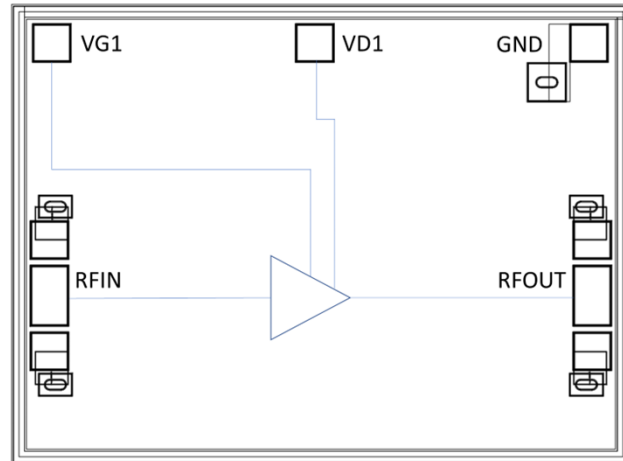


Features

- Frequency: 6GHz to 20GHz
- Small Signal Gain: 24dB
- Gain Flatness: $\leq \pm 1\text{dB}@6\text{-}18\text{GHz}$
- Noise Figure: $\leq 1.4\text{ dB}$
- P1dB: >9dBm, 15dBm at 12GHz
- Psat: >11dBm, 16.5dBm at 10GHz
- Power Supply: +3.5V/85mA
- Input/Output: 50Ω
- Die Size: 1.63 x 1.2 x 0.1 mm

Typical Applications

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

Functional Block Diagram

Electrical Specifications

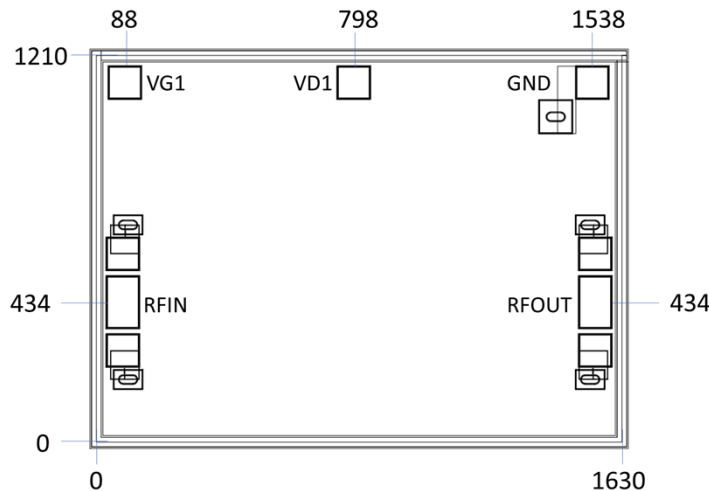
TA = +25°C, VG1 = -0.35V, VD1 = 3.5V, ID = 85mA

Parameters	Typical			Units
Frequency	6 – 10	10 – 16	16 – 20	GHz
Small Signal Gain	23.7 – 26.7	27	20 – 26	dB
Gain Flatness	± 1.5	± 1	± 3.0	dB
Noise Figure	1.4	1.6	2.6	dB
Output 1dB Compression (P1dB)	14.5	15.5	16.8	dBm
Saturated Output Power (Psat)	16.0	17.0	17.3	dBm
Input Return Loss	5.8	7	2.7	dB
Output Return Loss	15	16	20	dB

* Adjust VG1 slightly to obtain device current of 85mA.



