Features

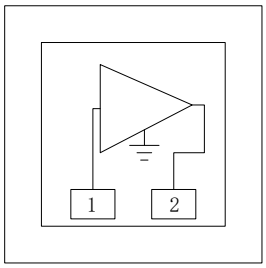
Gain：17.5dB

Output P1dB：15dBm

Supply Current： + 5V @ 49mA

Chip Size：450μm×450μm

Functional Diagram



General Description

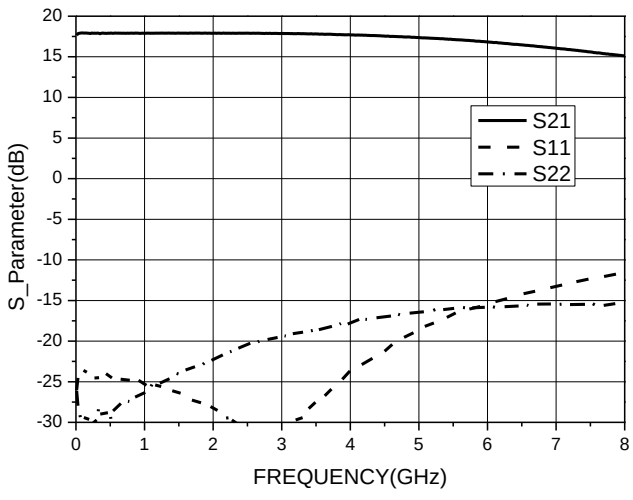
MWG005 is a wideband drive amplifier designed and manufactured by GaAs HBT technology. The operating frequency band of this broadband drive amplifier can cover DC-6GHz, using 3.7V voltage supply, the normal working current is 49 mA, providing 17.5 dB small signal gain, typical output P1dB power up to 15 dBm.

Electrical Specifications, TA = +25°C, Vdd = +5V

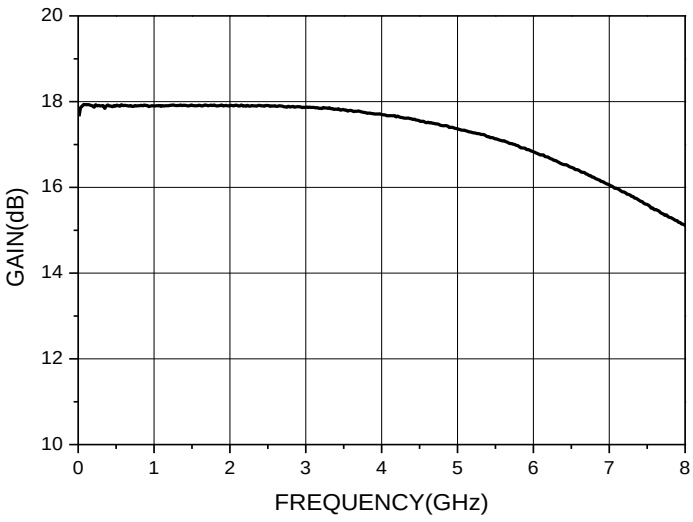
Parameter	Min	Typ	Max	Units
Bandwidth	DC		6	GHz
Gain		17.5		dB
Gain Flatness		±0.5		dB
Input Return Loss		24		dB
Output Return Loss		20		dB
Output Power for 1dB Compression		15		dBm
Output 3rd Intercept Point		28		dBm
Supply Current（@Vdd=5V）		49		mA

