

Features

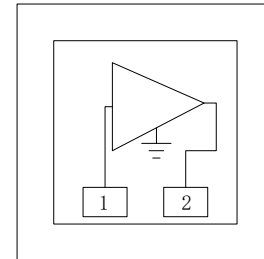
Gain: 12dB

Output P1dB: 10dBm

Supply Current: +5V @ 55mA

Chip Size: 450 μ m \times 450 μ m

Functional Diagram



General Description

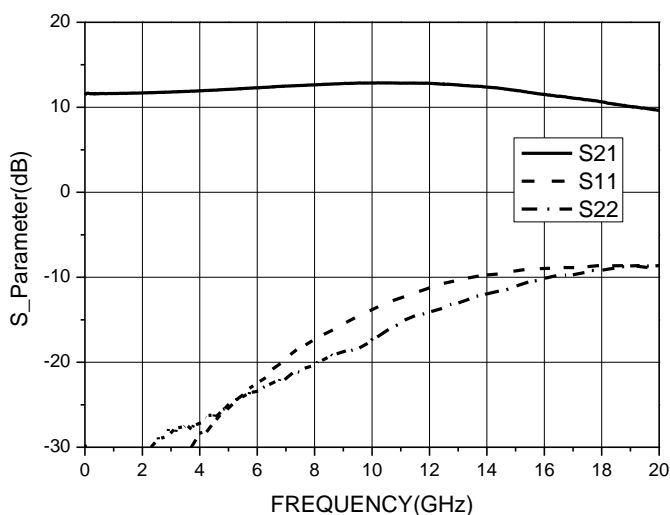
MWG006 is a wideband drive amplifier designed and manufactured by GaAs HBT technology. The working frequency band of this amplifier can cover DC-20GHz. It is powered by 3.7V voltage. The normal working current is 55MA. It provides 12dB small signal gain. The typical output power of P1dB is 10dBm.

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

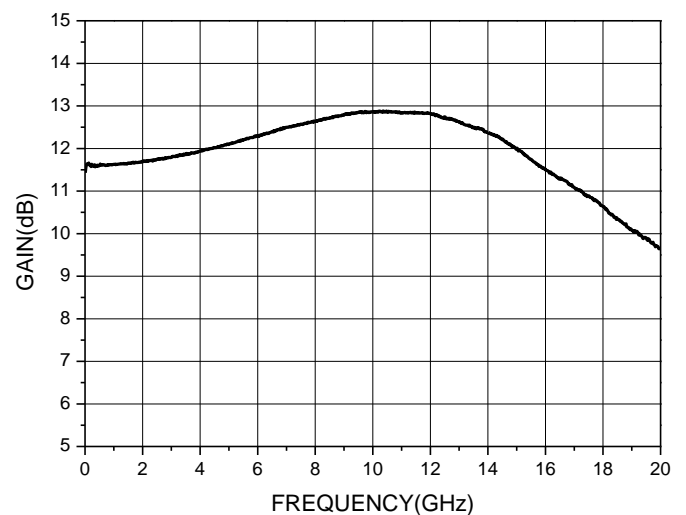
Parameter	Min	Typ	Max	Units
Bandwidth	DC		20	GHz
Gain		12		dB
Gain Flatness		± 1.6		dB
Input Return Loss		18		dB
Output Return Loss		18		dB
Output Power for 1dB Compression		10		dBm
Output 3 rd Intercept Point		22		dBm
Supply Current (@Vdd=5V)		55		mA

