

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

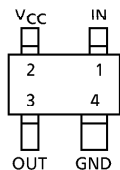
TA4002F

VHF~UHF WIDE BAND AMPLIFIER

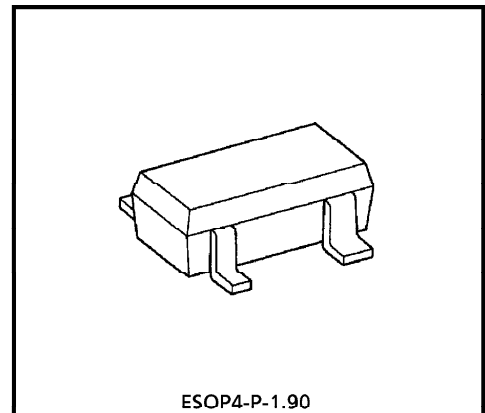
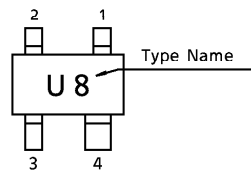
FEATURES

- Band Width 1.3GHz (Typ.) (3dB down)
- High Gain : $|S_{21}|^2 = 23\text{dB}$ (Typ.) ($f = 500\text{MHz}$)
- 50Ω 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}	-40~85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~125	$^\circ\text{C}$

* When mounted glass epoxy of $2.5\text{cm}^2 \times 1.6\text{t}$

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

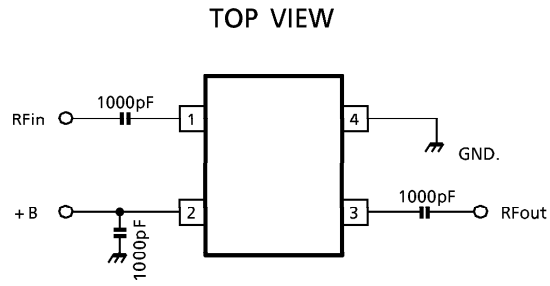
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Circuit Current	I_{CC}	—	$V_{CC} = 5\text{V}$, Non carrier	10	14	20	mA
Insertion Gain	$ S_{21} ^2$	1	$V_{CC} = 5\text{V}$, $f = 500\text{MHz}$	20	23	26	dB
Band Width	BW	1	$V_{CC} = 5\text{V}$ (Note 1)	0.8	1.3	—	GHz
Noise Figure	NF	1	$V_{CC} = 5\text{V}$, $f = 500\text{MHz}$	—	4.7	7	dB
Input Return Loss	$ S_{11} ^2$	1	$V_{CC} = 5\text{V}$, $f = 500\text{MHz}$	—	-8	—	dB
Output Return Loss	$ S_{22} ^2$	1	$V_{CC} = 5\text{V}$, $f = 500\text{MHz}$	—	-15	—	dB
Isolation	$ S_{12} ^2$	1	$V_{CC} = 5\text{V}$, $f = 500\text{MHz}$	—	-33	—	dB
Maximum Output Level	P_O	1	$V_{CC} = 5\text{V}$, $f = 500\text{MHz}$, $P_{in} = 0\text{dBmW}$	—	5	—	dBmW

