

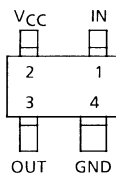
# TA4002F

## VHF~UHF Wide Band Amplifier

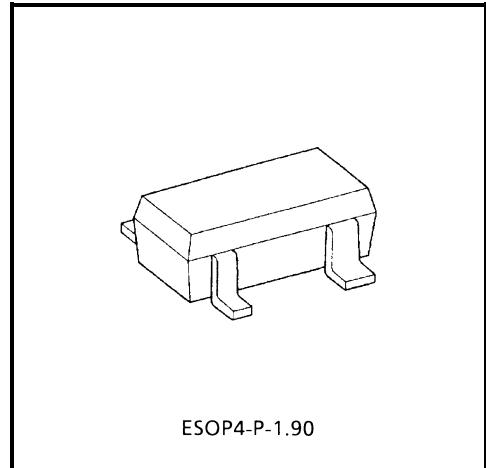
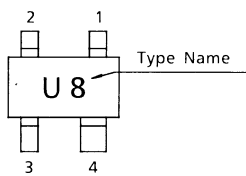
### Features

- Band width: 1.3 GHz (typ.) (3dB down)
- High gain:  $|S_{21}|^2 = 23\text{dB}$  (typ.) ( $f = 500\text{ MHz}$ )
- 50  $\Omega$  Input and output impedance
- Small package

### Pin Assignment (top view)



### Marking



Weight: 0.013 g (typ.)

### Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Supply voltage	V <sub>CC</sub>	6	V
Total power dissipation	P <sub>D</sub> (Note1)	300	mW
Operating temperature	T <sub>opr</sub>	-40~85	°C
Storage temperature	T <sub>stg</sub>	-55~125	°C

Note 1: When mounted glass epoxy of 2.5 cm<sup>2</sup> × 1.6 t

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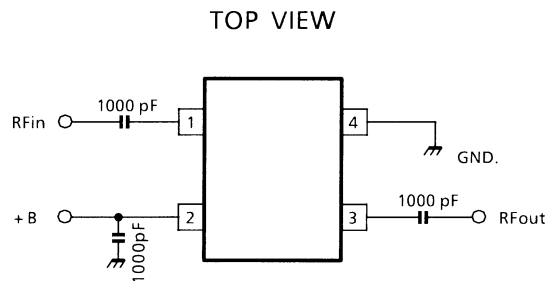
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**Electrical Characteristics (Ta = 25°C)**

Characteristics	Symbol	Test Circuit	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 2)	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 2: BW is frequency of 3dB down from  $|S_{21}|^2$  at 500 MHz.