Test Results

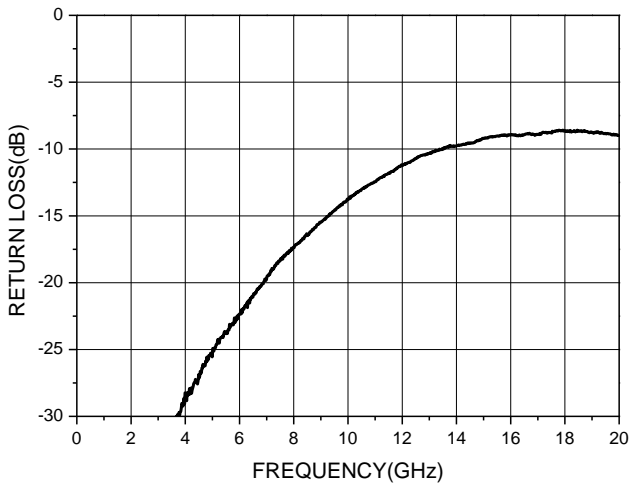
S_Parameter



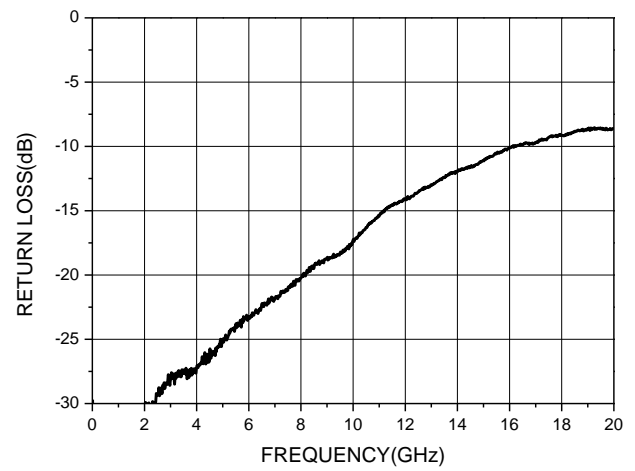
Gain



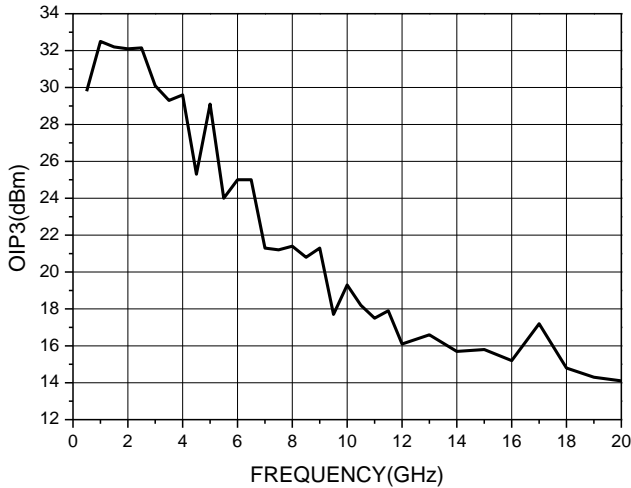
Input Return Loss



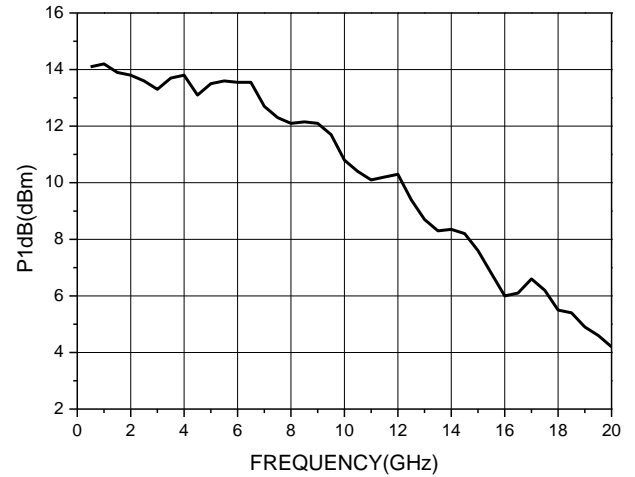
Output Return Loss



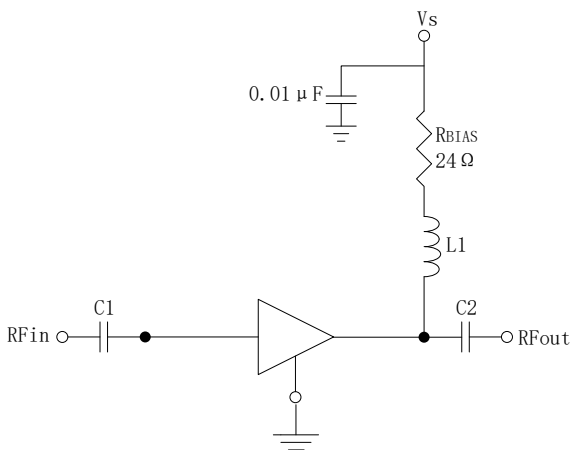
OIP3



Output P1dB



Assembly Diagram



Recommended component values

Component	Frequency (GHz)				
	0.05	1	4	8	
L1	270nH	56nH	8.2nH	2.2nH	
C1	C2	0.01μF	100pF	100pF	100pF

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

Absolute Maximum Ratings

Voltage	+ 7V
Input Power	+ 4dBm
Storage Temperature	-65°C - + 150°C
Operating Temperature	-55°C - + 85°C

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