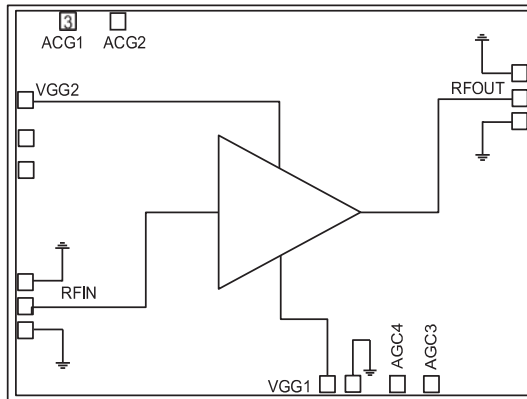


Features

- Frequency: 0.1-20GHz
- Gain: 12.5dB
- Psat:+ 33dBm
- Power Supply : +15.0V@500mA
- Die Size : 3.15 x 2.0 mm

Functional Block Diagram



Typical Applications

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

Electrical Specifications

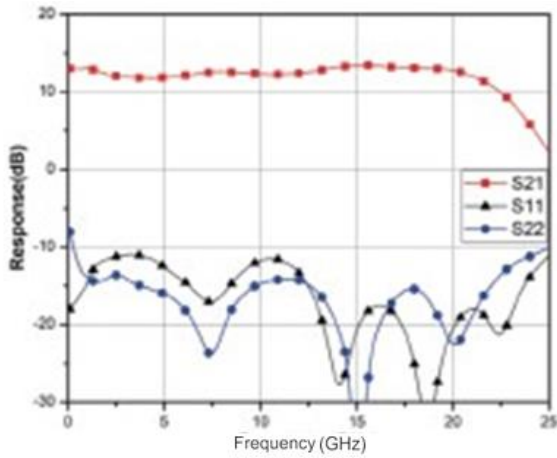
TA = +25°C, Vdd = +15V, Vgg2 = +9.5V, Idd = 500mA (On-wafer Measurement Results)

Parameters	Min.	Typ.	Max.	Units
Frequency	0.1-20			GHz
Gain		12.5		dB
Psat		33		dBm
Input Return Loss		-12		dB
Output Return Loss		-15		dB
Operating Current		500		mA

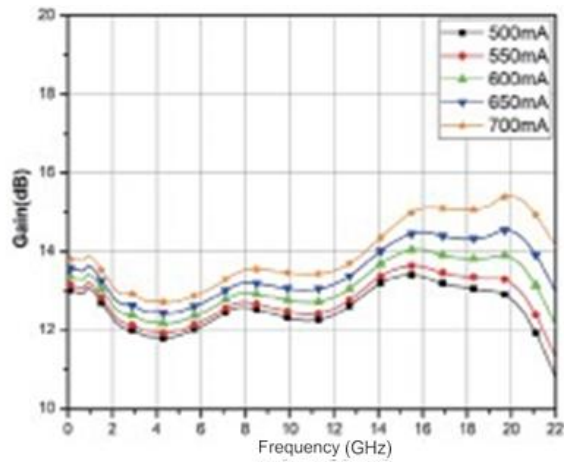
* Power-on sequence: Vgg1 to -2V; Vgg2 to 9.5V; Vdd is adjusted to 15V and Vgg1 is adjusted so that Idd=500mA (Vgg1 is typically -0.74V)

Power-off sequence: turn off the RF signal, Vdd; Turn off Vgg2; Decrease Vgg1 to Idd=0mA; Turn off Vgg1.

