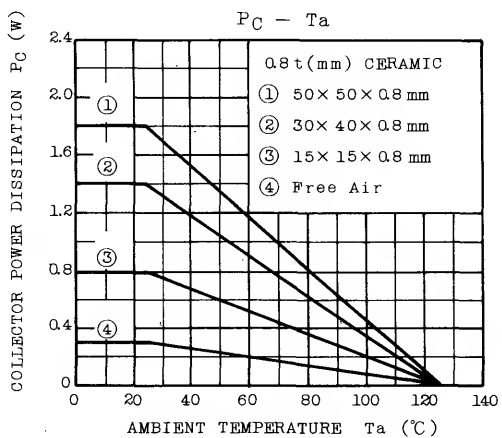
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Transition Frequency	f _T	V _{CE} =5V, I _C =30mA	-	7	-	GHz
Insertion Gain	$ S_{21e} ^2(1)$	V _{CE} =5V, I _C =30mA, f=500MHz	-	14.5	-	dB
	$ S_{21e} ^2(2)$	V _{CE} =5V, I _C =30mA, f=1GHz	-	9	-	dB
Noise Figure	NF(1)	V _{CE} =5V, I _C =10mA, f=500MHz	-	1.7	-	dB
	NF(2)	V _{CE} =5V, I _C =10mA, f=1GHz	-	2.3	-	dB

ELECTRICAL CHARACTERISTICS (Ta=25°C)

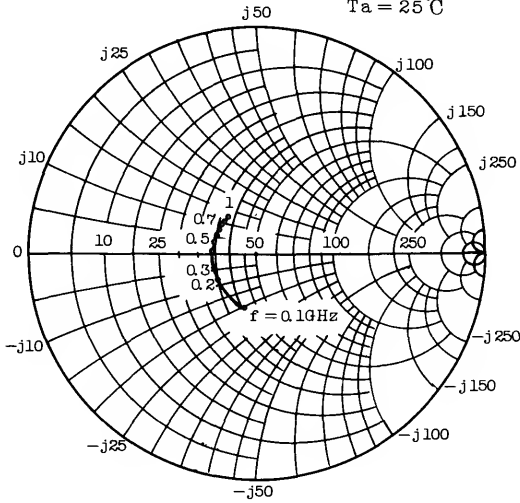
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I _{CB0}	V _{CB} =10V, I _E =0	-	-	0.1	μA
Emitter Cut-off Current	I _{EB0}	V _{EB} =1V, I _C =0	-	-	1	μA
DC Current Gain	h _{FE}	V _{CE} =3V, I _C =50mA	30	-	200	
Collector Output Capacitance	C _{ob}	V _{CB} =5V, I _E =0, f=1MHz	-	1.45	-	pF
Reverse Transfer Capacitance	C _{re}	(Note)	-	1.1	-	pF

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



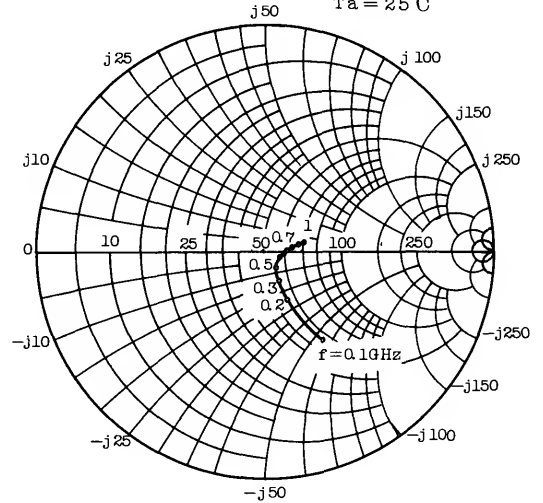


$V_{CE} = 5V$
 $I_C = 30mA$
 $T_a = 25^\circ C$



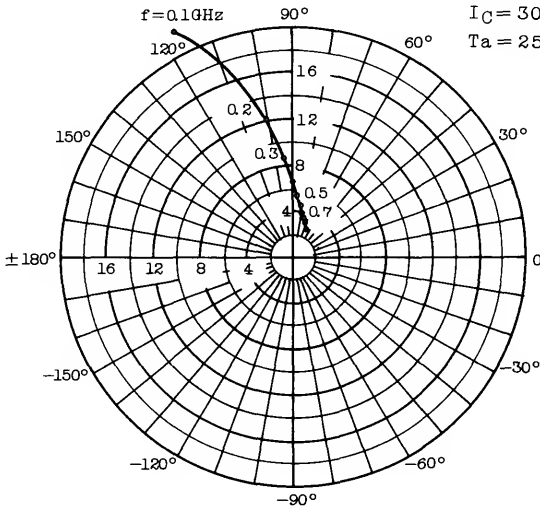
S_{11e}
 (UNIT : Ω)

$V_{CE} = 5V$
 $I_C = 30mA$
 $T_a = 25^\circ C$



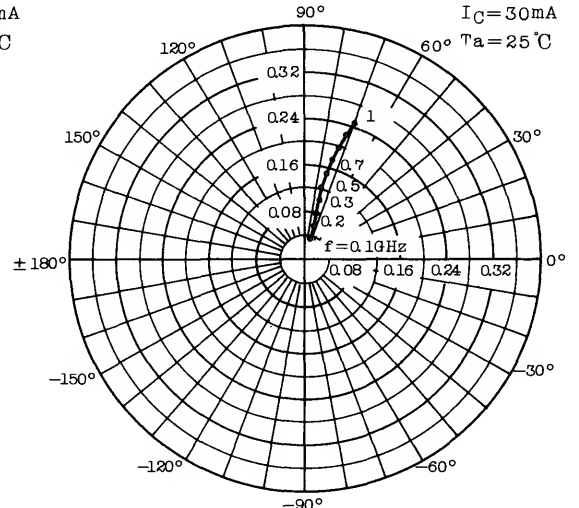
S_{22e}
 (UNIT : Ω)

$V_{CE} = 5V$
 $I_C = 30mA$
 $T_a = 25^\circ C$



S_{21e}

$V_{CE} = 5V$
 $I_C = 30mA$
 $T_a = 25^\circ C$



S_{12e}