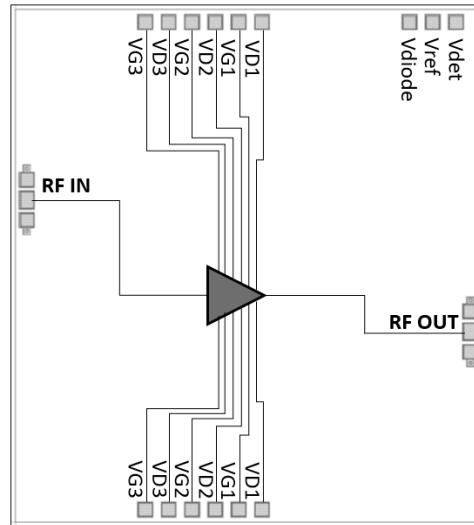




Features

- Frequency: 20GHz - 44GHz
- Small Signal Gain: 16dB
- Gain Flatness: ± 1.0 dB
- Noise Figure < 5dB, 22GHz – 44GHz
- P1dB: > 29dBm, 20GHz – 44GHz
- Power Supply: +6V/1000mA
- Input/Output: 50 Ω
- Die Size: 3.0 x 3.3 x 0.07 mm

Functional Block Diagram



Typical Applications

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

Electrical Specifications

TA = +25°C, VD1, VD2, VD3 = +6V, VG1, VG2, VG3 = -0.4V, ID = 1000mA

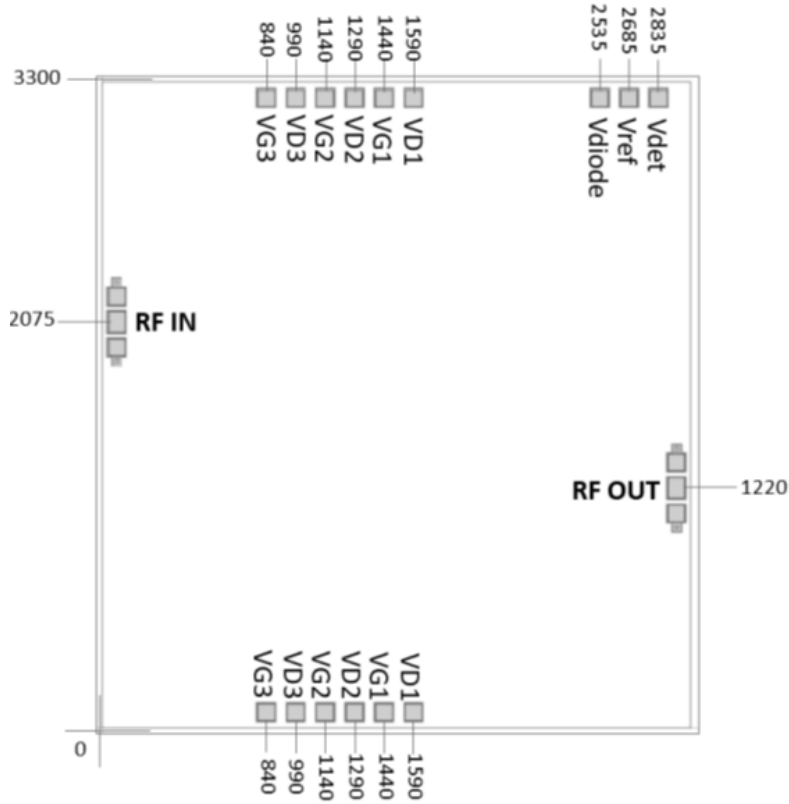
Parameters	Min.	Typ.	Max.	Units
Frequency	20-44			GHz
Small Signal Gain	15	16	17	dB
Gain Flatness		± 1		dB
Noise Figure	4	< 7	7	dB
Output 1dB Compression (P1dB)		> 29		dBm
Saturated Output Power (Psat)		30.5		dBm
Input Return Loss		> 10		dB
Output Return Loss		> 15		dB

* Adjust VG1, VG2, VG3 slightly to obtain device current of 1000 mA.



Outline Drawing:

