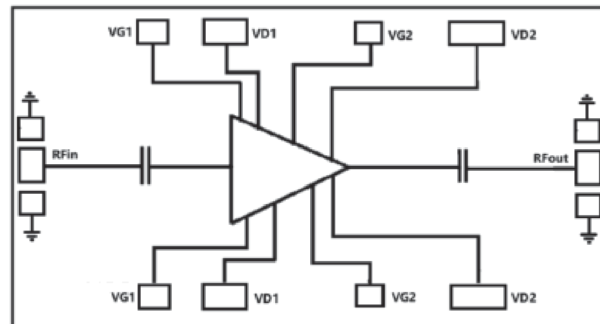
GaAs MMIC
Power Amplifier
6.5-9GHz

Features

- Frequency: 6.5-9GHz
- Gain: 24dB
- P1dB: 40dBm
- Psat: +41dBm
- PAE@Psat: 46%
- Power Supply: +8V@2A
- Input/Output: 50Ω
- Die Size:5.27 x 5.3 mm

Functional Block Diagram



Typical Applications

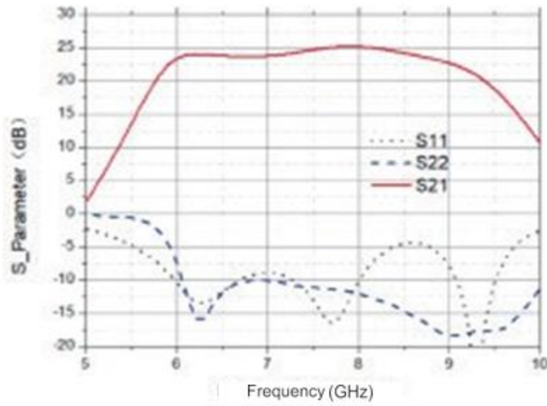
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

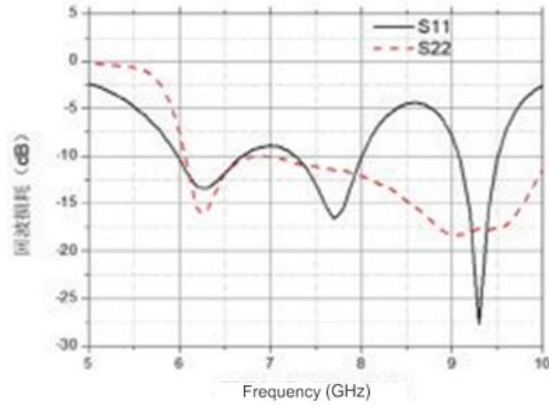
TA = +25°C, Vdd = +8V (On-wafer Measurement Results)

Parameters	Min.	Typ.	Max.	Units
Frequency	6.5-9			GHz
Gain		24		dB
P1dB		40		dBm
Psat		41		dBm
Input Return Loss		-12		dB
Output Return Loss		-15		dB
PAE		46		%
Operating Current		2		A

