Features

Freq: 0.8~4GHz

Gain: 38dB

Noise Figure: 1.5dB

Output Power for 1 dB Compression:20dBm

Supply Voltage: +5V

Supply Current: 115mA

Chip Size:1.57mm×1.25mm×0.1mm

General Description

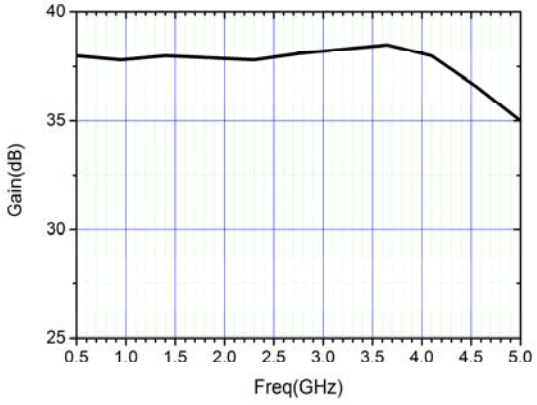
The HG113FD-1 is a GaAs pHEMT MMIC Low Noise Amplifier operating between 0.8 and 4GHz. The LNA has been optimized to provide 38dB gain, 1.5dB noise figure and 20dBm output power for 1dB compression. The external DC blocking capacitors and choke inductor are required. See assembly diagram.

Electrical Specifications(T_A=25 ℃,Vdd= +5V).

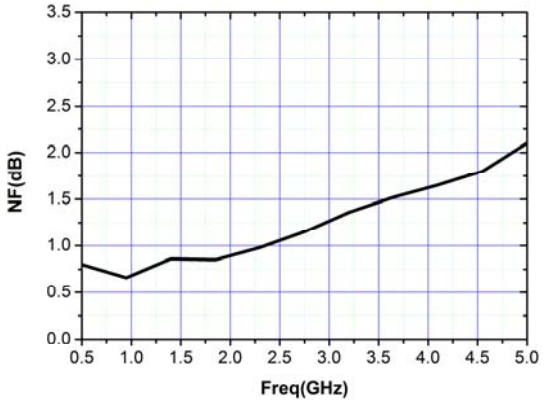
Parameter	Min.	Typ.	Max.
Freq(GHz)		0.8~4	
Gain (dB)	—	38	—
Gain Flatness (dB)	—	±0.5	—
Input VSWR	—	1.3	—
Output VSWR	—	1.6	—
Noise Figure(dB)	—	1.5	—
Output Power for 1 dB Compression(dBm)	—	20	—

Measured Performance

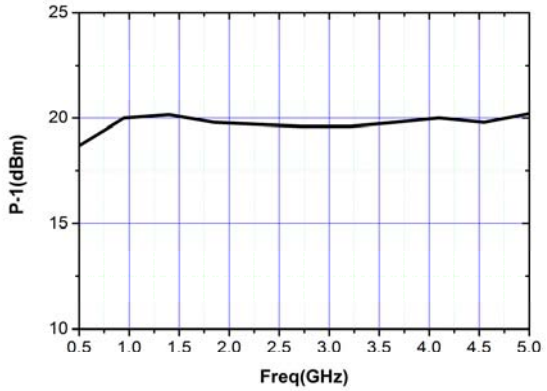
Gain



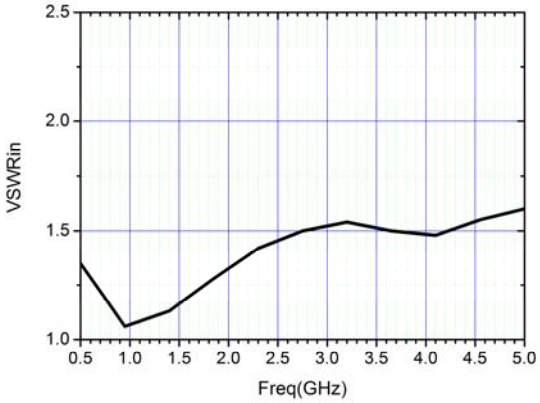
Noise Figure



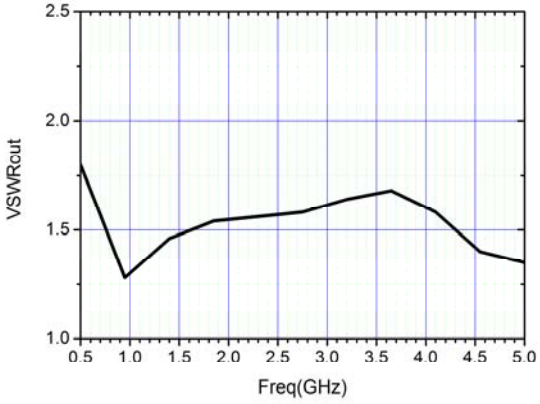
Output Power for 1dB Compression



Input VSWR



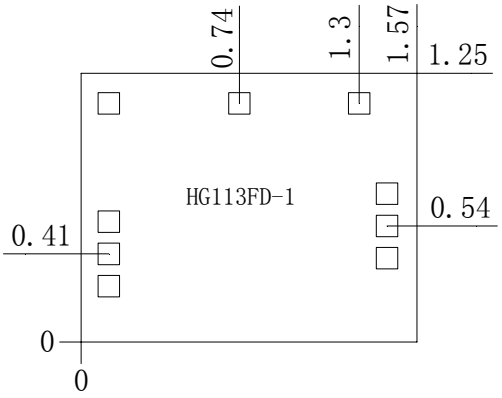
Output VSWR



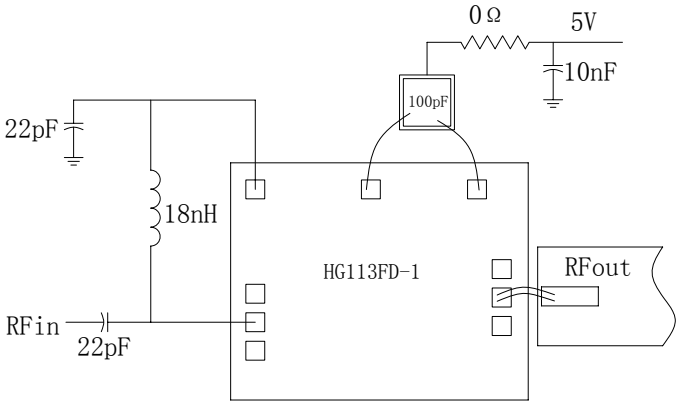
Absolute Maximum Ratings

Supply Voltage	+5.5V
RF Input Power	+18dBm
Operating Temperature	-55℃～125℃
Storage Temperature	-65℃～150℃

Outline Drawing (mm)



Assembly Diagram



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℃, 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 Φ25μm double gold wire bonding, suggested length of gold wire 250～400μm.
5. Chip microwave port without DC blocking capacitor.
6. The chip is sensitive to static electricity, and should be protected against static electricity during storage and use.