All Dimensions in μm

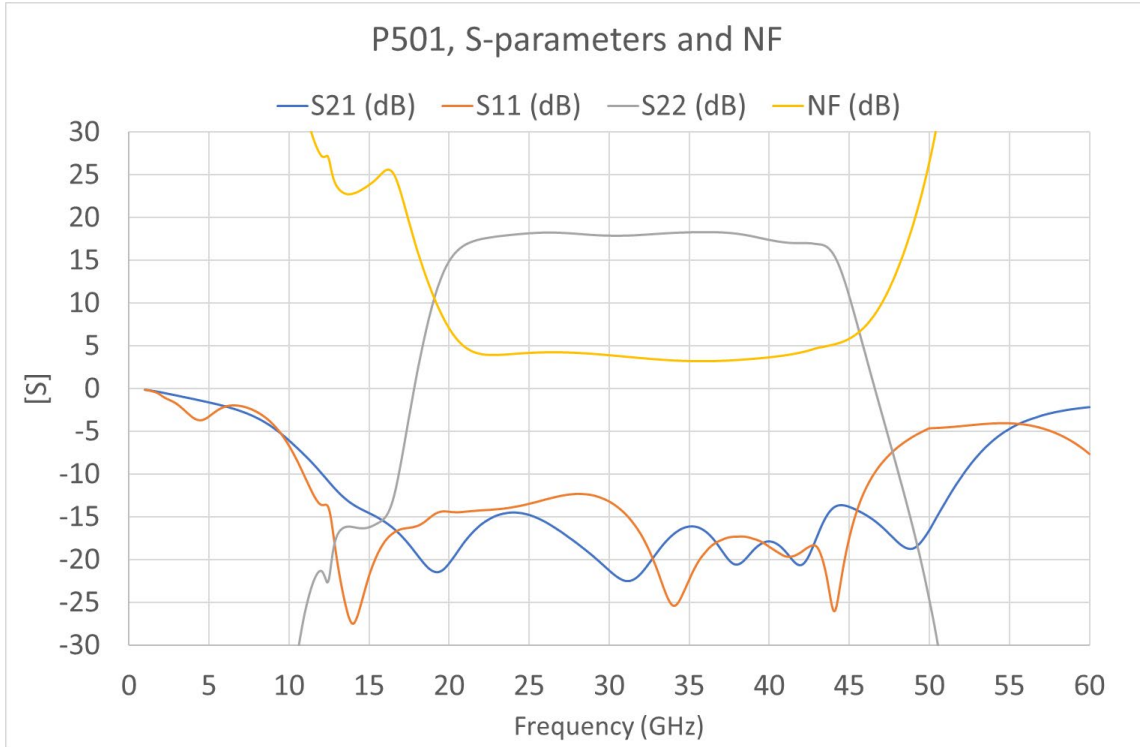


Pad Description

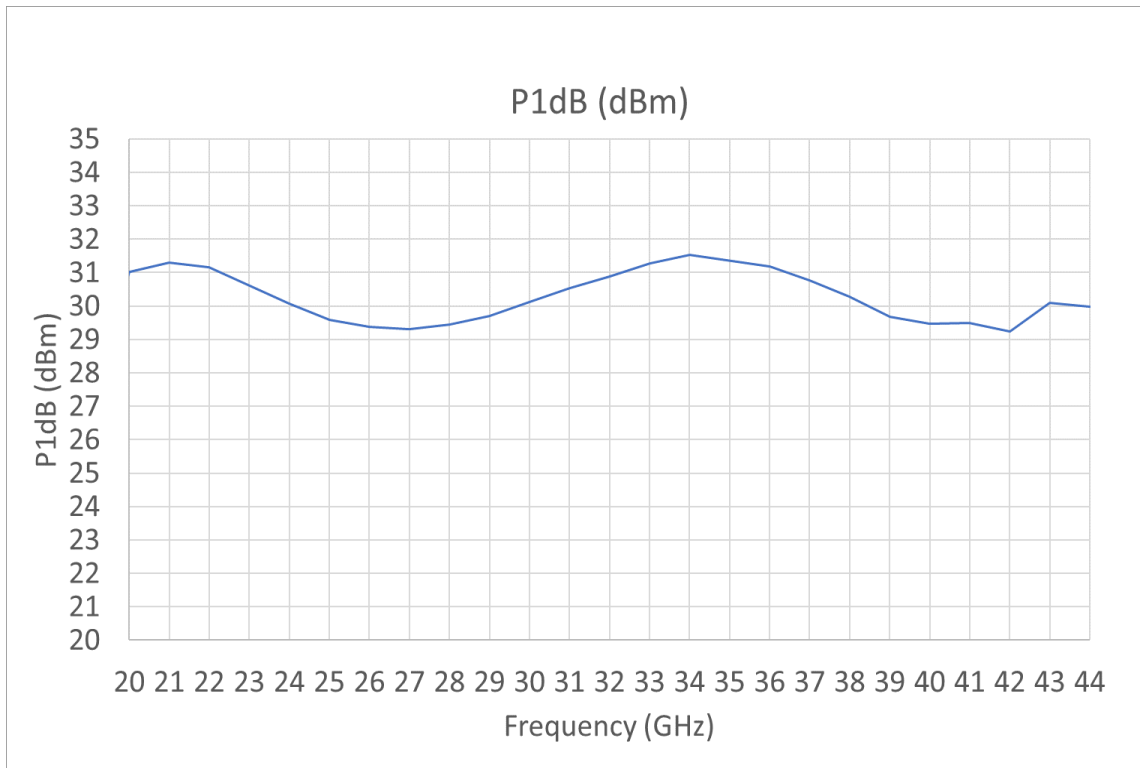
No	Function	Description
1	RF IN	Signal input terminal, connected to 50Ω circuit
2	RF OUT	Signal output terminal, connected to 50Ω circuit
3	VG1, VG2, VG3	Amplifier gate bias; connect to external 1000pF and 0.01uF bypass capacitors.
4	VD1, VD2, VD3	Amplifier drain bias; connect to external 1000pF and 0.01uF bypass capacitors.
5	Vdiode	Diode biasing voltage
6	Vref	Reference diode output voltage
7	Vdet	Detector output voltage



