

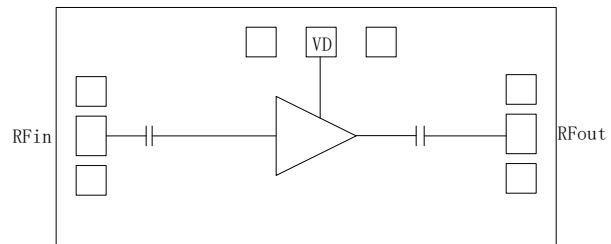
Features

Noise Figure: 1.8dB

Gain: 21.8dB

Output P1dB: 0.2dBm

Functional Diagram



General Description

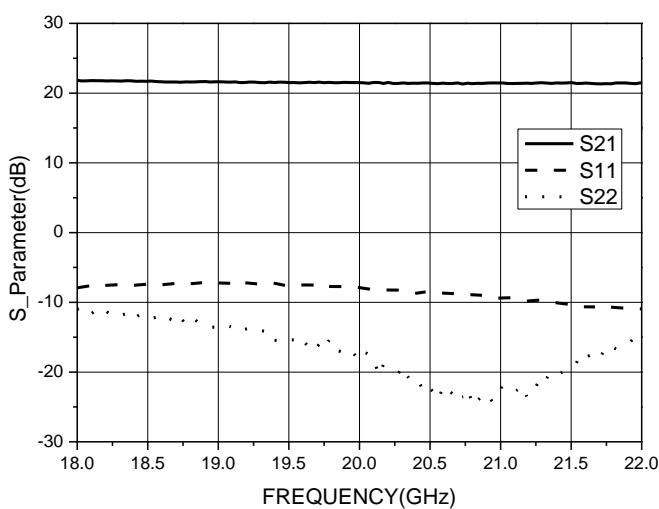
MWL023 is a low noise amplifier designed and manufactured by GaAs pHEMT process. This low noise amplifier has ultra-low operating current. When powered by 5V voltage, the normal operating current is 6mA, the operating frequency band covers 19.4-21.4GHz, and provides 21.8dB small signal gain. The typical noise coefficient is 1.8dB, and the out-of-band (29.2-31.2GHz) suppression is greater than 45dBc.

Electrical Specifications, $T_A = +25^\circ\text{C}$, $V_{dd} = +5.0\text{V}$

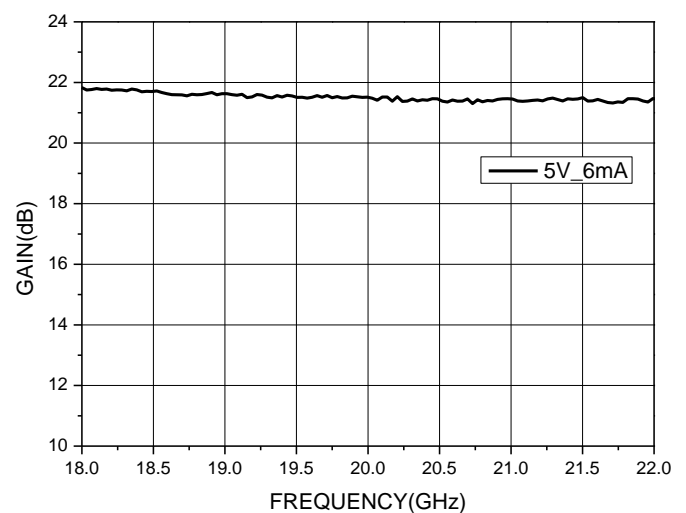
Parameter	Min	Typ	Max	Units
Bandwidth	18		22	GHz
Noise Figure		1.8	1.83	dB
Gain		21.8		dB
Gain Flatness		± 0.1		dB
Input Return Loss		8		dB
Output Return Loss		17		dB
Output Power for 1dB Compression		0.2		dBm
Supply Current (@ $V_{dd}=5\text{V}$)		6		mA

