

Features

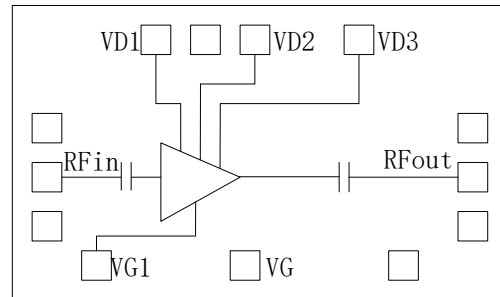
Gain: 20dB

Psat: 18dBm

Supply Current: 138mA@+4V, -0.35V

Chip Size: 1550μm×900μm

Functional Diagram



General Description

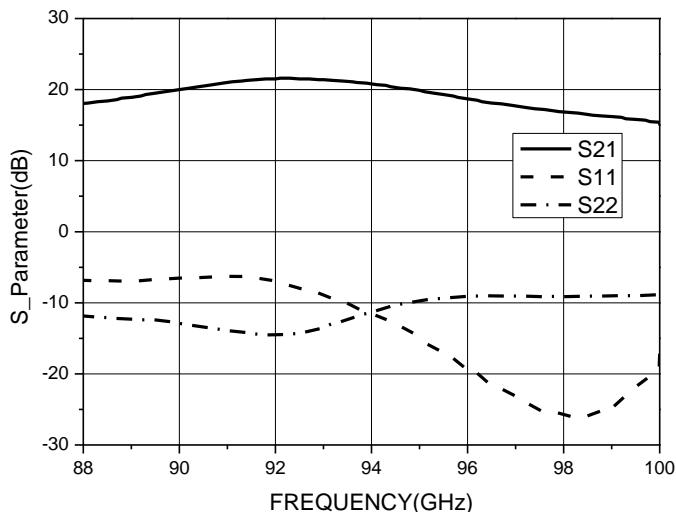
MWG309 is a power amplifier product designed and manufactured by GaAs pHEMT process. This power amplifier can cover 90-98 GHz operating frequency band, using +4V voltage Vdd power supply, normal working current 138mA, providing 20 dB small signal gain, typical saturated output power of 18 dBm.

Electrical Specifications, TA = +25°C, Vd=+4V, Vg = -0.35V

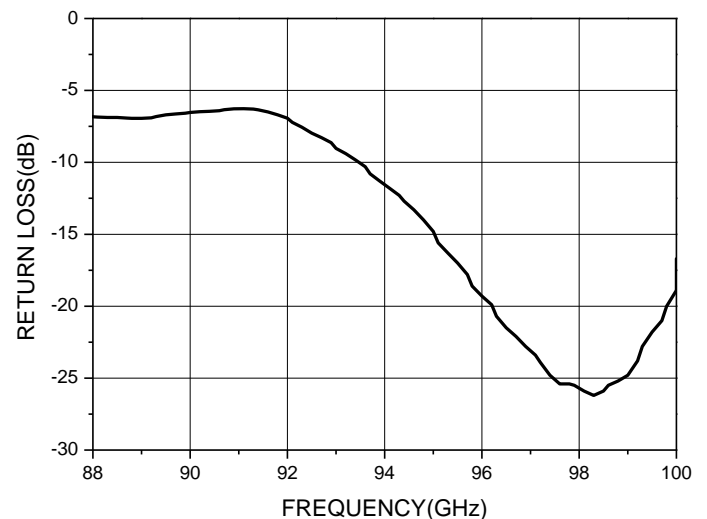
Parameter	Min	Typ	Max	Units
Bandwidth	90		98	GHz
Gain		20		dB
Input Return Loss		13		dB
Output Return Loss		11		dB
Saturation Output Power		18		dBm
Supply Current (@Vdd=4V, Vg= -0.35V)		138		mA

