

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

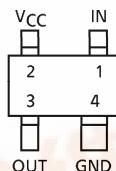
## TA4001F

## VHF UHF WIDE BAND AMPLIFIER

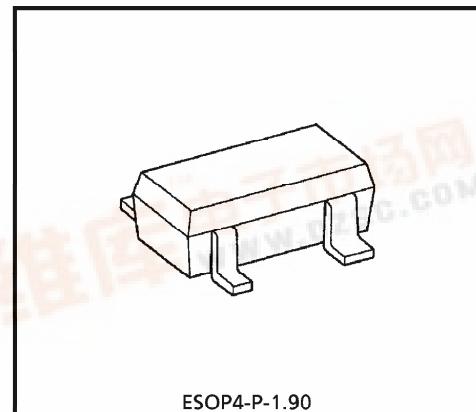
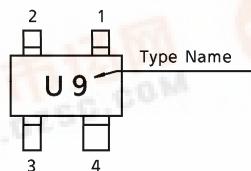
## FEATURES

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

## PIN ASSIGNMENT (TOP VIEW)



## Marking



Weight : 0.013g (Typ.)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	$V_{CC}$	6	V
Total Power Dissipation	$P_D^*$	300	mW
Operating Temperature	$T_{opr}$	$-40 \sim 85$	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	$-55 \sim 125$	$^\circ\text{C}$

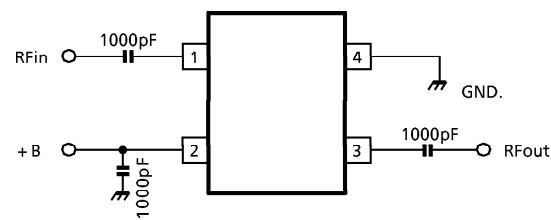
\* When mounted glass epoxy of  $2.5\text{cm}^2 \times 1.6\text{t}$ ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

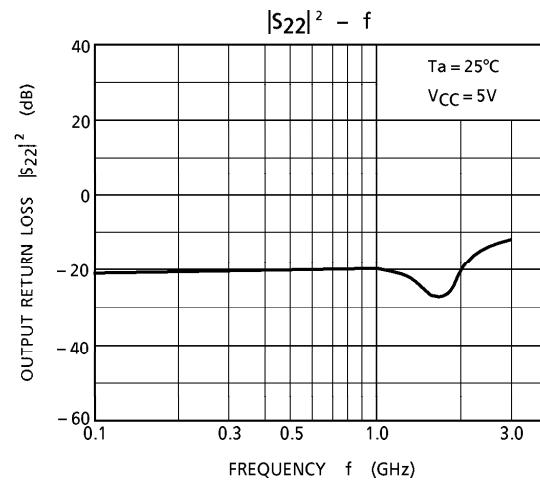
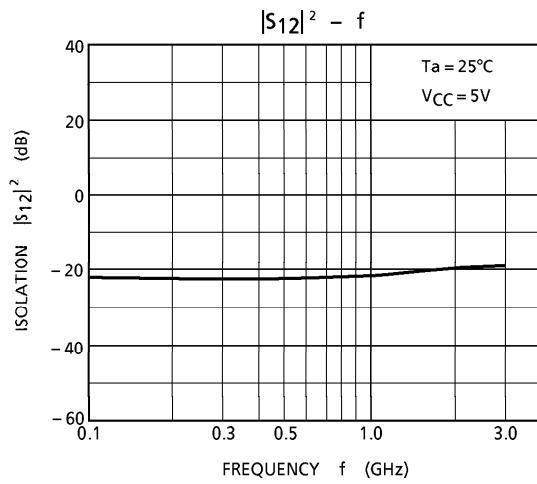
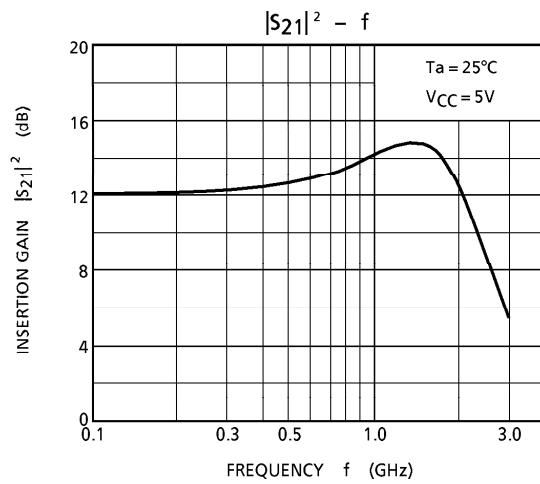
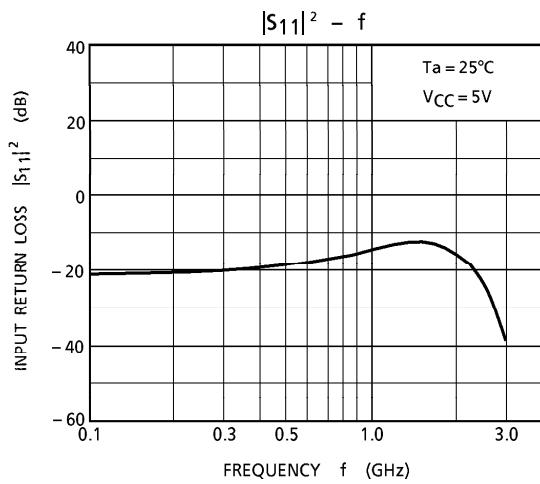
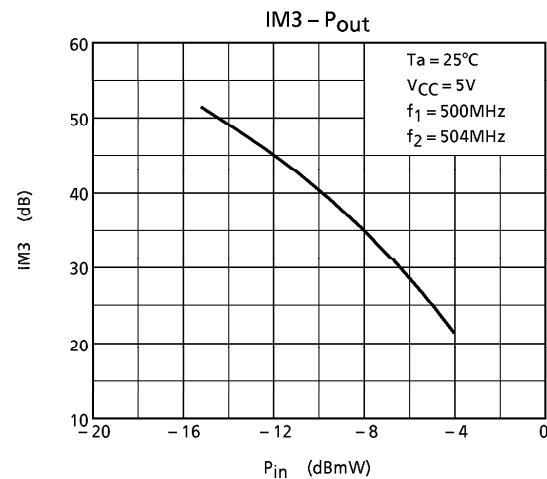
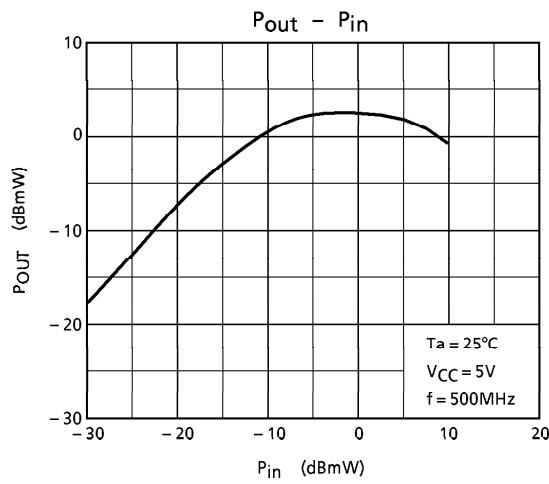
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Circuit Current	$I_{CC}$	—	$V_{CC} = 5\text{V}$ , Non carrier	14	18	24	mA
Insertion Gain	$ S_{21} ^2$	1	$V_{CC} = 5\text{V}$ , $f = 500\text{MHz}$	9	12.5	16	dB
Band Width	BW	1	$V_{CC} = 5\text{V}$ (Note 1)	1.9	2.4	—	GHz
Noise Figure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