Test Results

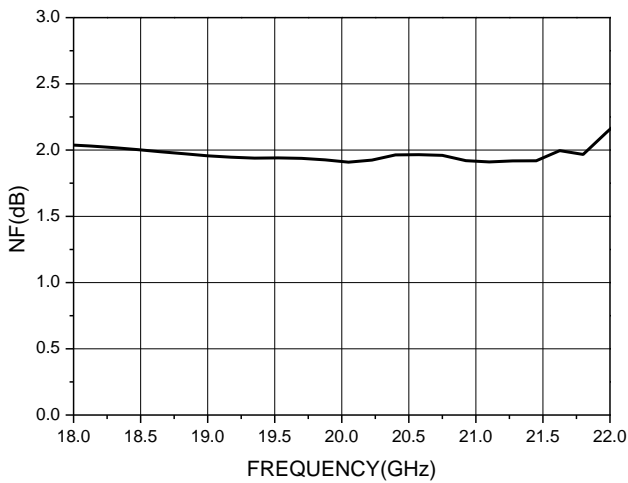
S_Parameter



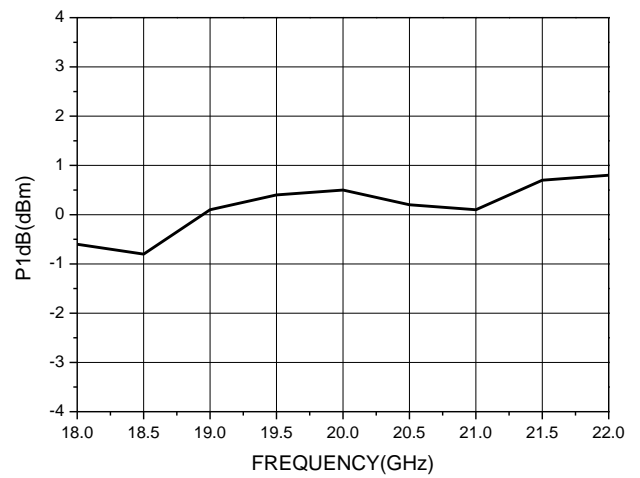
Gain



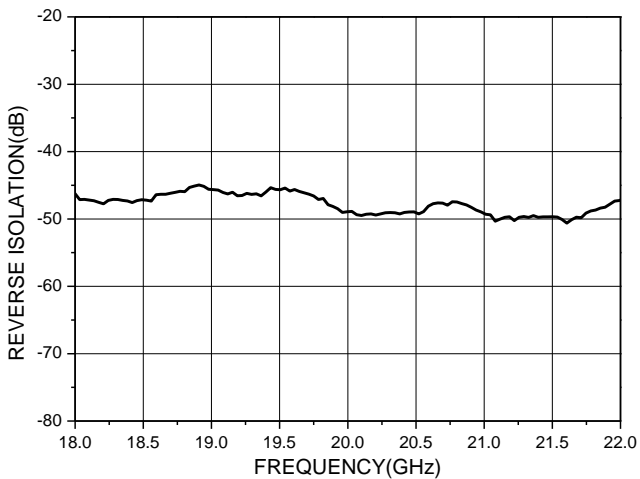
Noise Figure



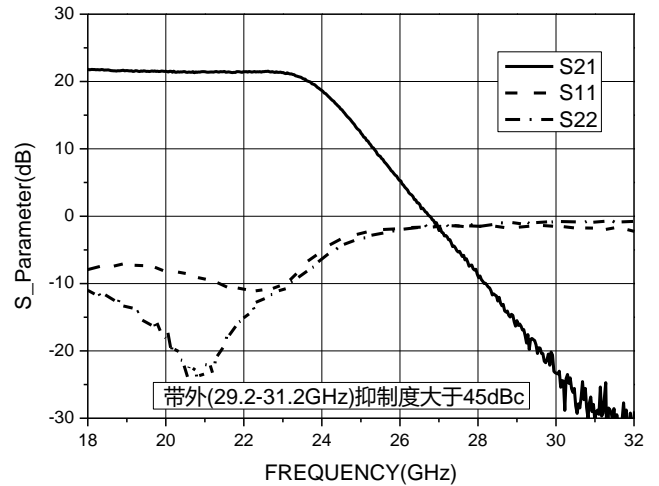
Output P1dB



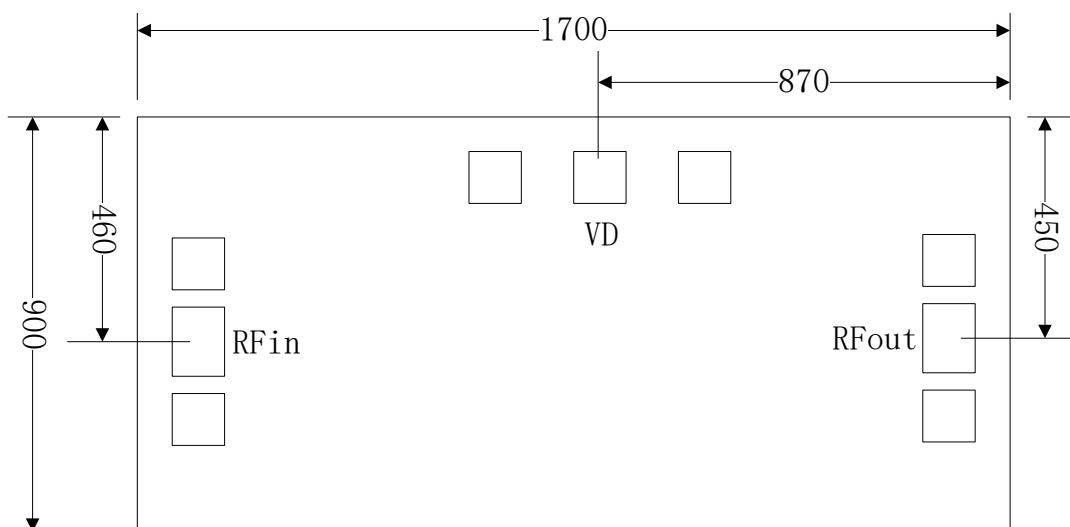
Isolation



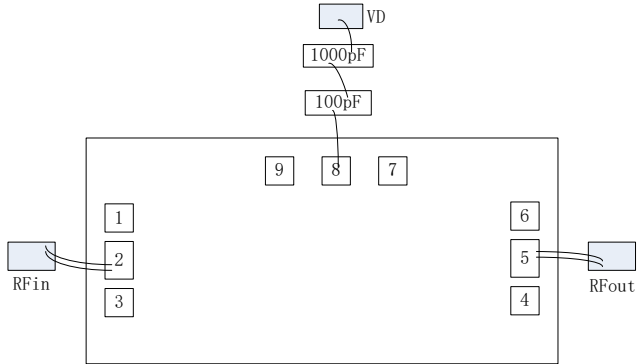
Rejection



Chip Size (unit: mm)



Assembly Diagram



Pin Description

Pin NO.	Function	Description
1、3、4、6、7、9	GND	Connect to RF/DC Ground
2	RF/IN	RF input, external 50Ohm system
5	RF/OUT	RF output, external 50Ohm system.
8	Vdd	Amplifier power supply plus 100pF capacitor

Absolute Maximum Ratings

Voltage	6V
RF Input Power	-15dBm
Storage Temperature	-65 - +150°C
Operating Temperature	-55 - +85°C