Measurement Plots: S-parameters

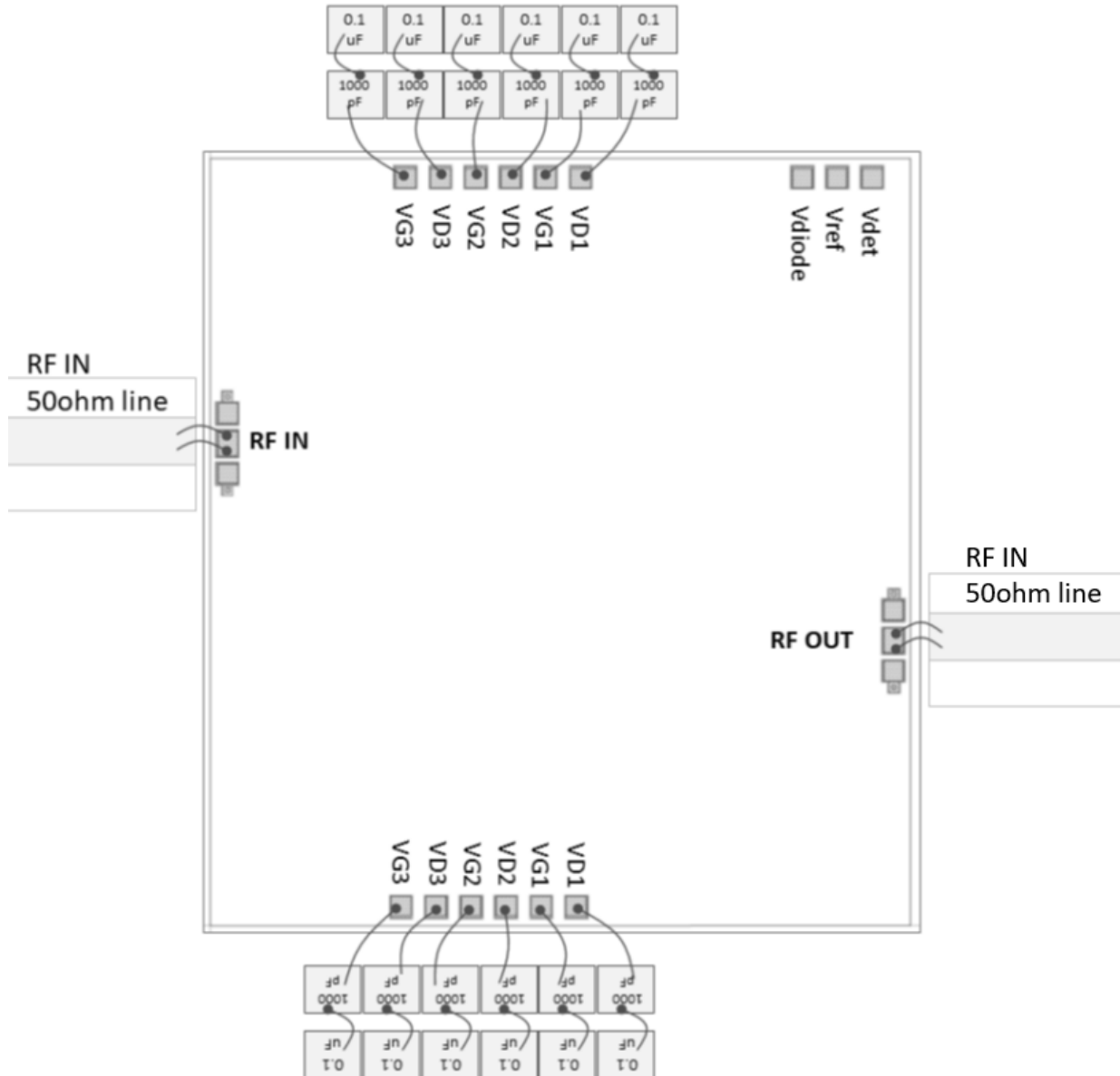


Measurement Plots: P1dB





Assembly Drawing



Notes:

1. Die thickness: 70um
2. DC bond pad is 100 x 100 μm^2
3. RF IN/OUT bond pad is 100 x 160 μm^2
4. Bond pad metalization: Gold
5. Backside metalization: Gold
6. Backside of the die (GND)