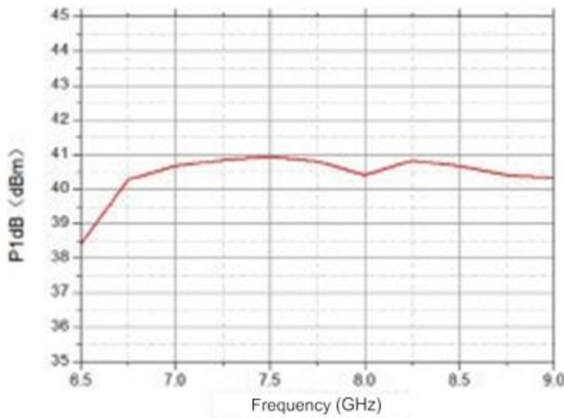
S-Parameter vs. Frequency



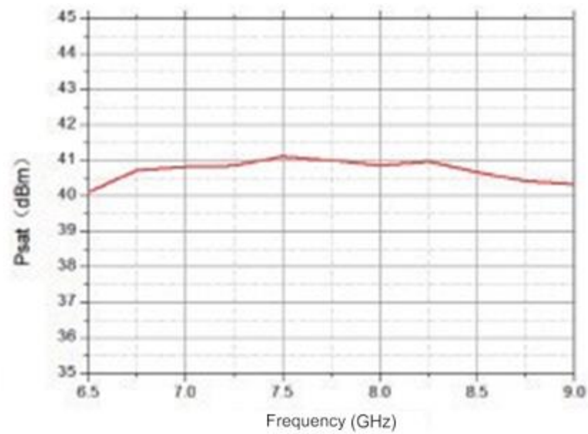
I/O Return Loss vs. Frequency



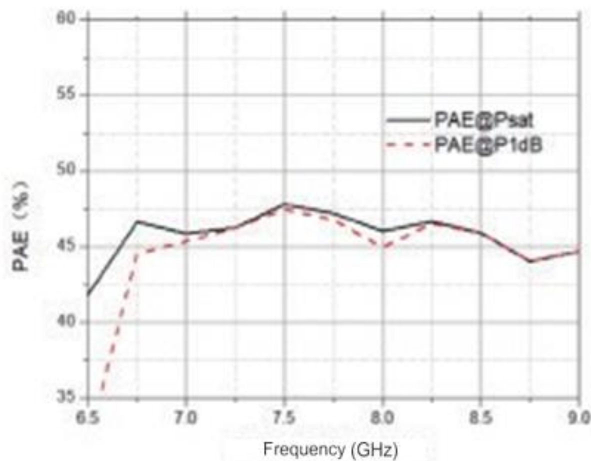
P1dB vs. Frequency



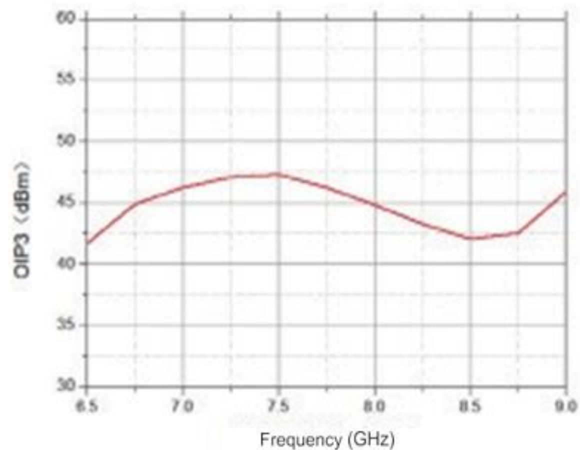
Psat vs. Frequency



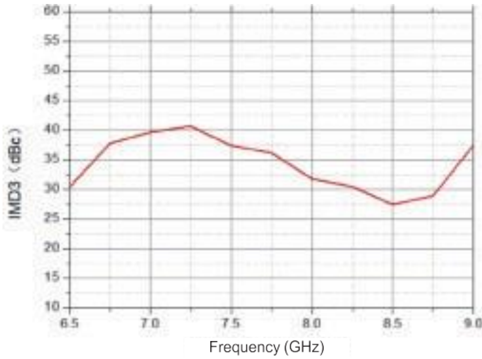
PAE vs. Frequency



OIP3 vs. Frequency

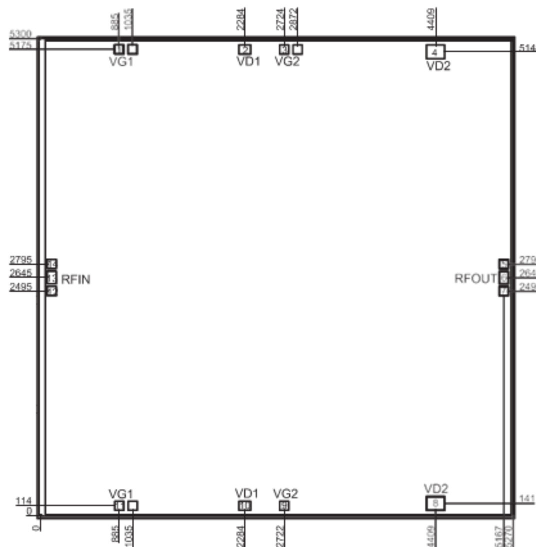


IMD3 vs. Frequency



Outline Drawing:

