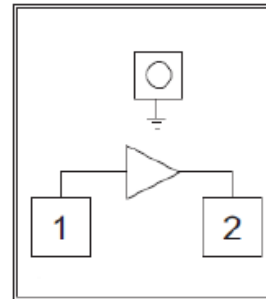


Features

- Operating Frequency: DC-7GHz
- Small Signal Gain: 17dB
- Gain Flatness: ± 0.2 dB
- Noise Figure: 4.0dB
- P-1dB: 14.5dBm
- Current: 50mA
- 50Ohm input/output
- Die Size: 0.62 x 0.62 x 0.1 mm

Functional Block Diagram

Typical Applications

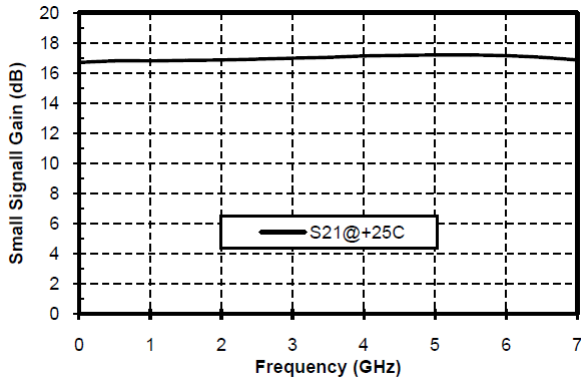
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications
TA = +25°C, VCC=+5V, R_{BIAS}=16.2Ω

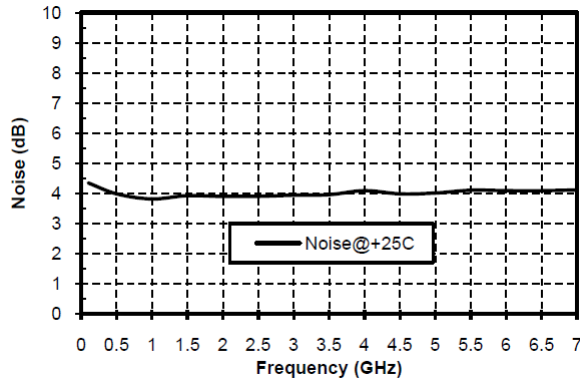
Parameters	Min.	Typ.	Max.	Units
Frequency	DC - 7			GHz
Small Signal Gain	13	17	24	dB
Gain Flatness		± 0.2		dB
Input Return Loss		19		dB
Output Return Loss		20		dB
Reverse Isolation		19		dB
P-1dB	12	14.5	15.5	dBm
Psat	12.5	15.5	16.5	dBm
Noise Figure		4.0		dB
Static Current		50		mA
Device Voltage, Vbias	3.9	4.2	4.5	V



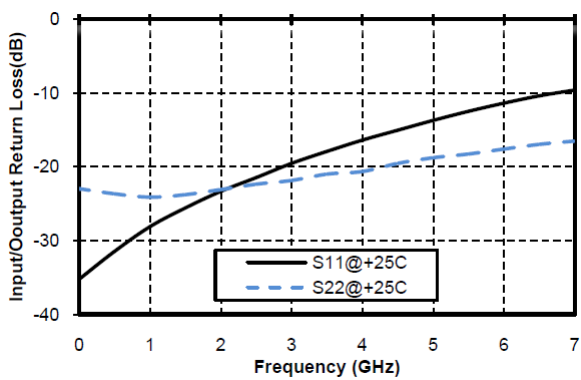
Gain vs. Frequency



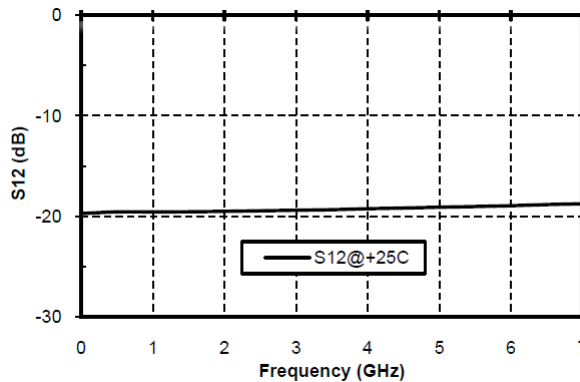
Noise Figure vs. Frequency



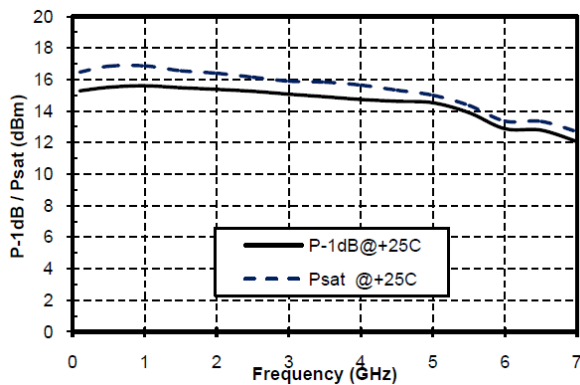
Input/Output Return Loss vs. Frequency



Reverse Isolation vs. Frequency

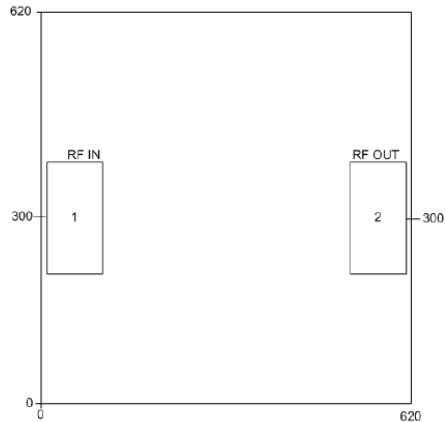


P-1dB/Psat vs. Frequency

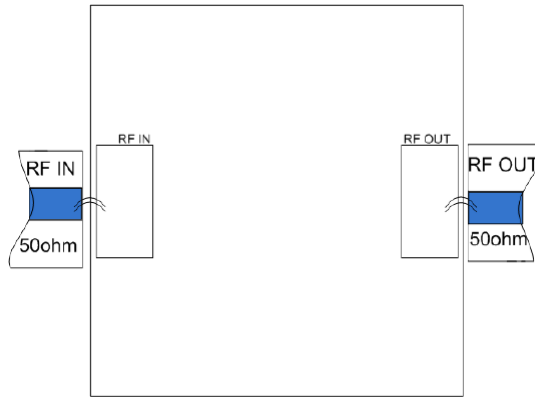


Outline Drawing(Die):

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

	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)	16.2	36	56	76	96	116

*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: 70mA
3. Storage temperature: -65°C to +150°C
4. Operating temperature: -55°C to +85°C