

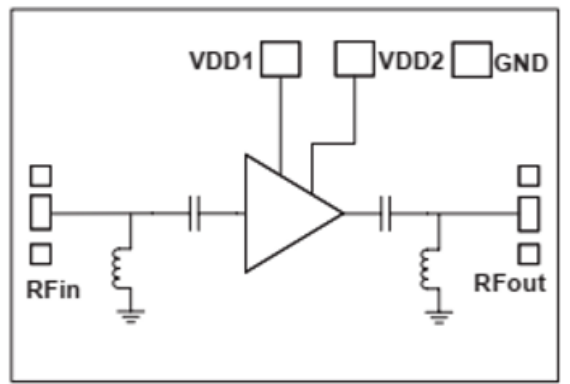
**Features**

- Single Biasing Voltage(Self Biased)
- Frequency: 38-48GHz
- Gain: 25dB
- Gain Flatness:  $\pm 1.5$ dB
- Noise Figure: 2.8dB
- P1dB: +15dBm (Simulation, to be tested)
- Power supply: 83mA@+3V
- I/O 50 Ohm matching: VSWR < 1.5

**Typical Applications**

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

**Functional Block Diagram**



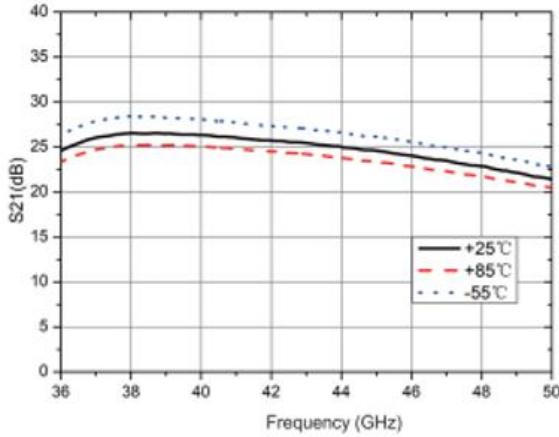
**Electrical Specifications**

TA = +25°C, Vdd = +3V (On-wafer Measurement Results)

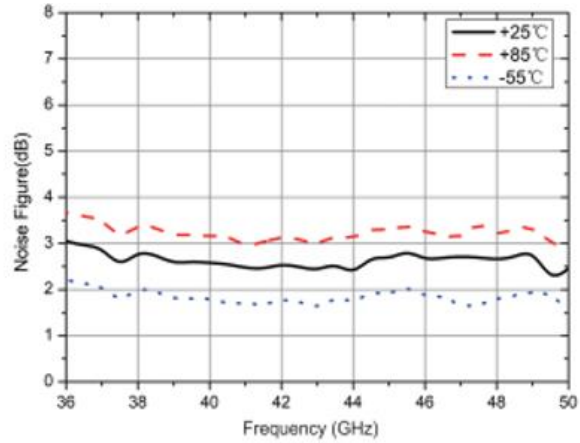
Parameters	Min.	Typ.	Max.	Units
Frequency	38-48			GHz
Gain	24	25	26	dB
Gain Flatness	-1.5		+1.5	dB
Noise Figure	2.7	2.8	3	dB
Output 1dB Compression (P1dB)		16		dBm
Input Return Loss	15	20	25	dB
Output Return Loss	8	10	15	dB
OIP3		23		dBm
Operating Current (@Vdd = 3V)		83		mA