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

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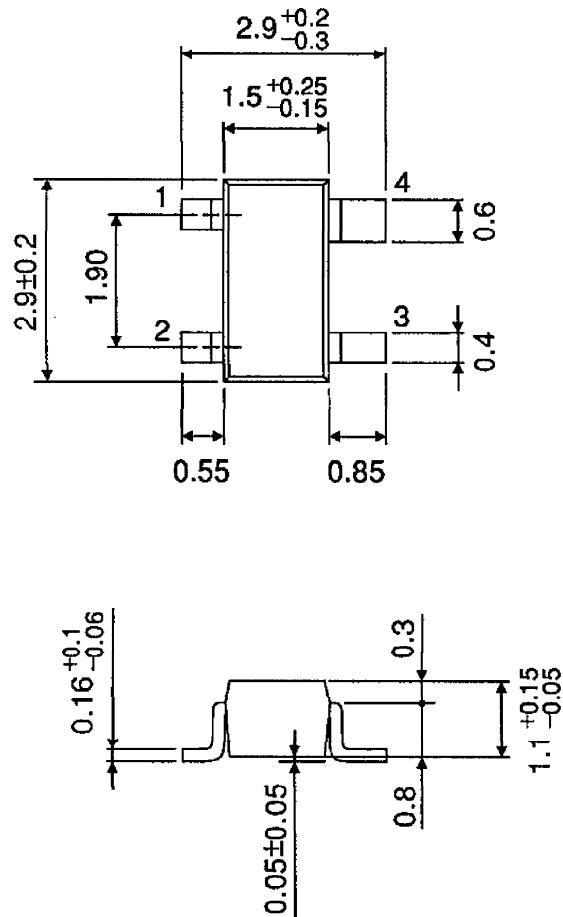
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**TEST CIRCUIT 1****TOP VIEW**



**OUTLINE DRAWING**  
ESOP4-P-1.90

Unit : mm



Weight : 0.013g (Typ.)