Outline Drawing:
All Dimensions in μm

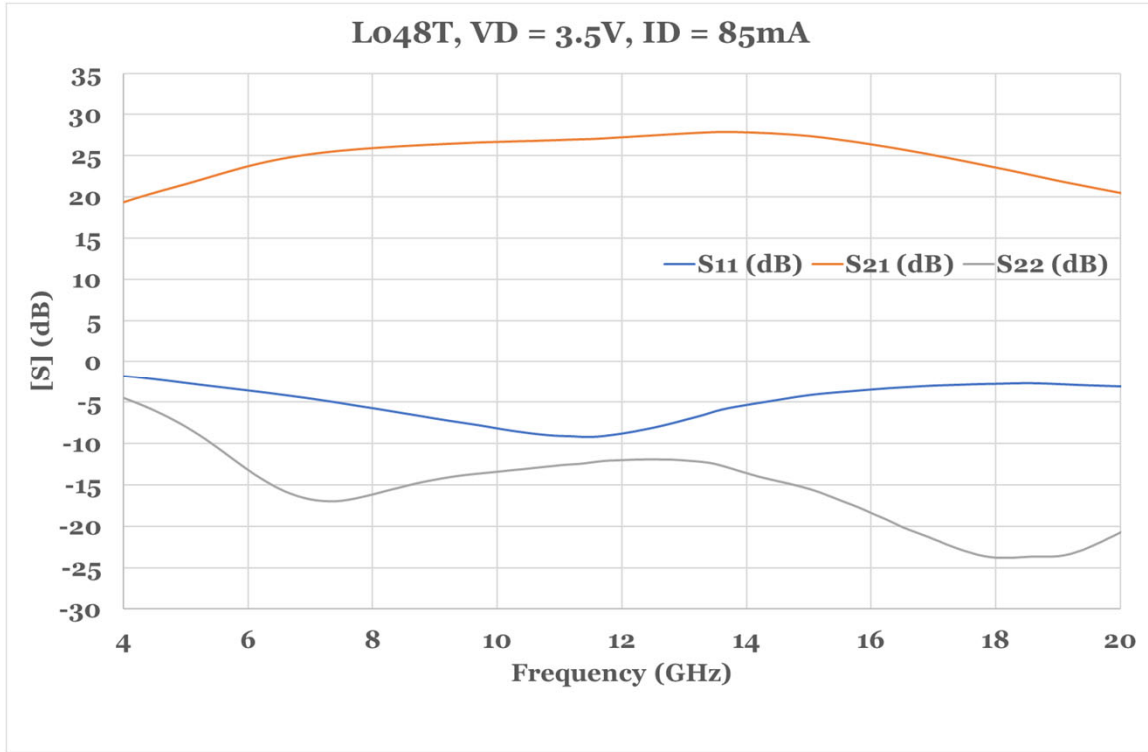


Pad Description

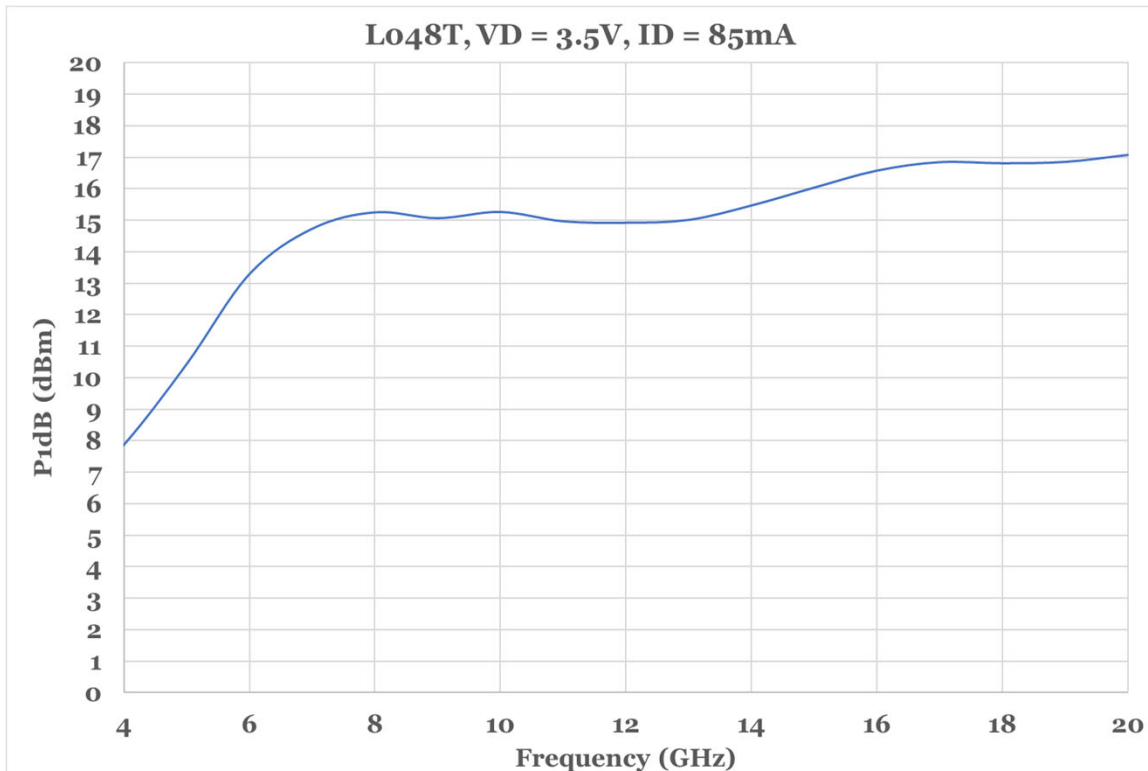
No	Function	Description
1	RF IN	Signal input terminal, connected to 50 Ω circuit; blocking capacitor included on chip.
2	RF OUT	Signal output terminal, connected to 50 Ω circuit; blocking capacitor included on chip.
3	VG1	Amplifier gate bias; connect to external 1000pF and 0.1uF bypass capacitors.
4	VD2	Amplifier drain bias; connect to external 1000pF and 0.1uF bypass capacitors.
5	GND	Ground pad.