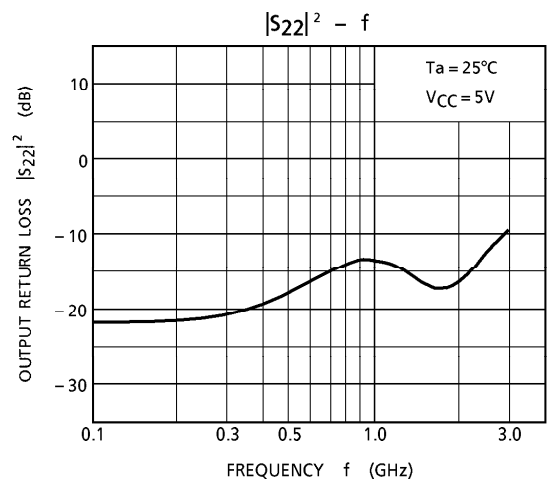
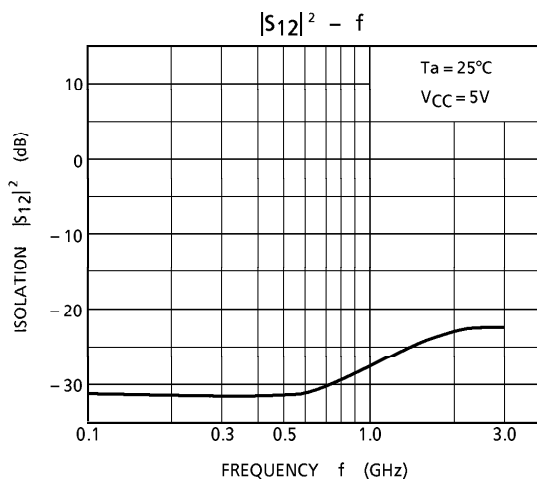
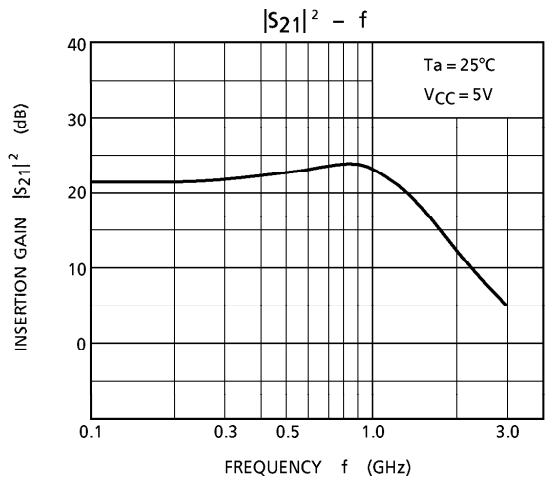
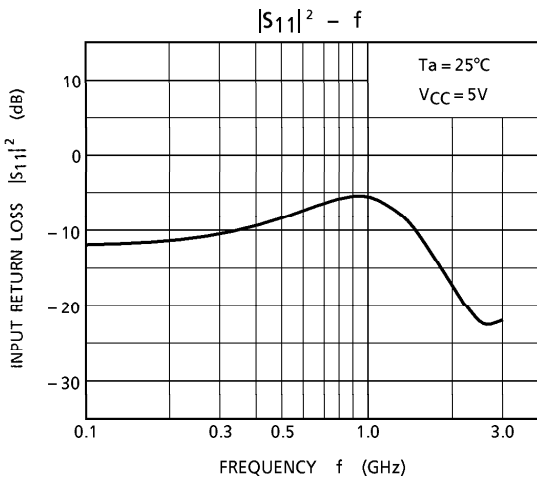
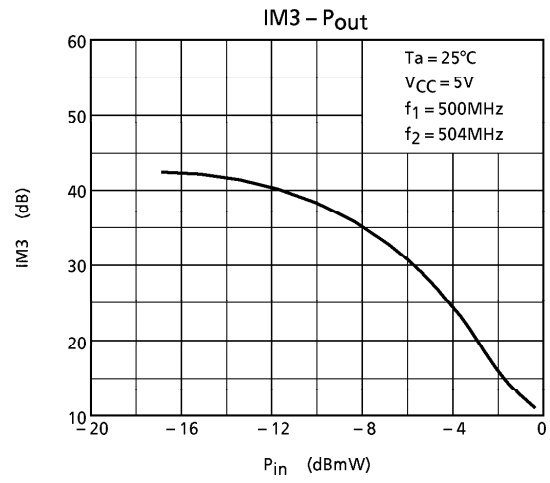
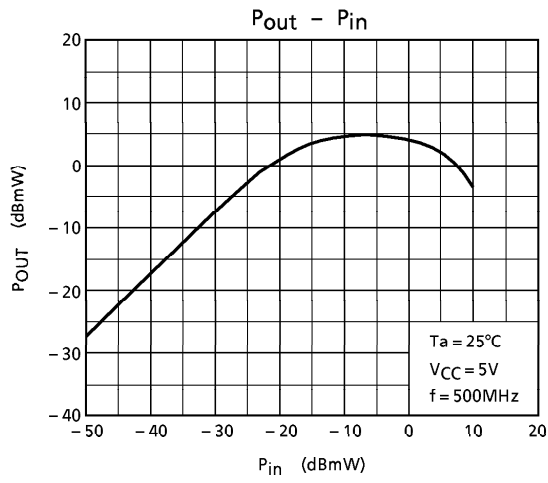
Note 1 : BW is frequency of 3dB down from $|S_{21}|^2$ at 500MHz.

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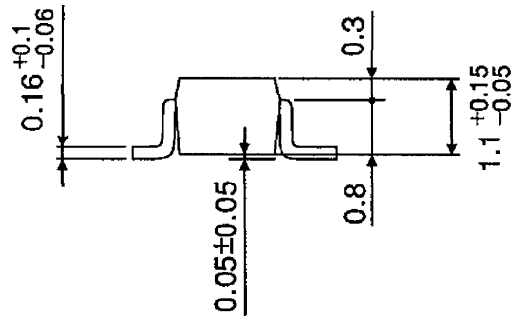
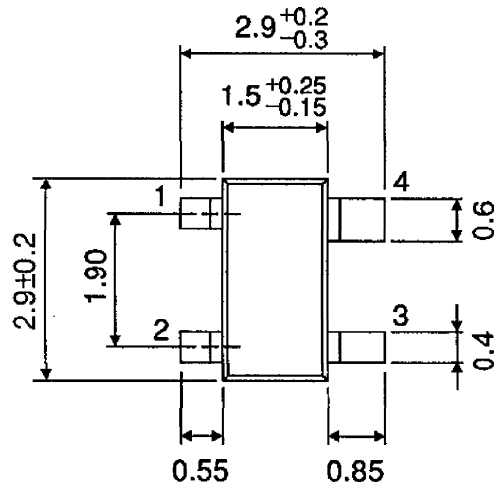
TEST CIRCUIT 1





OUTLINE DRAWING
ESOP4-P-1.90

Unit : mm



Weight : 0.013g (Typ.)