

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

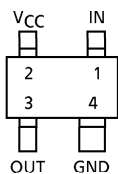
TA4001F

VHF UHF WIDE BAND AMPLIFIER

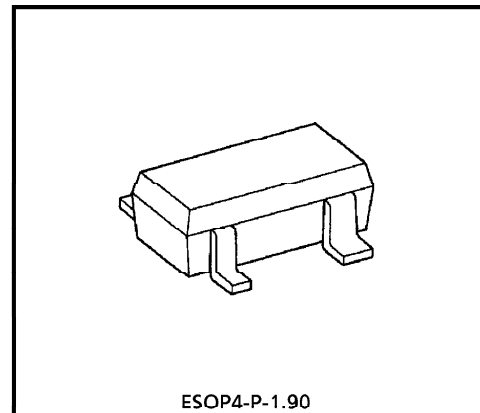
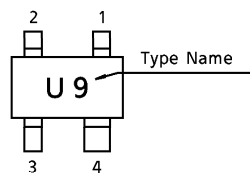
FEATURES

- Band Width 2.4GHz (Typ.) (3dB down)
- High Gain : $|S_{21}|^2 = 12.5\text{dB}$ (Typ.) (f = 500MHz)
- 50Ω Input and Output Impedance
- Small Package

PIN ASSIGNMENT (TOP VIEW)



Marking



Weight : 0.013g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC}	6	V
Total Power Dissipation	P _D *	300	mW
Operating Temperature	T _{opr}	-40~85	°C
Storage Temperature	T _{stg}	-55~125	°C

* When mounted glass epoxy of 2.5cm² × 1.6t

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

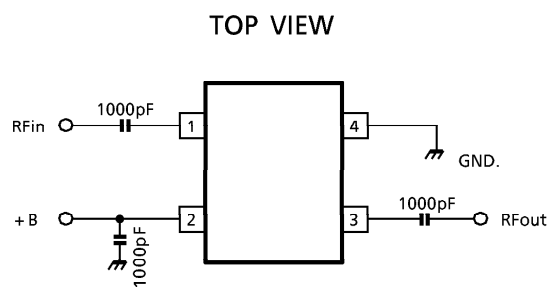
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Circuit Current	I _{CC}	—	V _{CC} = 5V, Non carrier	14	18	24	mA
Insertion Gain	$ S_{21} ^2$	1	V _{CC} = 5V, f = 500MHz	9	12.5	16	dB
Band Width	BW	1	V _{CC} = 5V (Note 1)	1.9	2.4	—	GHz
Noise Figure	NF	1	V _{CC} = 5V, f = 500MHz	—	5.2	7	dB
Input Return Loss	$ S_{11} ^2$	1	V _{CC} = 5V, f = 500MHz	—	-18	—	dB
Output Return Loss	$ S_{22} ^2$	1	V _{CC} = 5V, f = 500MHz	—	-21	—	dB
Isolation	$ S_{12} ^2$	1	V _{CC} = 5V, f = 500MHz	—	-22	—	dB
Maximum Output Level	P _o	1	V _{CC} = 5V, f = 500MHz, Pin = 0dBmW	—	2	—	dBmW

