

## General Description

MWG101 is a broadband power driver amplifier designed and manufactured by GaAs pHEMT technology. The amplifier working frequency can cover 18-40GHz, powered by the +5V voltage, working current is 277mA, the small signal gain of 18dB.

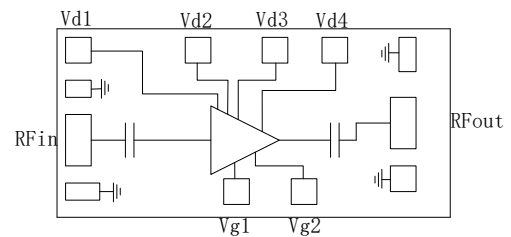
## Typical Current & Voltage

Voltage (V)	Current (mA)
+5V, -0.6V	270
+5V, -0.58V	277
+5V, -0.56	285

## Features

Gain: 18dB  
 Output P1dB: 22dBm  
 Psat: 22dBm  
 Supply Current: +5.0V, -0.58V@277mA

## Functional Diagram

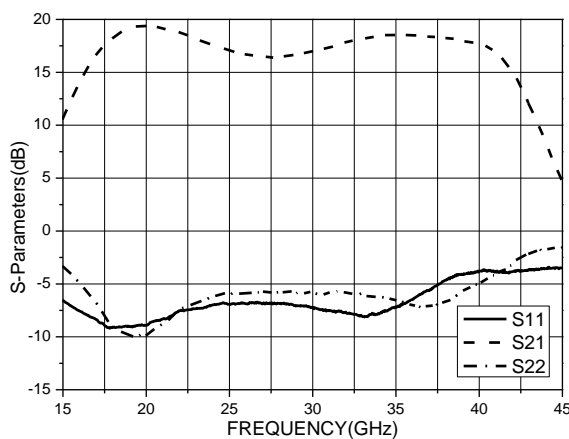


## Electrical Specification, TA = +25°C, Vdd = +5.0V

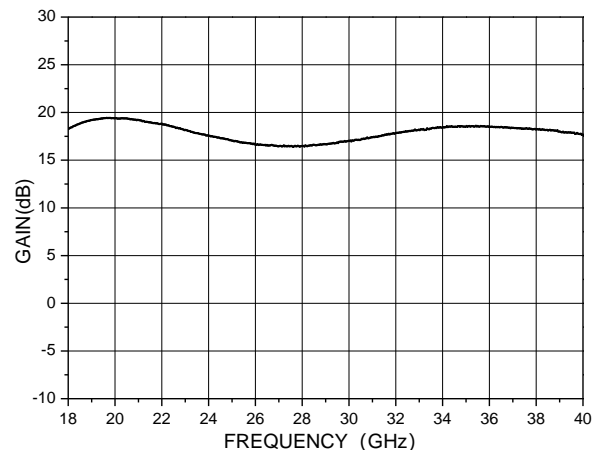
Parameter	Min	Typ	Max	Units
Bandwidth	18		40	GHz
Gain		18		dB
Gain Flatness		±1.5		dB
Input Return Loss		7		dB
Output Return Loss		7		dB
Output Power for 1dB Compression		22		dBm
Saturation Output Power		22		dBm
Supply Current (@Vdd=5V, Vg = -0.58V)		277		mA

