

**Features**

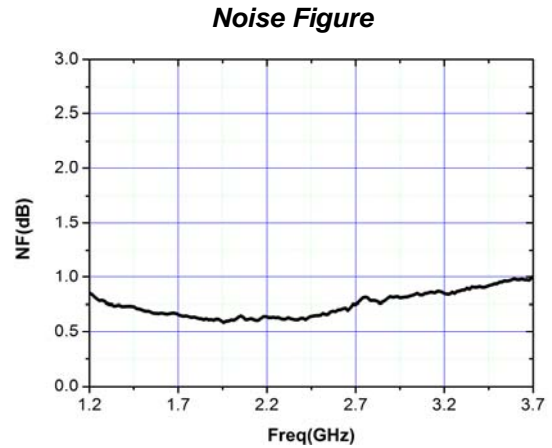
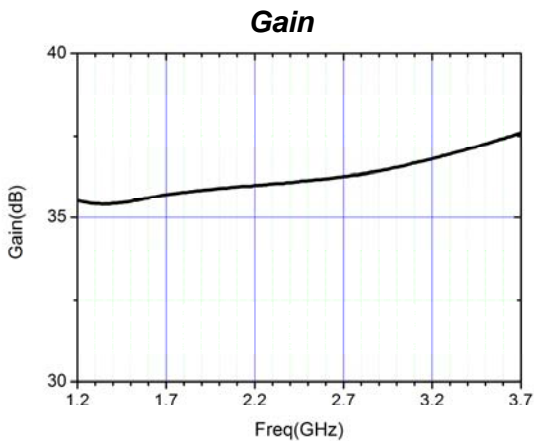
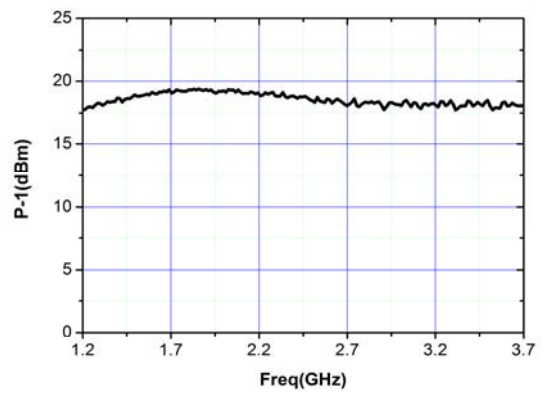
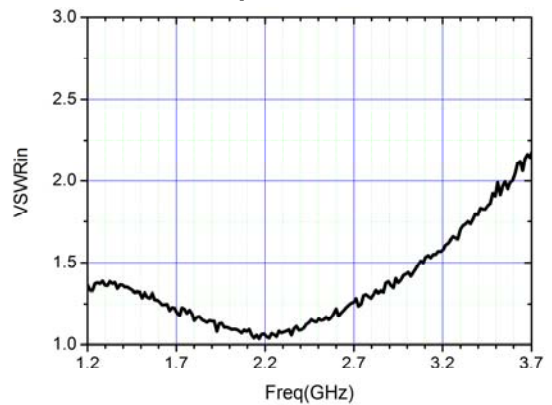
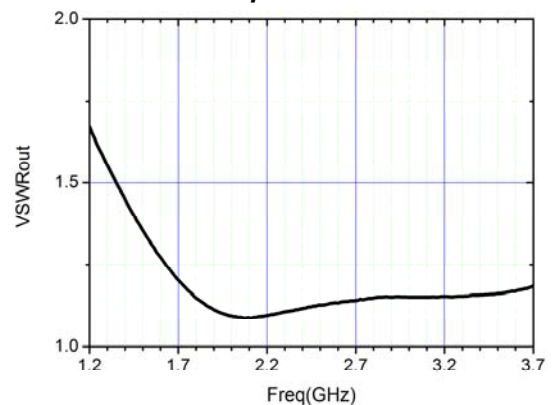
Freq: 1.4~3GHz  
 Gain: 36dB  
 Noise Figure: 0.8dB  
 Output Power for 1 dB Compression: 18dBm  
 Supply Voltage: +5V  
 Supply Current: 100mA  
 Chip Size: 1.57mm×1.25mm×0.1mm

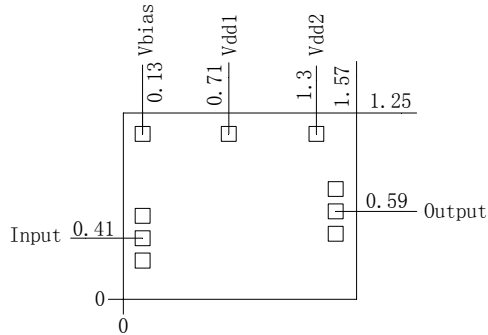
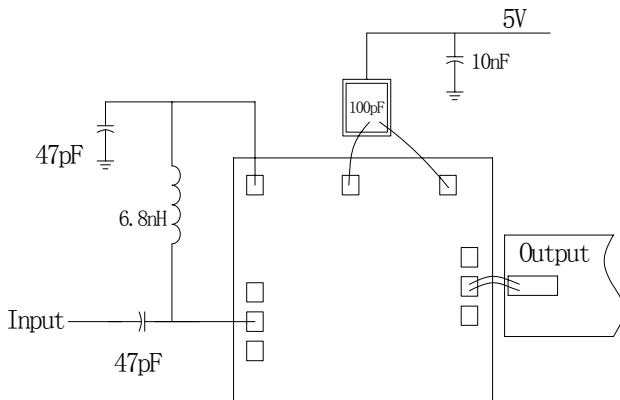
**General Description**

The HG113FB-3 is a GaAs pHEMT MMIC Low Noise Amplifier operating between 1.4 and 3GHz. The LNA has been optimized to provide 36dB gain, 0.8dB noise figure and 18 dBm output power for 1dB compression. The external DC blocking capacitors and choke inductor are required. See assembly diagram.

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

Parameter	Min.	Typ.	Max.
Freq(GHz)	1.4~3		
Gain (dB)	—	36	—
Gain Flatness (dB)	—	±0.5	—
Input VSWR	—	1.5	—
Output VSWR	—	1.2	—
Noise Figure(dB)	—	0.8	—
Output Power for 1 dB Compression(dBm)	—	18	—

**Measured Performance**

**Output Power for 1dB Compression**

**Input VSWR**

**Output VSWR**


**Outline Drawing (mm)**

**Assembly Diagram**

**Absolute Maximum Ratings**

Supply Voltage	+5.5V
RF Input Power	+18dBm
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 without DC blocking capacitor.
6. The chip is sensitive to static electricity, and should be protected against static electricity during storage and use.