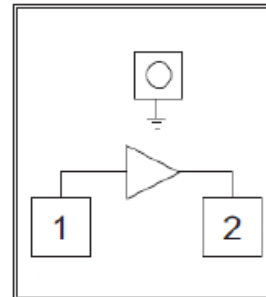


Features

- Operating Frequency: DC-4GHz
- Small Signal Gain: 14dB
- Gain Flatness: ± 0.2 dB
- Noise Figure: 4.1dB
- P-1dB: 6.5dBm
- OIP3: 18dBm@1GHz with Pin=-10dBm
- Current: 20mA
- 50Ohm input/output
- Die Size: 0.62 x 0.62 x 0.1 mm

Functional Block Diagram

Typical Applications

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

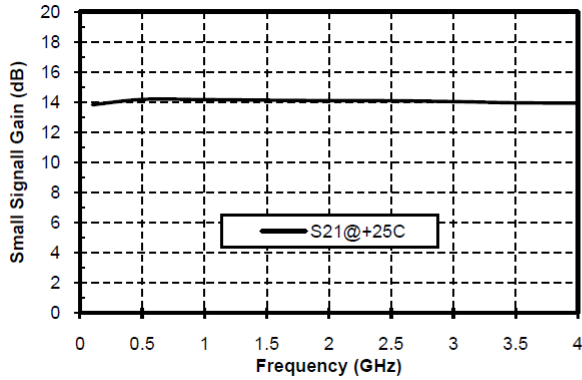
Electrical Specifications

 TA = +25°C, VCC=+5V, R_{BIAS}=55Ω

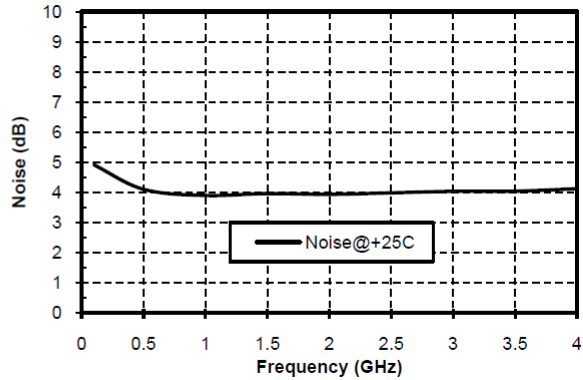
Parameters	Min.	Typ.	Max.	Units
Frequency	DC - 4			GHz
Small Signal Gain		14		dB
Gain Flatness		±0.2		dB
Input Return Loss		18		dB
Output Return Loss		18		dB
Reverse Isolation		17		dB
P-1dB		6.5		dBm
Psat		9.0		dBm
OIP3@1GHz with Pin=-10dBm		18		dBm
Noise Figure		4.1		dB
Static Current		20		mA
Device Voltage, Vbias	3.7	3.9	4.1	V