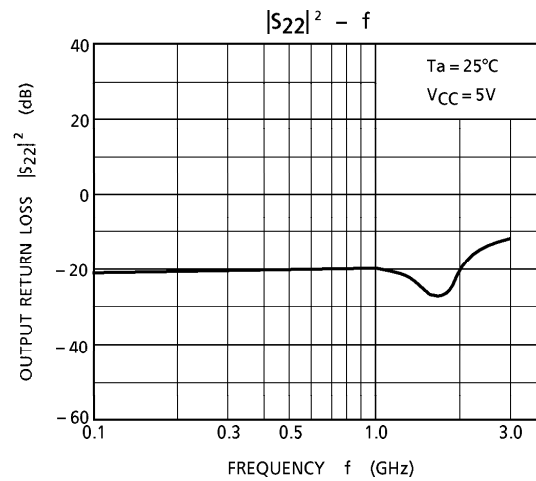
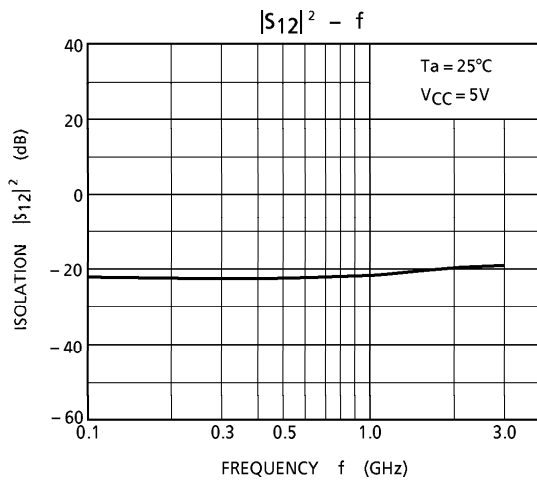
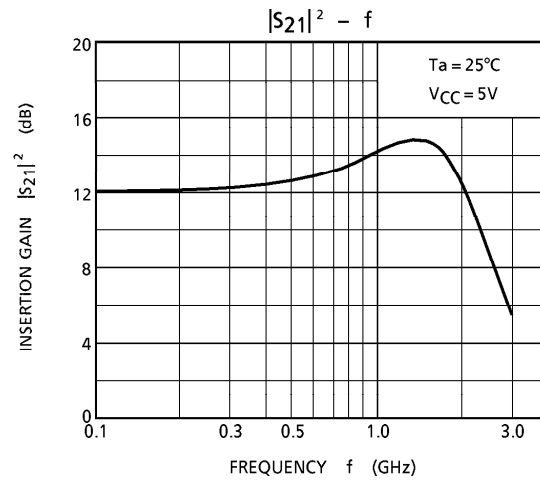
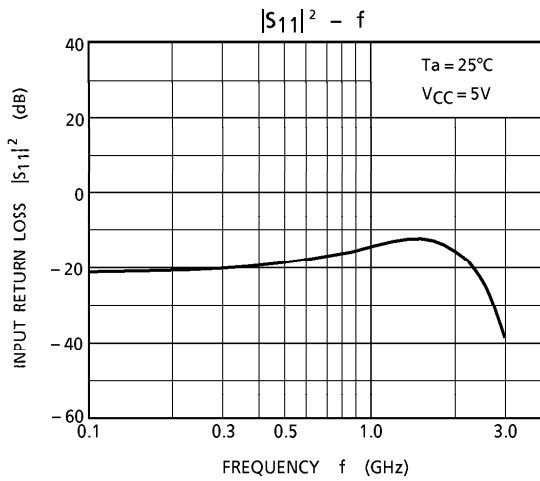
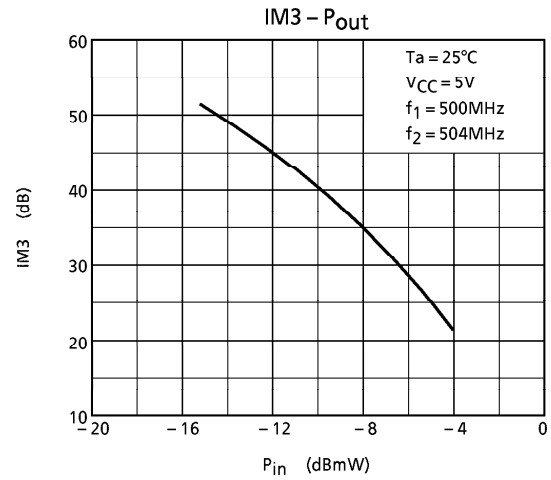
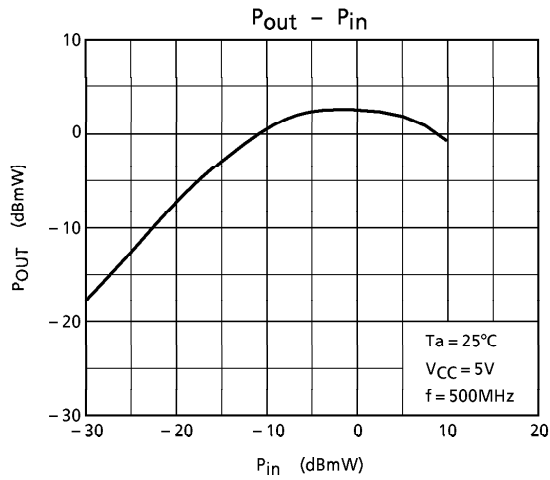
Note 1 : BW is frequency of 3dB down from $|S_{21}|^2$ at 500MHz.

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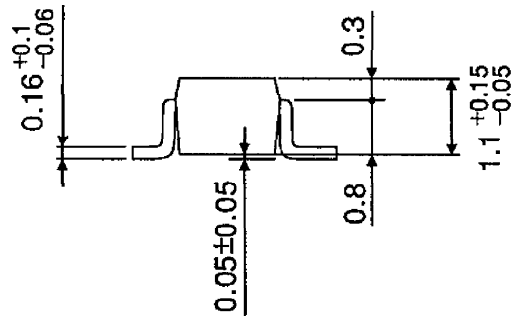
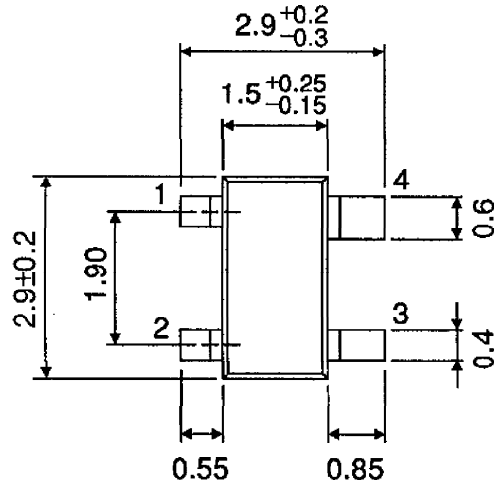
TEST CIRCUIT 1





OUTLINE DRAWING
ESOP4-P-1.90

Unit : mm



Weight : 0.013g (Typ.)