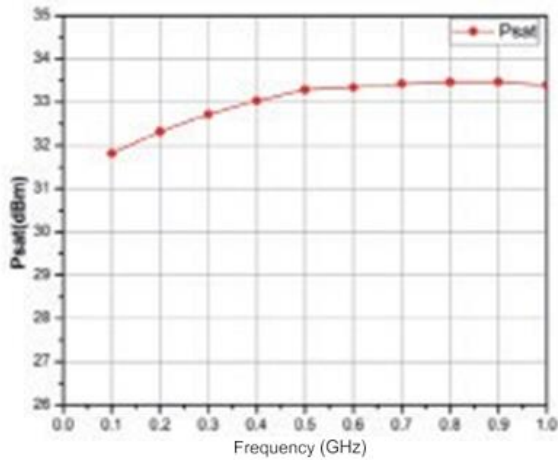
Frequency Response vs. Frequency



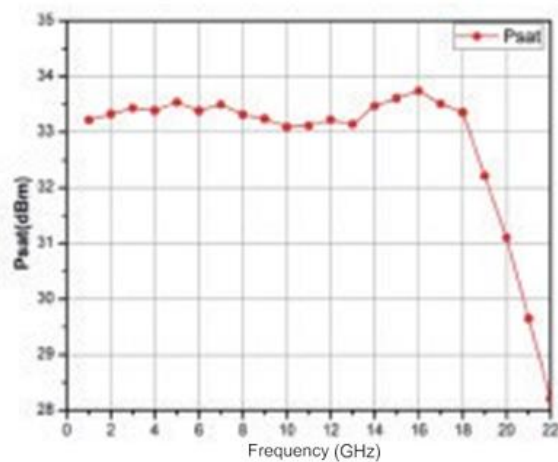
Gain vs. Frequency



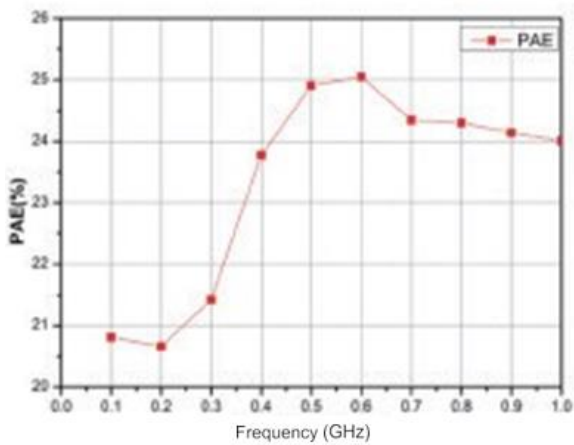
Psat(0.1-1GHz) vs. Frequency



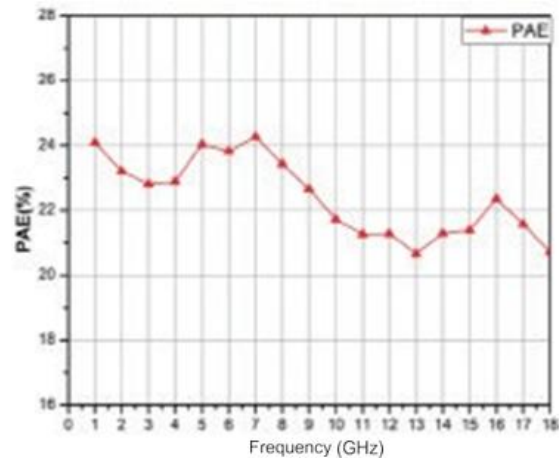
Psat(1-22GHz) vs. Frequency



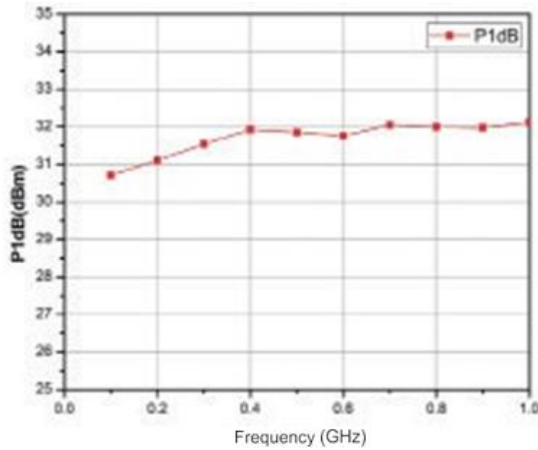
PAE(0.1-1GHz) vs. Frequency



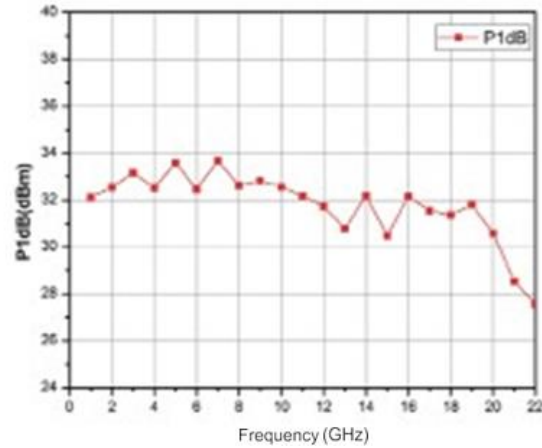
PAE(1-18GHz) vs. Frequency



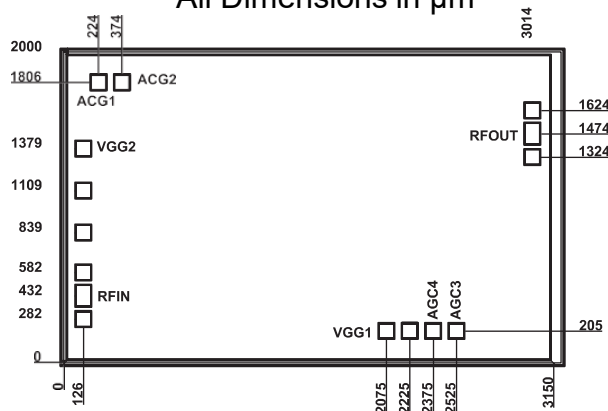
P1dB(0.1-1GHz) vs. Frequency



P1dB(1-22GHz) vs. Frequency



Outline Drawing:
All Dimensions in μm

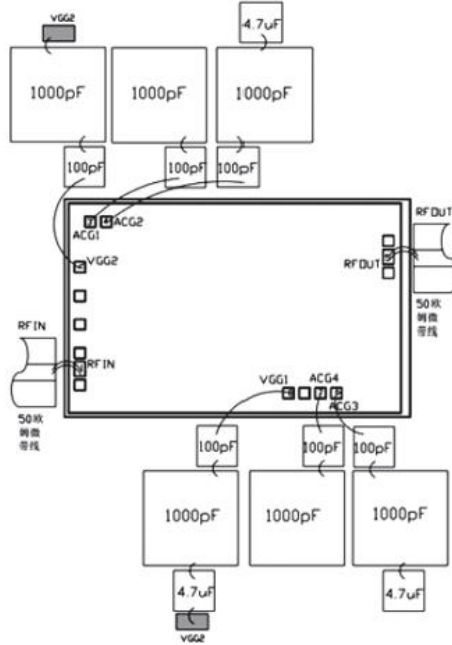


Pad Description

Pad	Function	Description
1	RF IN	Signal input terminal, connected to 50Ω circuit ; There is no DC capacitor inside the amplifier, and an external DC capacitor is required.
5	RF OUT&VDD	Signal output terminal, connected to 50Ω circuit and bias circuitry ; There is no DC capacitor inside the amplifier, and an external DC capacitor is required.
2	VGG2	Amplifier gate bias, external ground capacitor is recommended according to the application circuit.
3,4,6,7	ACG1, AGG2, AGG3, AGG4	Low-frequency adjustment port, external ground capacitor is recommended according to the application circuit.
8	VGG1	Amplifier gate bias, external ground capacitor is recommended according to the application circuit.



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: +17V
2. RF Input power: +27dBm
3. Operating temperature: -55°C to +85°C
4. Storage temperature: -65°C to +150°C

Application circuits