Measurement Plots: S-parameters

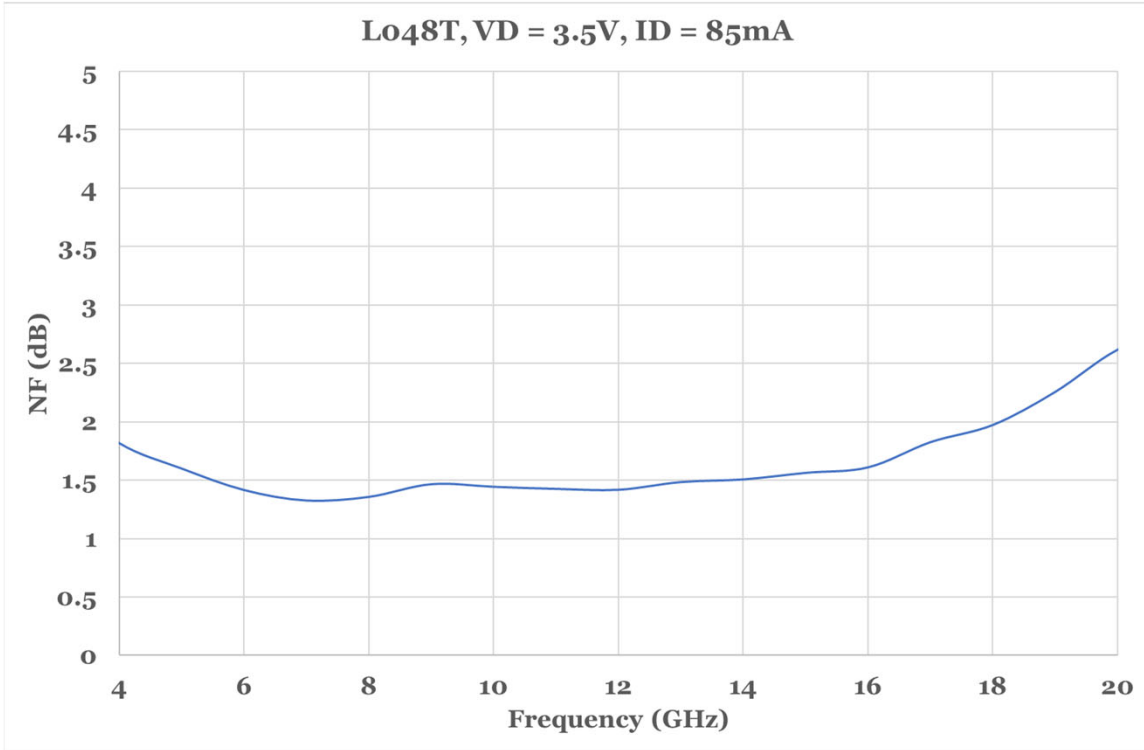


Measurement Plots: P1dB

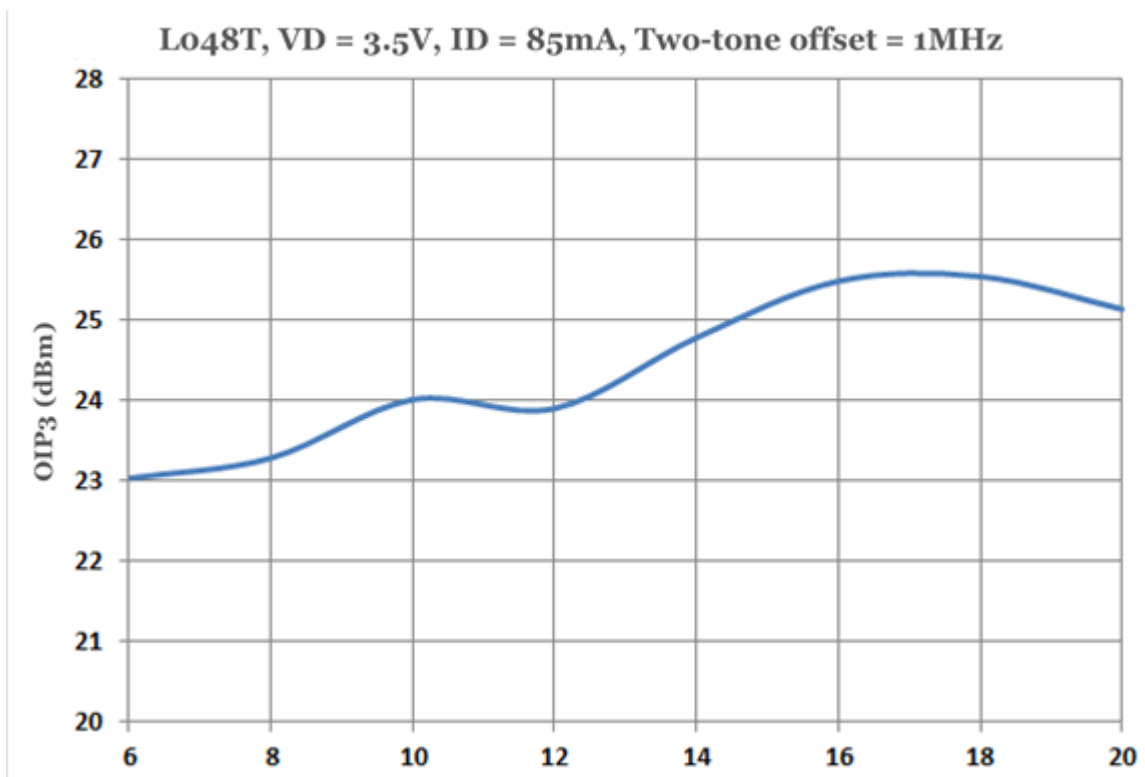




Measurement Plots: Noise Figure

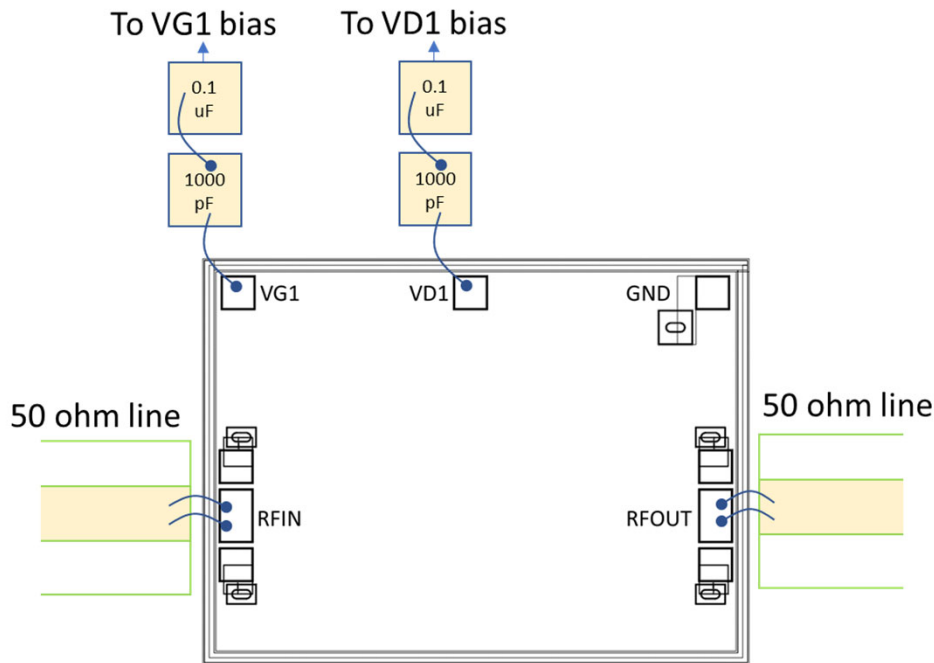


Measurement Plots: OIP3





Assembly Drawing



Notes:

1. Die thickness: 100um
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)

Maximum Ratings:

1. Maximum drain voltage: +10V
2. Maximum gate bias: -3V
3. Maximum input power: +20dBm
4. Operating temperature: -55°C to +85°C
5. Storage temperature: -65°C to +150°C