

### Features

- Freq: 2~4GHz
- Gain: 11dB
- Noise Figure: 4dB
- Output Power for 1 dB Compression: 14dBm
- Supply Voltage: +5V
- Supply Current: 30mA
- Chip Size: 1.5mm×1.27mm×0.1mm

### General Description

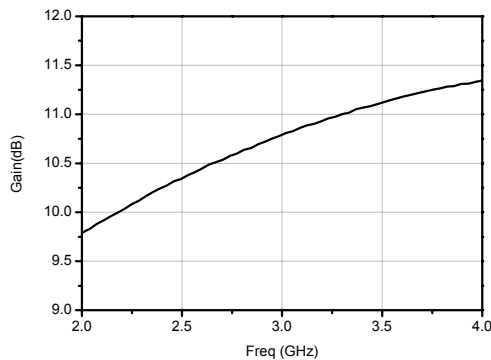
The HG113FW is a GaAs pHEMT MMIC Low Noise Amplifier operating between 2 and 4 GHz. The LNA has been optimized to provide 11dB gain, 4 dB noise figure and 14 dBm output power for 1dB compression.

### Electrical Specifications ( $T_A=25^\circ\text{C}$ , $V_{dd}=+5\text{V}$ ).

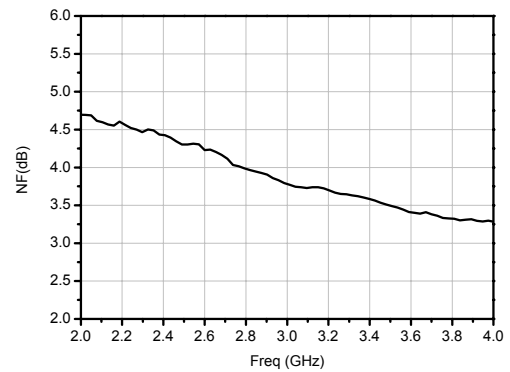
Parameter	Min.	Typ.	Max.
Freq(GHz)	2~4		
Gain (dB)	—	11	—
Gain Flatness (dB)	—	$\pm 0.1$	—
Input VSWR	—	1.1	—
Output VSWR	—	1.2	—
Noise Figure(dB)	—	4	—
Output Power for 1 dB Compression(dBm)	—	14	—

### Measured Performance

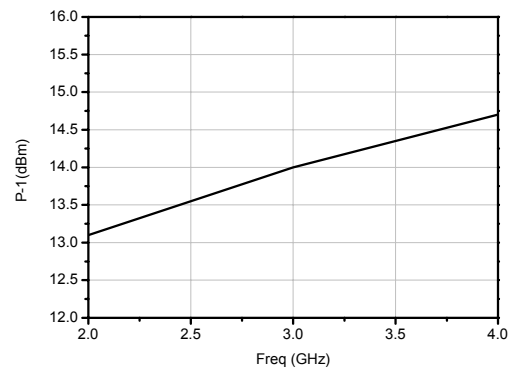
#### Gain



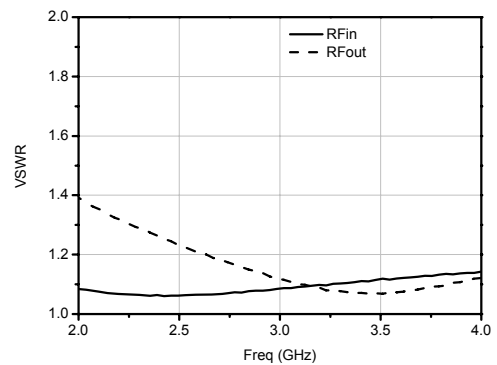
#### Noise Figure



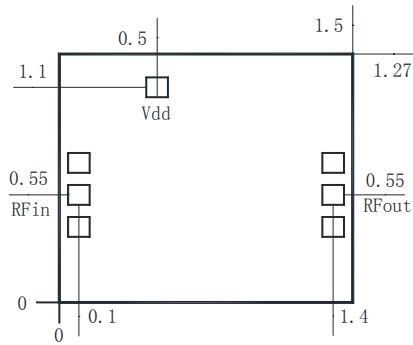
#### Output Power for 1dB Compression



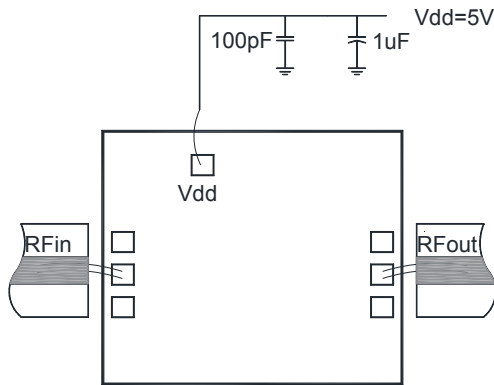
#### VSWR



### Outline Drawing (mm)



### Assembly Diagram



### Absolute Maximum Ratings

Supply Voltage	+5.5V
RF Input Power	+15dBm
Operating Temperature	-55°C ~ 125°C
Storage Temperature	-65°C ~ 150°C

### Notes:

1. The chip should be stored in a dry and nitrogen environment, and used in a clean environment.
2. GaAs material is brittle, can not touch the surface of the chip, must be careful when using.
3. The chip is welding with conductive adhesive or alloy (alloy temperature should not exceed 300°C, and no more than 30 sec. ), and should make it fully grounded.
4. The chip microwave port and substrate gap is not exceeding 0.05mm, with  $\Phi 25\mu\text{m}$  double gold wire bonding, suggested length of gold wire 250~400 $\mu\text{m}$ .
5. Chip microwave port with a DC blocking capacitor.
6. The chip is sensitive to static electricity, and should be protected against static electricity during storage and use.