**Test Circuit 1**



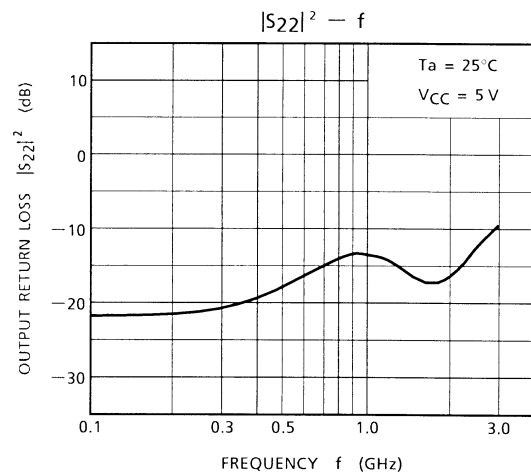
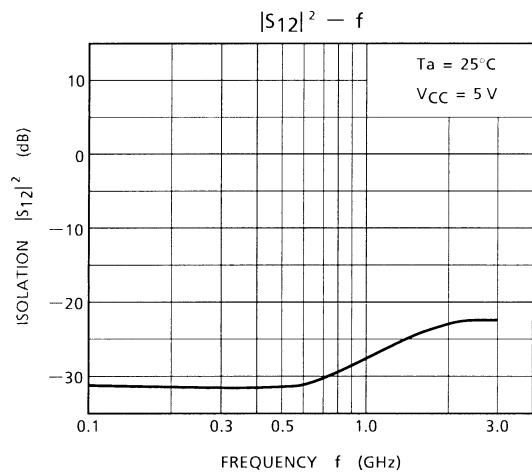
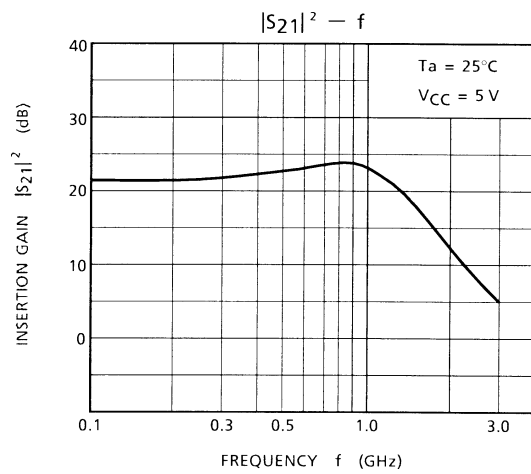
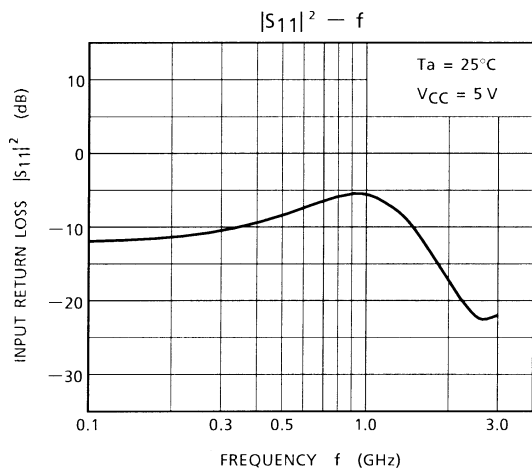
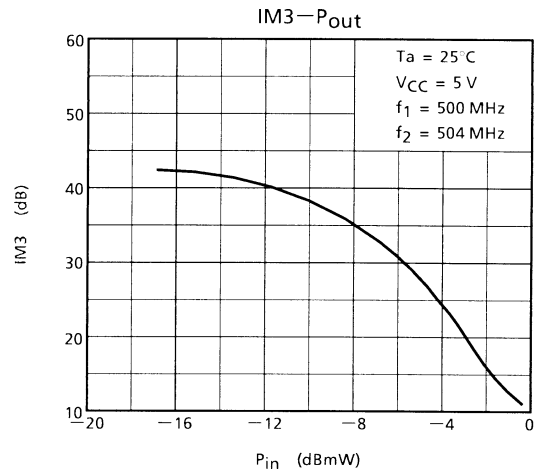
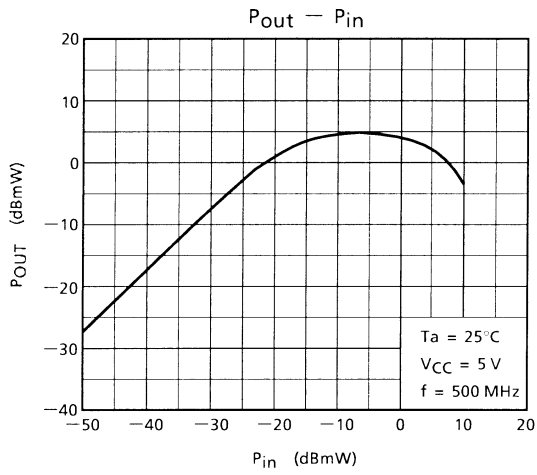
**Notice**

The circuits and measurements contained in this document are given only in the context of as examples of applications for these products.

Moreover, these example application circuits are not intended for mass production, since the high-frequency characteristics (the AC characteristics) of these devices will be affected by the external components which the customer uses, by the design of the circuit and by various other conditions.

It is the responsibility of the customer to design external circuits which correctly implement the intended application, and to check the characteristics of the design.

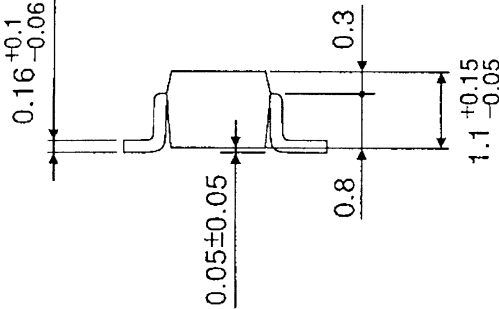
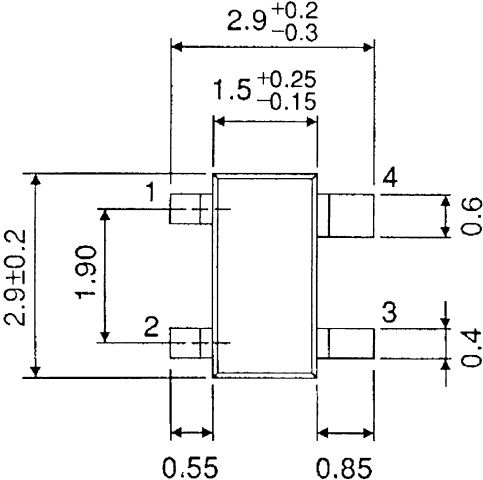
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Package Dimensions

ESOP4-P-1.90

Unit : mm



Weight : 0.013 g (Typ.)