Test Results

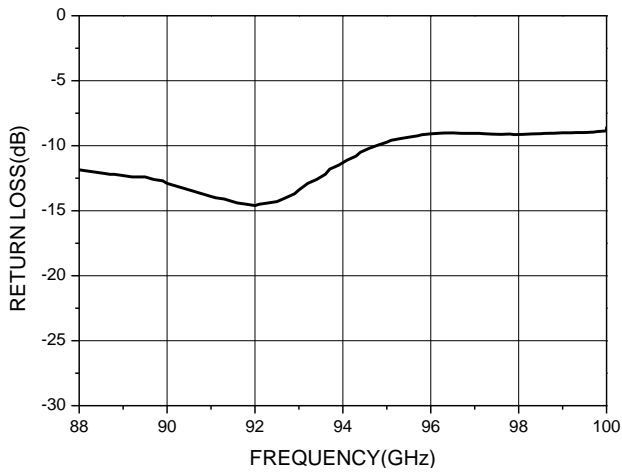
S_Parameter



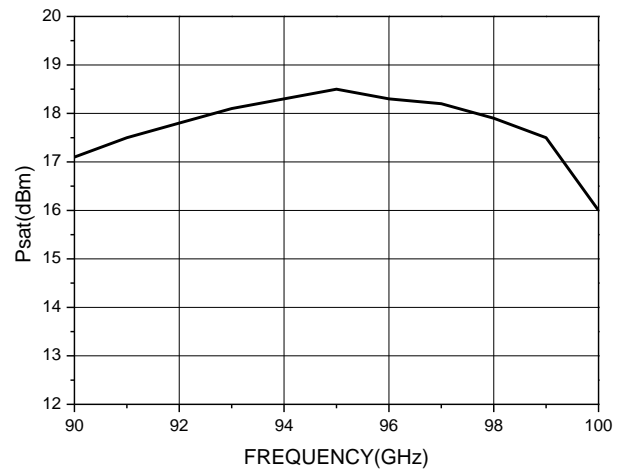
Input Return Loss



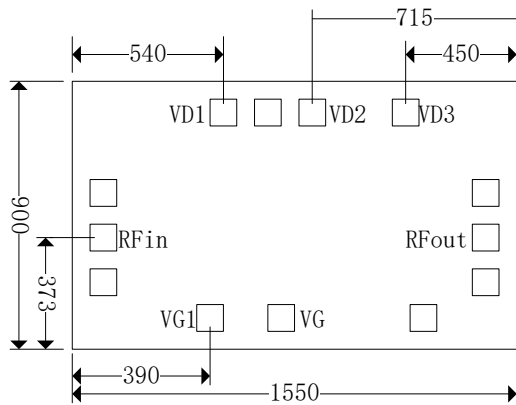
Output Return Loss



Psat



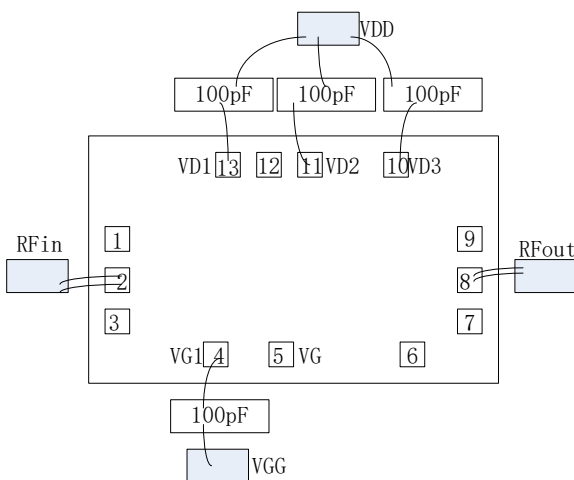
Chip Size



Pin Description

Pin NO.	Function	Description
1、3、6、7、9、12	GND	Connect to RF/DC Ground
2	RF/IN	RF input, external 50Ohm system
8	RF/OUT	RF output, external 50Ohm system.
10、11、13	Vdd	Amplifier power supply plus 100pF capacitor
4	Vgg	The pad provides the power negative voltage of the amplifier, plus the 100pF capacitor.

Assembly Diagram



Absolute Maximum Ratings

Voltage	6V
RF Input Power	3dBm
Storage Temperature	-65 - +150°C
Operating Temperature	-55 - +85°C