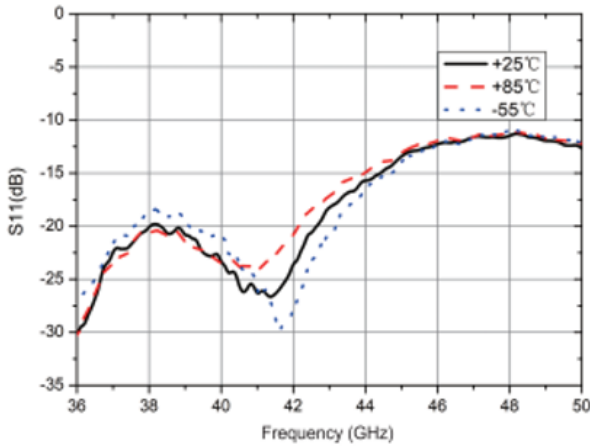
### Gain vs. Frequency



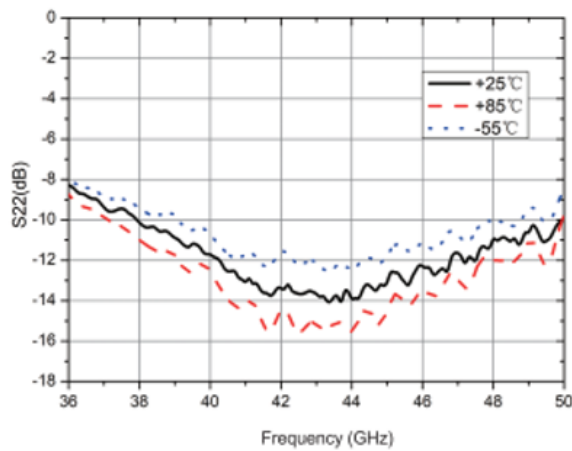
### Noise Figure vs. Frequency



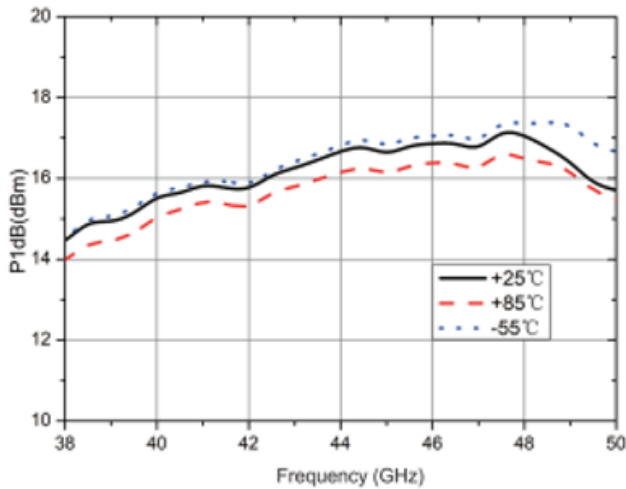
### Input Return Loss vs. Frequency



### Output Return Loss vs. Frequency



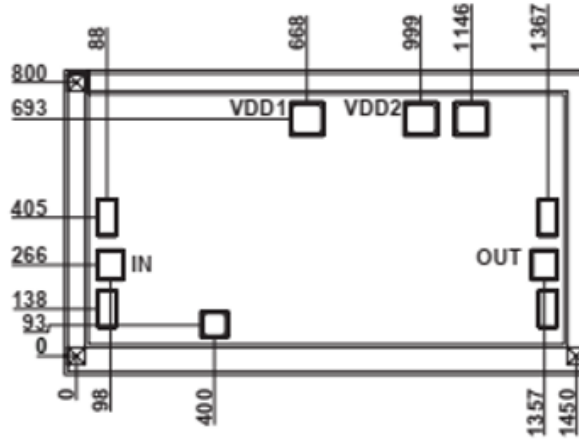
### P1dB



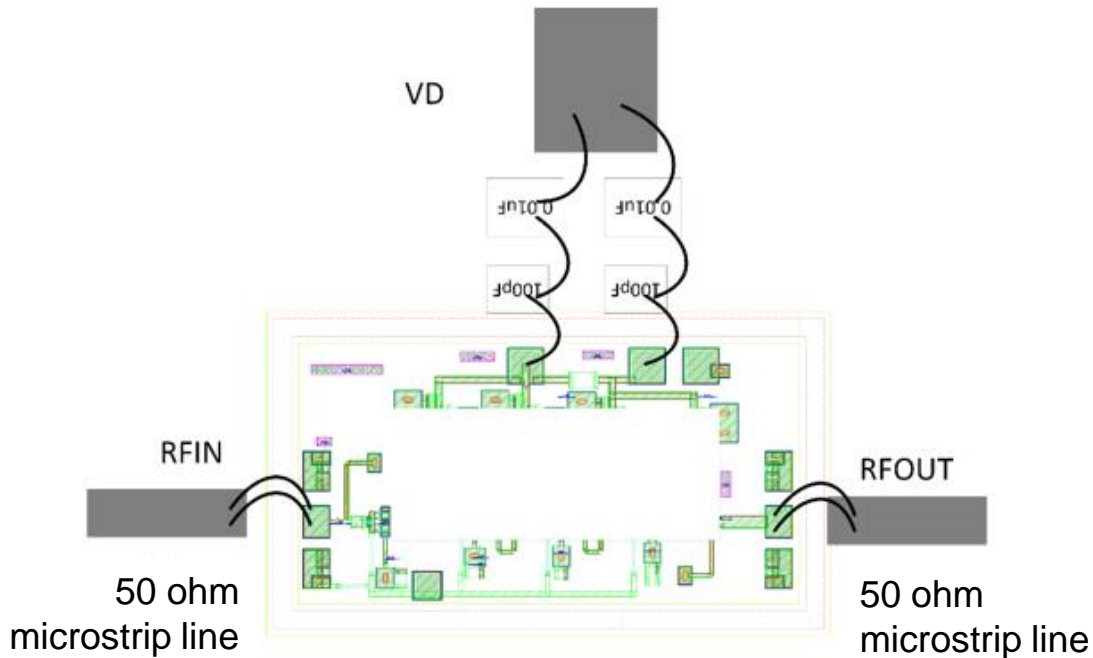


### Outline Drawing:

All Dimensions in  $\mu\text{m}$



### Assembly Drawing (Bond testing)



#### Notes:

1. Die thickness: 100 $\mu\text{m}$
2. Typical bond pad is 100\*100  $\mu\text{m}^2$
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: +3.3V
2. Operating temperature: -55°C to +85°C
3. Storage temperature: -65°C to +150°C