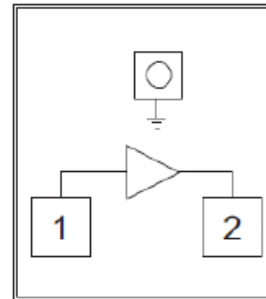


Features

- Operating Frequency: DC-6GHz
- Small Signal Gain: 19.5dB
- Noise Figure: 3.4dB
- P-1dB: 17.5dBm
- OIP3: 31.5dBm@1GHz with -8dBm input
- Current: 70mA
- 50Ohm input/output
- Die Size: 0.62 x 0.62 x 0.1 mm

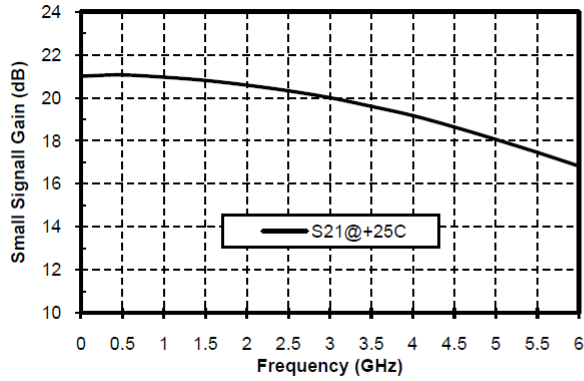
Functional Block Diagram

Typical Applications

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

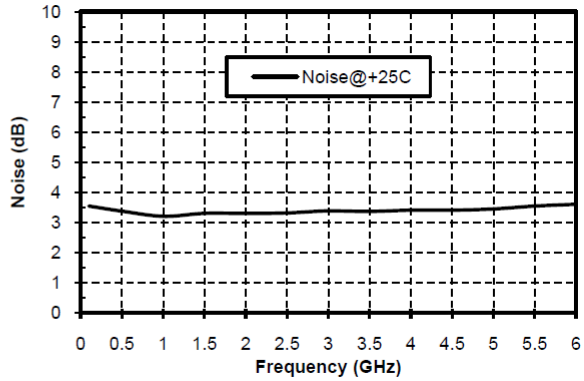
Electrical Specifications
TA = +25°C, VCC=+5V

Parameters	Min.	Typ.	Max.	Units
Frequency	DC - 6			GHz
Small Signal Gain		19.5		dB
Input Return Loss		23		dB
Output Return Loss		17		dB
Reverse Isolation		22		dB
P-1dB	14	17.5	18.5	dBm
Psat	16	19	20	dBm
OIP3 @1GHz with -8dBm input		31.5		dBm
Noise Figure		3.4		dB
Static Current		70		mA