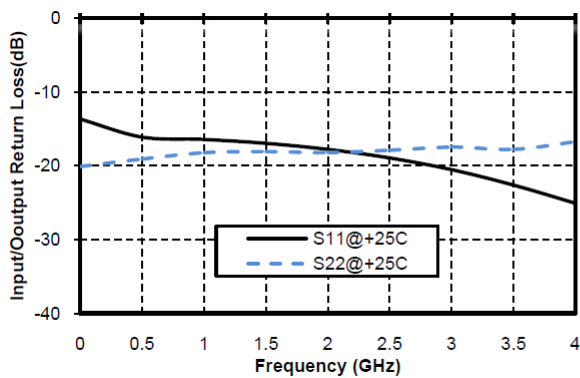
Gain vs. Frequency



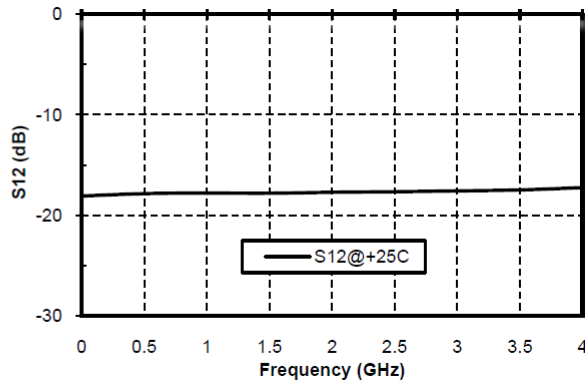
Noise Figure vs. Frequency



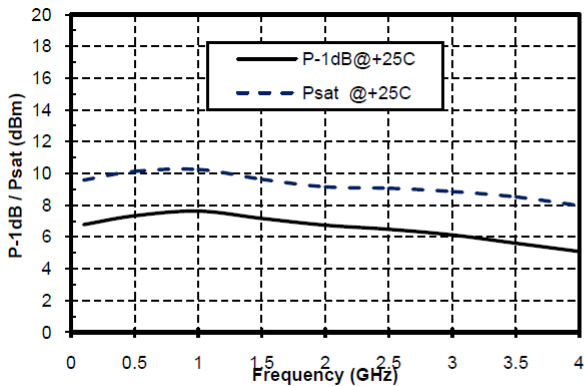
Input/Output Return Loss vs. Frequency



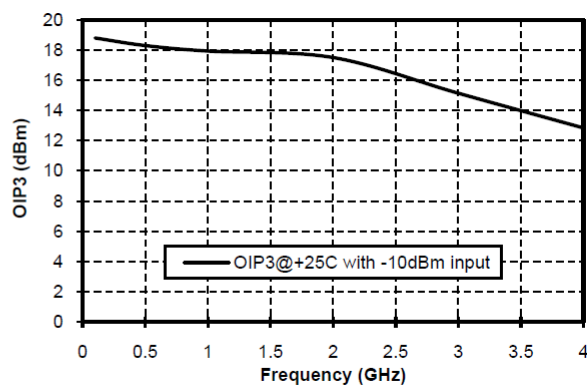
Reverse Isolation vs. Frequency



P-1dB/Psat vs. Frequency

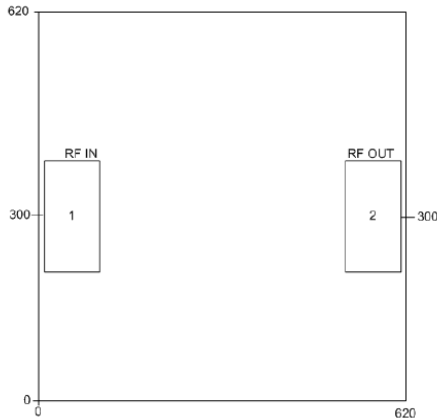


OIP3 vs. Frequency (Pin=-10dBm)

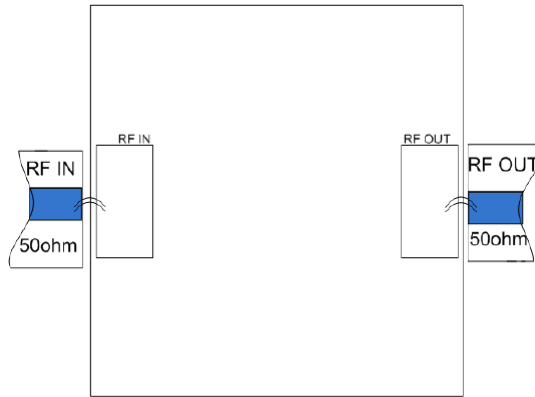


Outline Drawing(Die):

All Dimensions in um



Assembly Drawing(Die):



Pad Description

PAD	Function	Description
1	RF IN	RF input, external DC-blocking capacitor required
2	RF OUT	RF output and DC bias, bias the current by external choke inductor at output terminal , external DC-blocking capacitor required
Die Bottom	GND	Die bottom must be connected to RF/DC ground



Recommended bias circuit

	Device		Frequency (MHz)			
			10	1000	2000	4000
	L1	10μH	270nH	270nH	270nH	270nH
	C1, C2	0.01μF	0.01μF	0.01μF	0.01μF	0.01μF
	V _{CC} (V)	5	6	7	8	9
R _{BIAS} (Ω)	55	105	155	205	205	255

*Note: R_{BIAS} can be changed with different application condition, $R_{BIAS}=(V_{CC}-V_{BIAS})/I_{BIAS}$

Notes:

1. Die thickness: 100um
2. Typical bond pad is 100*100 μm²
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. RF input power: +25dBm
2. Operating Current: 35mA
3. Storage temperature: -65°C to +150°C
4. Operating temperature: -55°C to +85°C