## Test Results

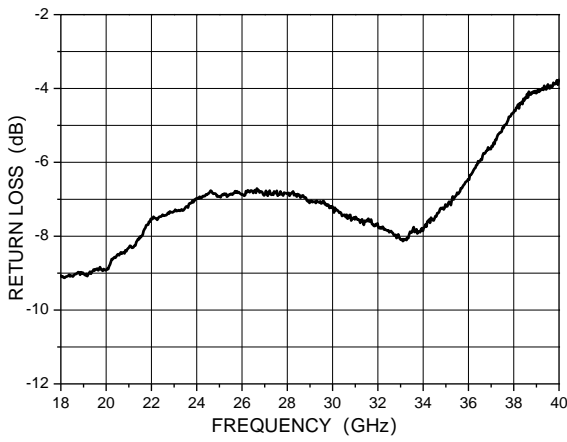
**S\_Parameter**



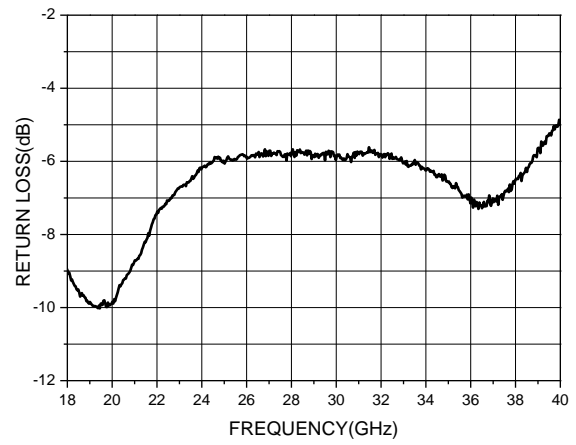
**Gain**



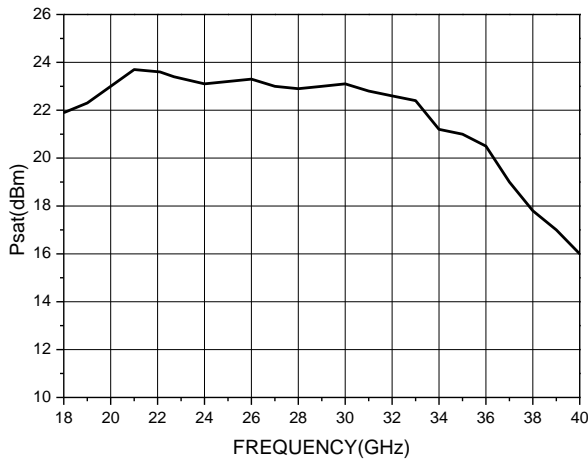
**Input Return Loss**



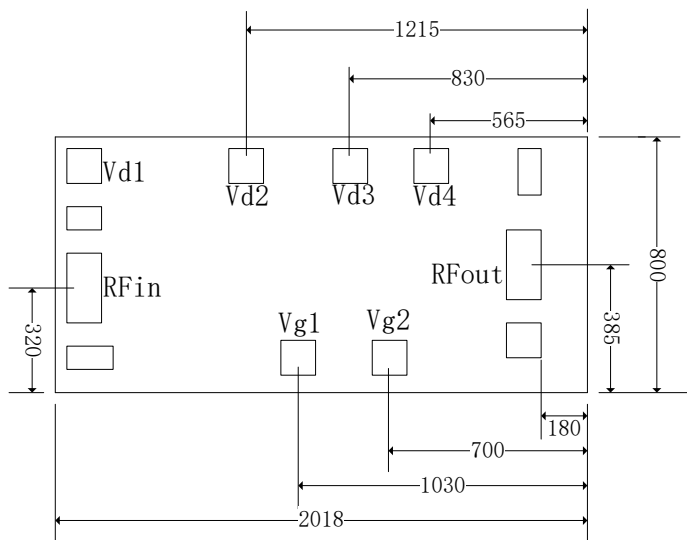
**Output Return Loss**



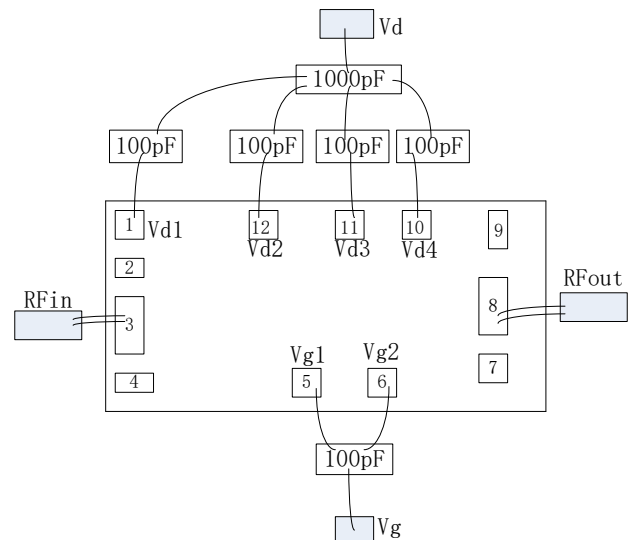
**Psat**



**Chip Size (unit:  $\mu\text{m}$ )**



**Assembly Diagram**



## Pin Description

Pin NO.	Function	Description
2、4、7、9	GND	Connect to RF/DC Ground
3	RF/IN	RF input, external 50Ohm system
8	RF/OUT	RF output, external 50Ohm system.
1、10、11、12	Vd	Amplifier power supply plus 100pF capacitor
5、6	Vg	The pad provides the power negative voltage of the amplifier, plus the 100pF capacitor.

## Absolute Maximum Ratings

Voltage	5V
RF Input Power	15dBm
Storage Temperature	-65 - +150°C
Operating Temperature	-55 - +85°C