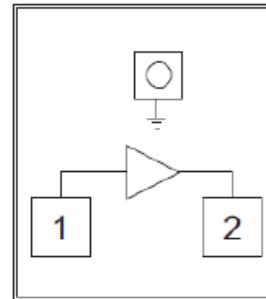


Features

- Operating Frequency: DC-3.5GHz
- Small Signal Gain: 17.5dB
- Noise Figure: 4.7dB
- P-1dB: 22.5dBm
- OIP3: 32dBm@1GHz with Pin=-8dBm
- Current: 85mA
- 50Ohm input/output
- Die Size: 0.65 x 0.65 x 0.1 mm

Functional Block Diagram

Typical Applications

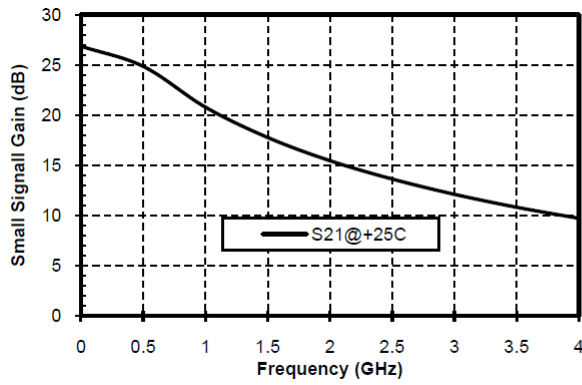
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications
TA = +25°C, VCC=+5V

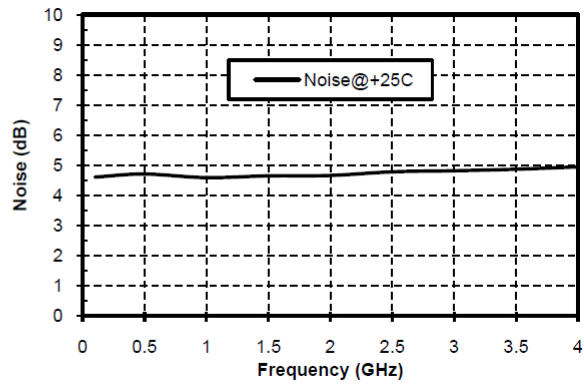
Parameters	Min.	Typ.	Max.	Units
Frequency	DC - 3.5			GHz
Small Signal Gain		17.5		dB
Input Return Loss		11		dB
Output Return Loss		13		dB
Reverse Isolation		28		dB
P-1dB	21.5	22	23	dBm
Psat		23.5		dBm
OIP3@1GHz with Pin=-8dBm		32		dBm
Noise Figure		4.7		dB
Static Current		85		mA



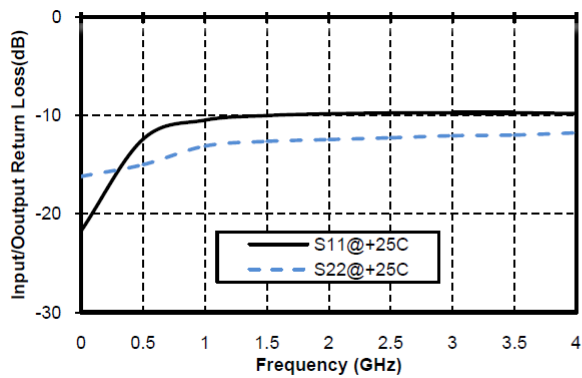
Gain vs. Frequency



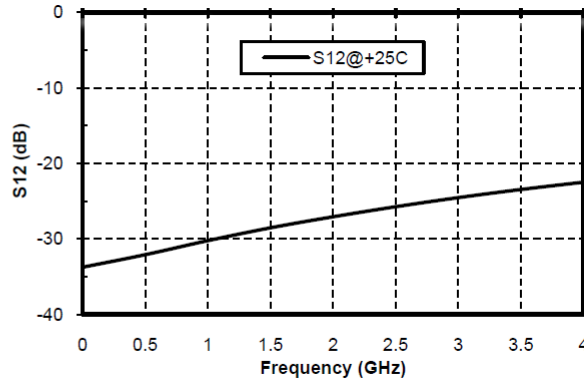
Noise Figure vs. Frequency



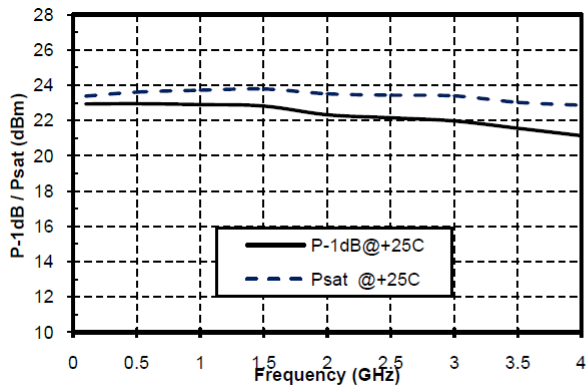
Input/Output Return Loss vs. Frequency



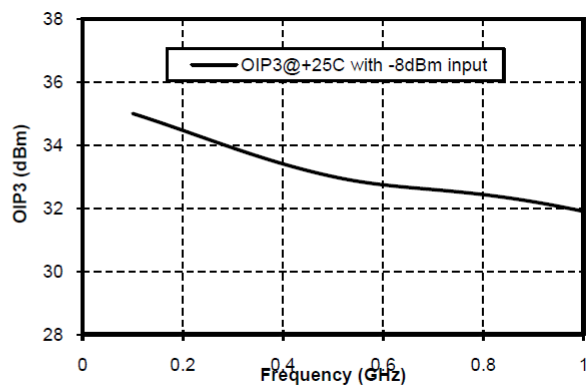
Reverse Isolation vs. Frequency



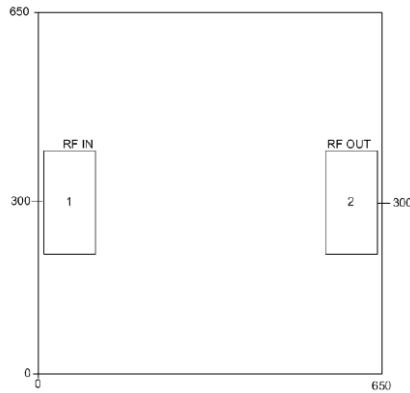
P-1dB/Psat vs. Frequency



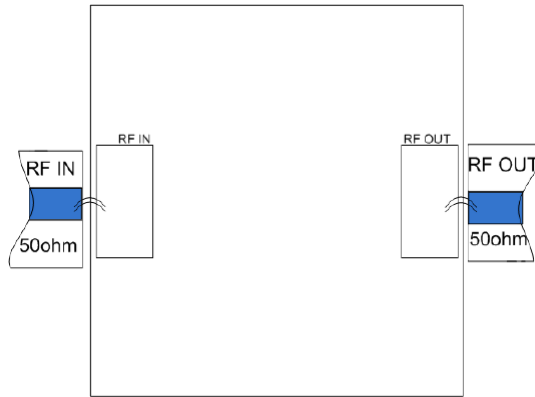
OIP3 vs. Frequency (Pin=-8dBm)



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
	C1, C2	0.01μF	0.01μF	0.01μF	0.01μF
	V _{CC} (V)	5			
	R _{BIAS} (Ω)	-			

*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: 120mA
3. Storage temperature: -65°C to +150°C
4. Operating temperature: -55°C to +85°C