## General Description

MWL105 is a low-noise amplifier designed and manufactured by GaAs pHEMT process. The operating frequency band of this LNA can cover 55-70 GHz. It is powered by +2V voltage Vdd. The normal operating current is 72 mA. It provides 21 dB small signal gain. The output power reaches 10 dBm and the noise coefficient is 3.5 dB.

## Features

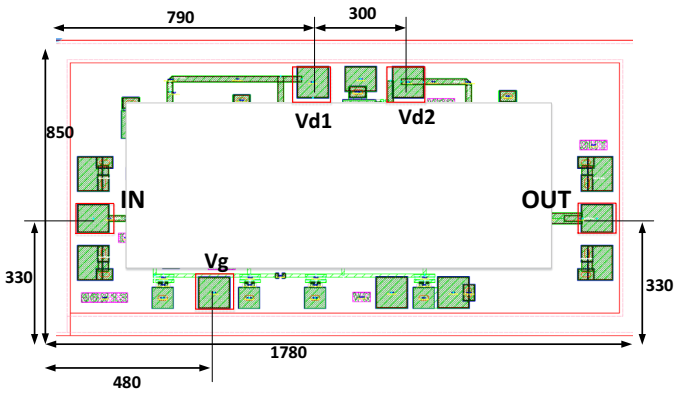
NF：3.5 dB

Gain：21 dB；

Output P1dB：+10dBm

Supply Current：+2V@72 mA

## Functional Diagram( Typical bond，100x100，unit，um)



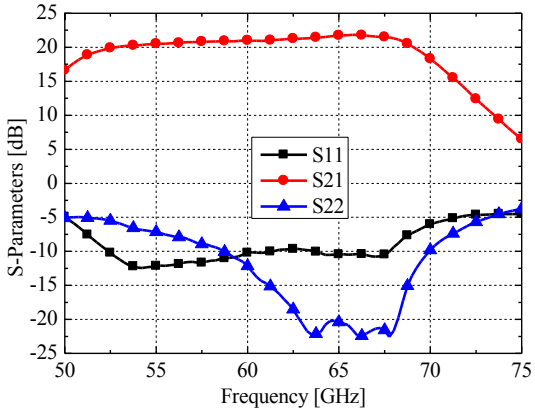

**(Die Thickness: 50 um)**

## Electrical Specifications，$T_A = +25℃$，$Vd1 = Vd2 = +2V$，$Vg = -0.5V$

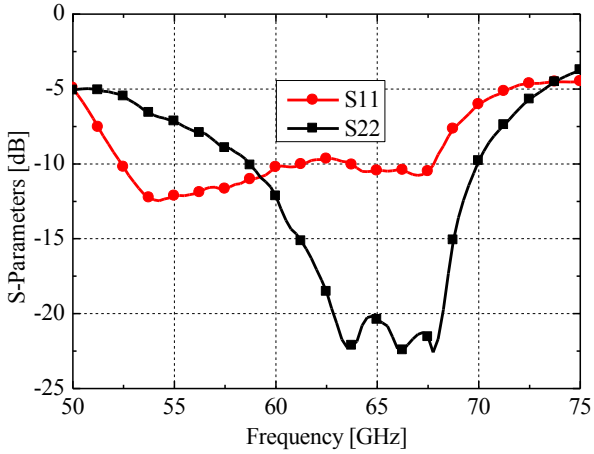
| Parameter | Min | Typ | Max | Unit |
|---|---|---|---|---|
| Bandwidth | 55 | | 70 | GHz |
| Gain | 18.5 | 21 | 22 | dB |
| Noise Figure | | 3.5 | 4 | dB |
| Input Return Loss | | 10 | | dB |
| Output Return Loss | 7 | 15 | | dB |
| Output Power for 1dB Compression | | 10 | | dBm |
| Supply Current （@Vdd=2V） | | 72 | | mA |

## Test Results

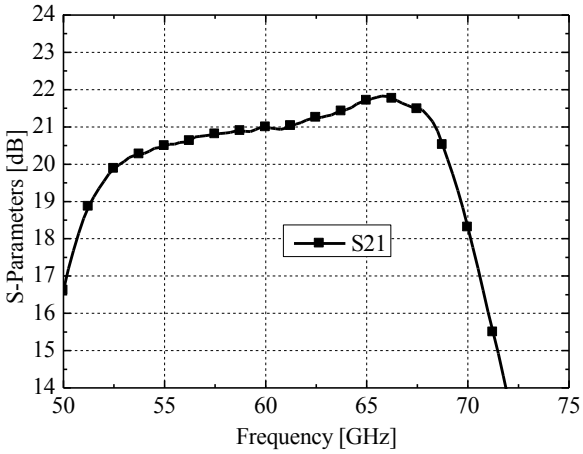
### S_Parameter



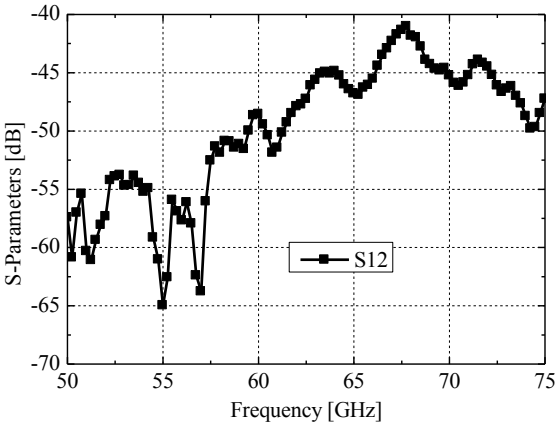

### Input/Output Return Loss



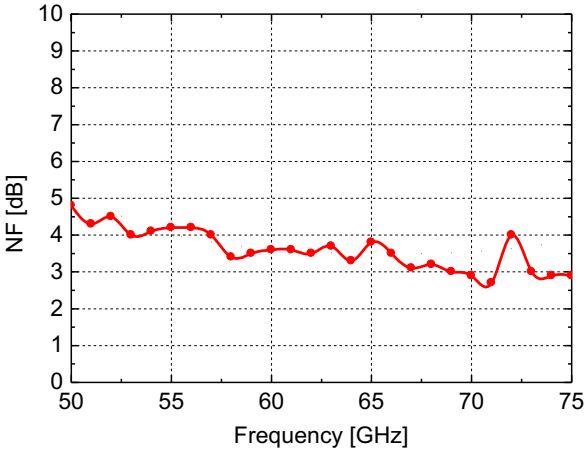

### Gain




### Isolation(S12)




### Noise Figure




### Assembly Diagram