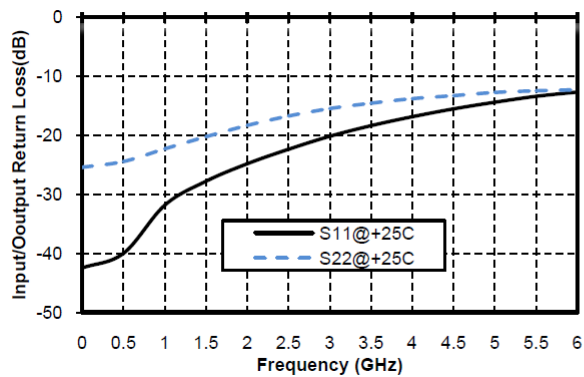
Gain vs. Frequency



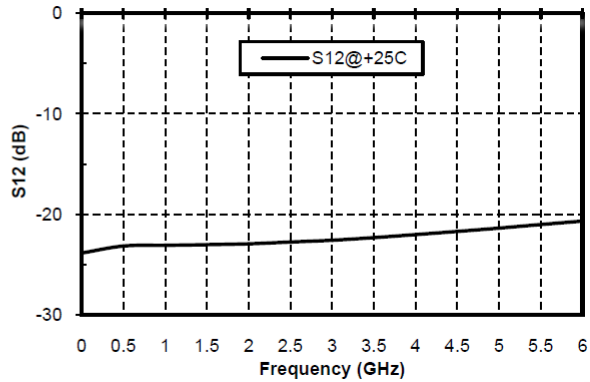
Noise Figure vs. Frequency



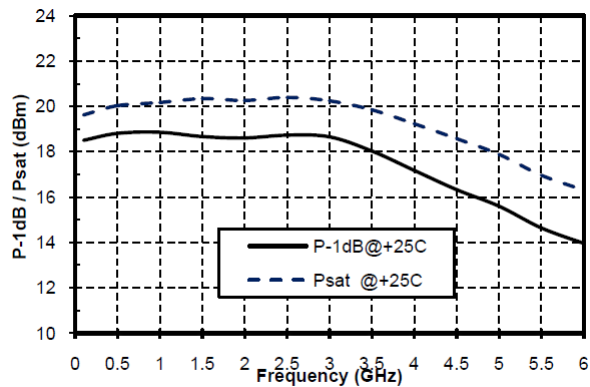
Input/Output Return Loss vs. Frequency



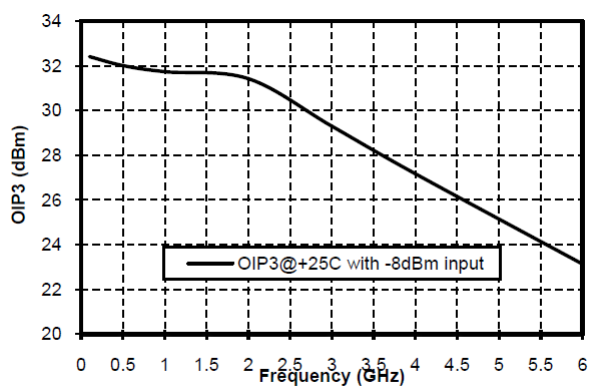
Reverse Isolation vs. Frequency



P-1dB/Psat vs. Frequency

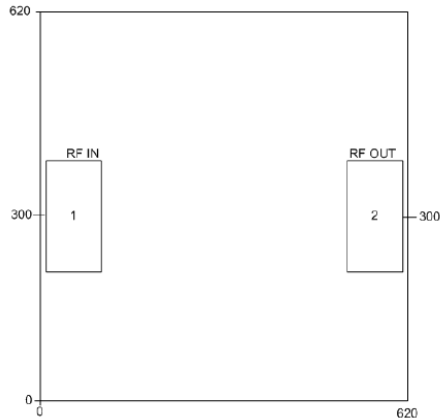


OIP3 with -10dBm input vs. Frequency

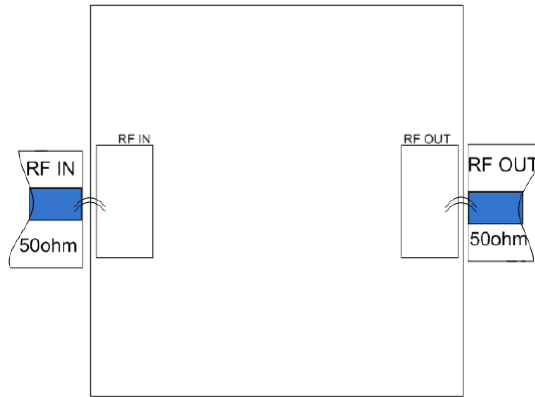


Outline Drawing(Die):

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

	Frequency (MHz)			
	10	1000	2000	4000
Device				
L1	10 μ H	270nH	270nH	270nH
C1, C2	0.01 μ F	0.01 μ F	0.01 μ F	0.01 μ F
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: 100 μ m
2. Typical bond pad is 100*100 μ m²
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: 100mA
3. Storage temperature: -65 $^{\circ}$ C to +150 $^{\circ}$ C
4. Operating temperature: -55 $^{\circ}$ C to +85 $^{\circ}$ C