Test Results

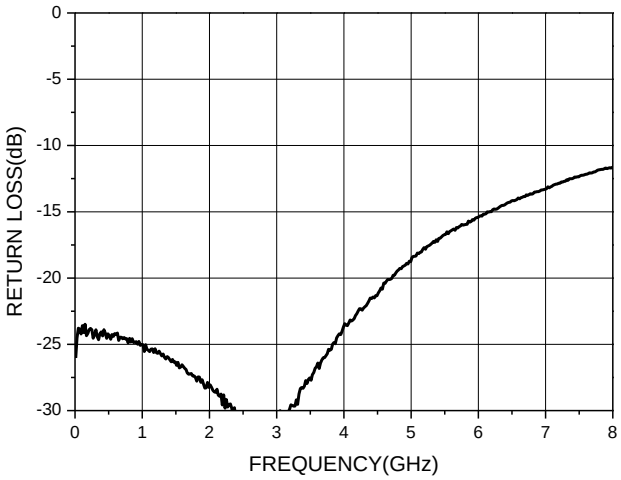
S_Parameter



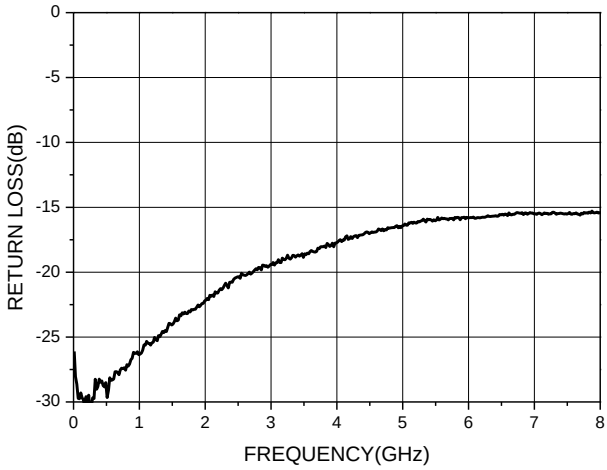
Gain



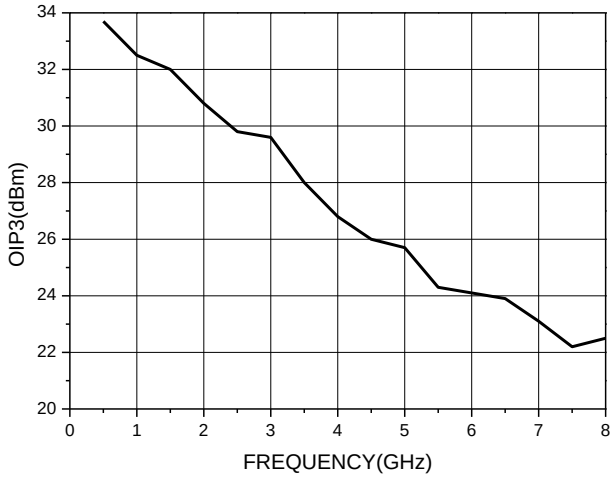
Input Return Loss



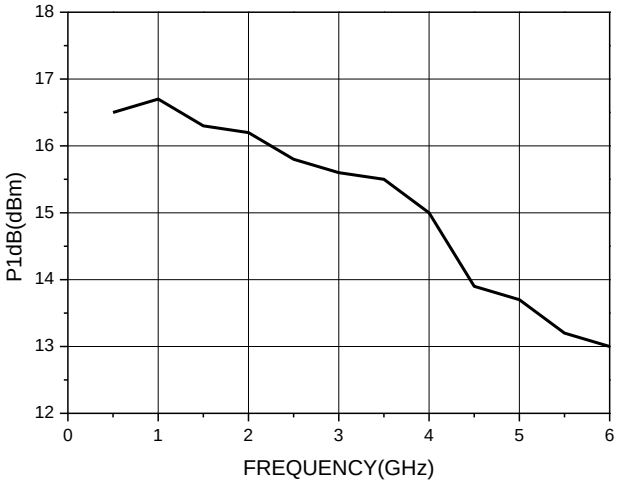
Output Return Loss



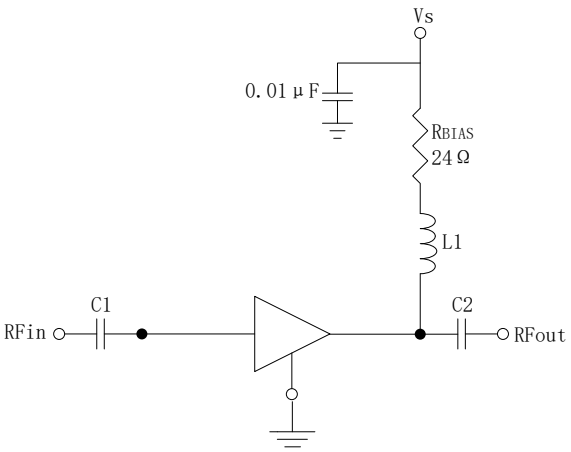
OIP3



Output P1dB



Assembly Diagram



Recommended component values

Component		Frequency(GHz)				
		0.05	0.1	0.5	1	4
L1		270nH	270nH	100nH	56nH	8.2nH
C1	C2	0.01μF	0.01μF	500pF	100pF	100pF

Note: L1 is series resonance, C1 and C2 are parallel resonance.

Absolute Maximum Ratings

Voltage	+ 7V
Input Power	+ 3dBm
Storage Temperature	-65℃ - + 150℃
Operating Temperature	-55℃ - + 85℃

Pin Description

Pin NO.	Function	Description
1	RF/IN	RF input terminal, DC coupled and requires an external DC isolation capacitor.
2	RF/OUT	RF Output terminal