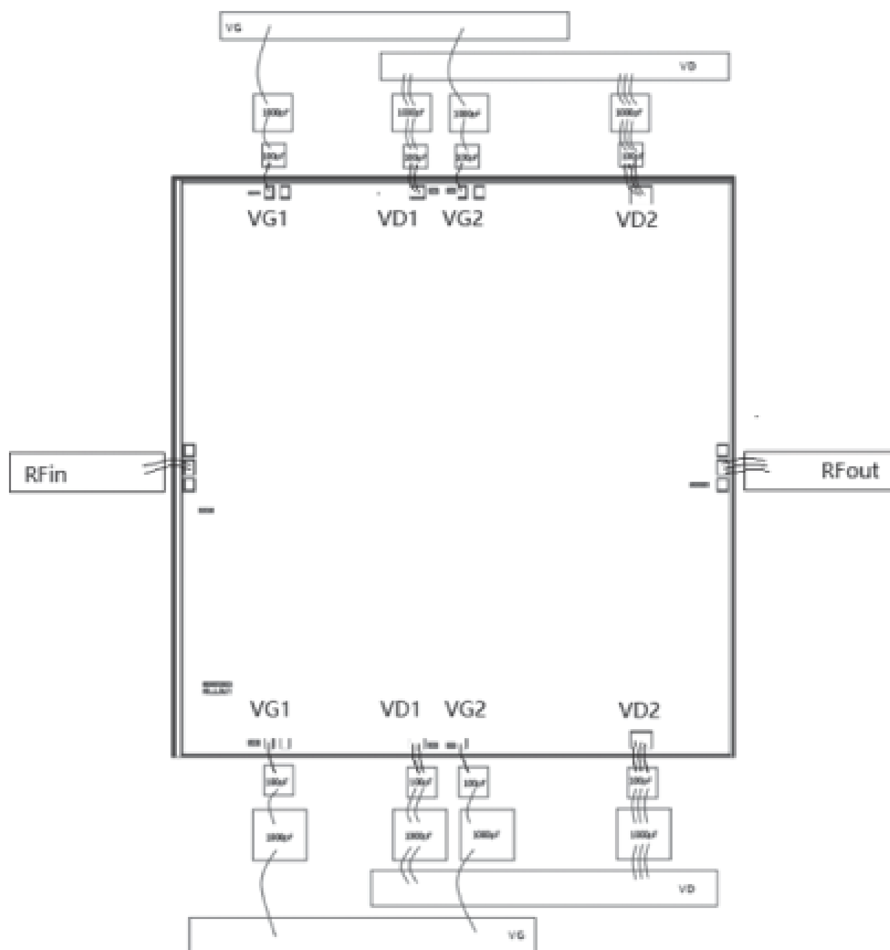
All Dimensions in μm



Pad Description

Pad	Function	Description
13	RF IN	Signal input terminal, connected to 50Ω circuit .
6	RF OUT	Signal output terminal, connected to 50Ω circuit.
2,4,8,10	Vdd	Amplifier power supply; external 100pF capacitor required.
1,3,9,11	Vgg	Amplifier gate control power supply; external 100pF, 1000pF capacitor required.
5,7,12,14	GND	Die bottom must be connected to RF/DC ground.

Assembly Drawing (Bond testing)



Notes:
1. Die thickness: 100um
2. Typical bond pad is 100*100 μm^2
3. Bond pad metalization: Gold
4. Backside metalization: Gold
5. Backside of the die (GND)
6. No connection required for unlabeled bond pads

Maximum Ratings:
1. Supply voltage: +9V
2. RF Input power: +25dBm
3. Maximum input power: +25dBm
4. Operating temperature: -55℃ to +85℃
5. Storage temperature: -65℃ to +150℃