

## General Description

MWL103 is a low-noise amplifier designed and manufactured by GaAs pHEMT process. This amplifier can cover 71-76 GHz operating frequency band, using + 3V voltage Vdd power supply, normal operating current 45 mA, providing 21 dB small signal gain, output power up to 10 dBm, noise coefficient 4.5 dB.

## Features:

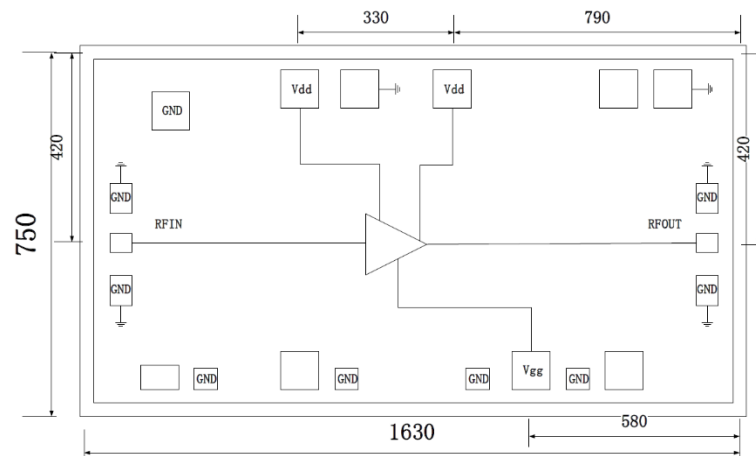
NF: 4.5 dB

Gain: 21 dB

Output P1dB: +10 dBm

Supply Current: +3.0V@ 45 mA

## Functional Diagram( Typical bond: 50x50, unit: um)



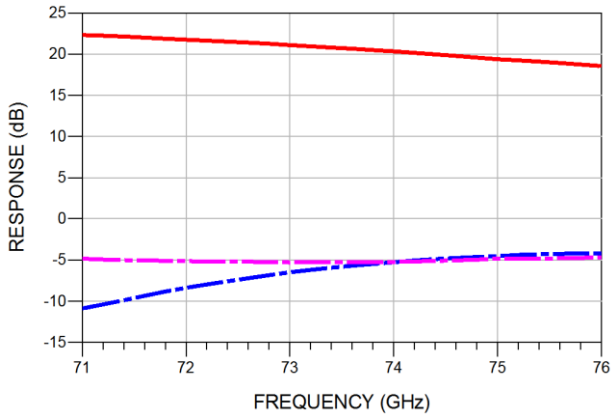
(Die Thickness: 50 um)

## Electrical Specifications, $T_A = +25^\circ\text{C}$ , Vdd = +3V, Vgg = -0.5V

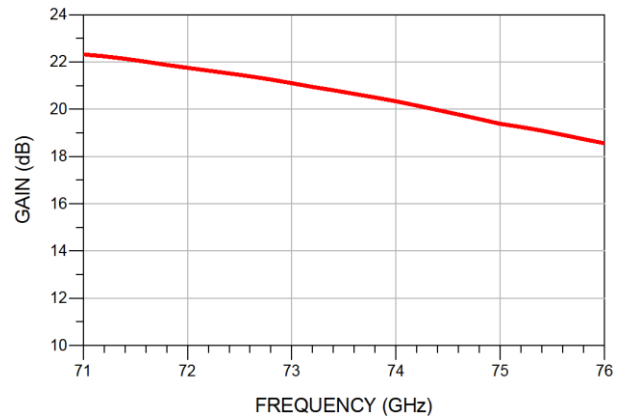
Parameter	Min	Typ	Max	Units
Bandwidth	71		76	GHz
Gain	19	21		dB
Noise Figure		4.5		dB
Input Return Loss	6	10		dB
Output Return Loss	5	6		dB
Output Power for 1dB Compression		+10		dBm
Supply Current (@Vdd=+3.0V)		45		mA

## Test Results

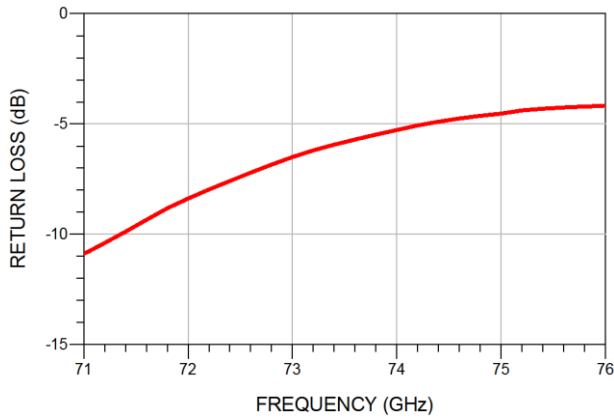
**S\_Parameter**



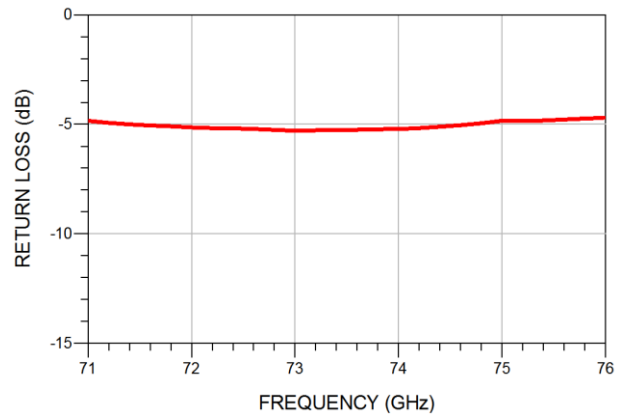
**Gain**



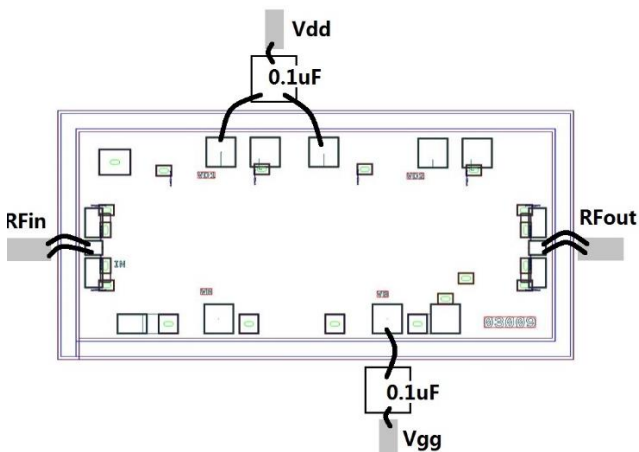
**Input Return Loss**



**Output Return Loss**



## Assembly Diagram



**Output P1dB**

