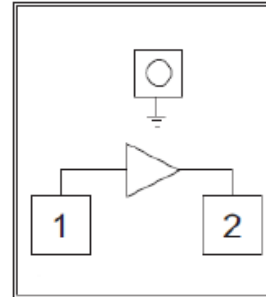


Features

- Operating Frequency: DC-4GHz
- Small Signal Gain: 18dB
- Noise Figure: 0.9dB
- P-1dB: 20.5dBm
- Power Supply: +5V/75mA
- 50Ohm input/output
- Die Size: 1.0 x 0.95 x 0.1 mm

Functional Block Diagram

Typical Applications

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

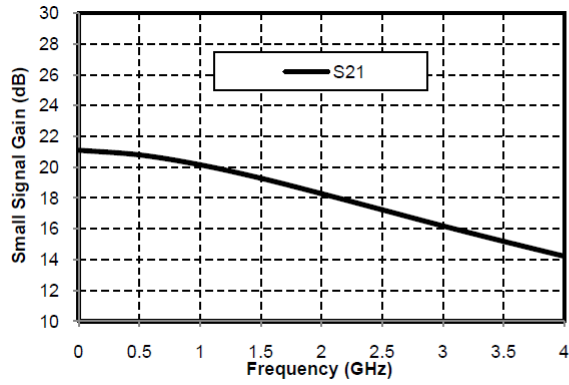
Electrical Specifications

TA = +25°C, Vd=+5V, R_{BIAS}=19.5Ω

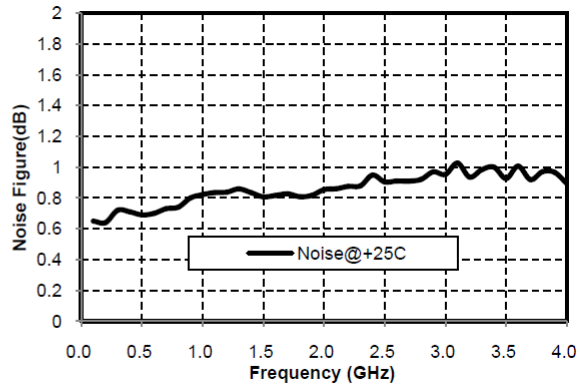
Parameters	Min.	Typ.	Max.	Units
Frequency	DC-4			GHz
Small Signal Gain	14	18	21	dB
Input Return Loss	16	23		dB
Output Return Loss	11	18		dB
P-1dB		20.5		dBm
Psat		21		dBm
Noise Figure		0.9		dB
Static Current		75		mA



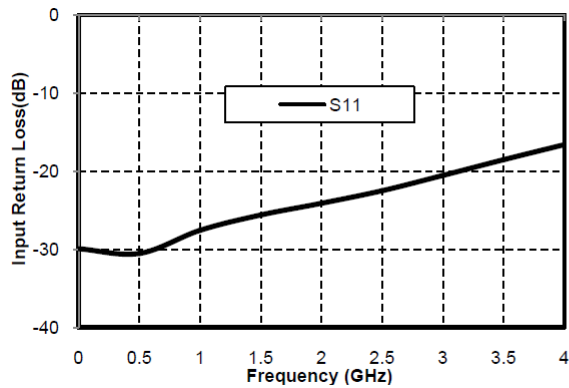
Gain vs. Frequency



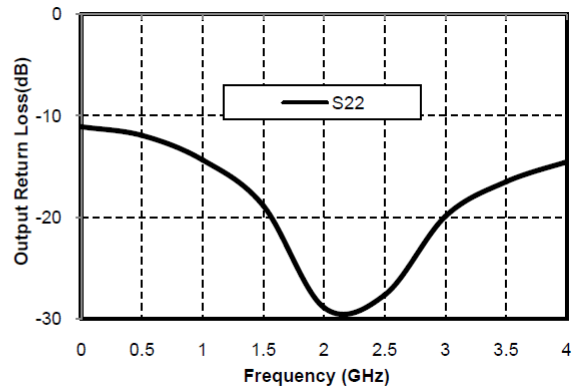
Noise Figure vs. Frequency



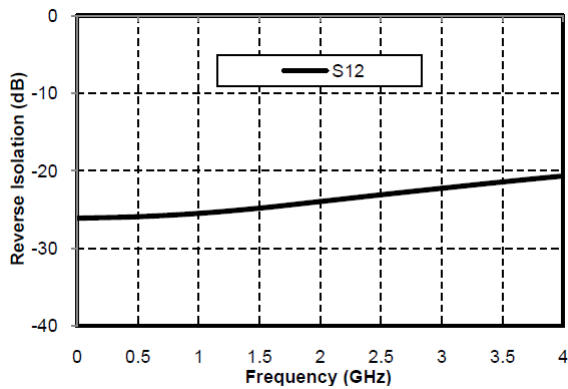
Input Return Loss vs. Frequency



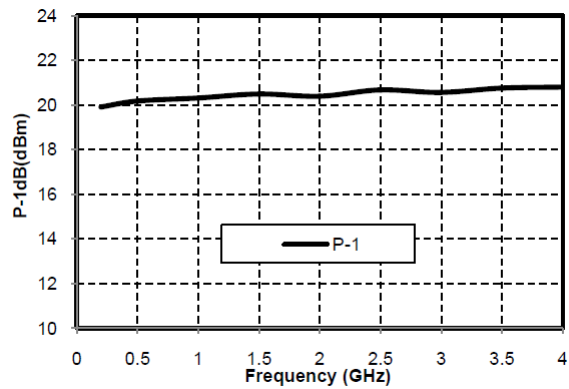
Output Return Loss vs. Frequency



Reverse Isolation vs. Frequency

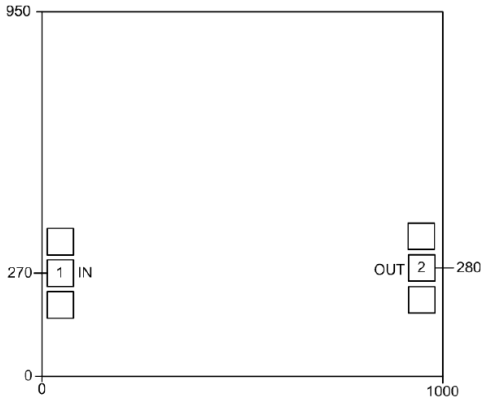


P-1dB vs. Frequency

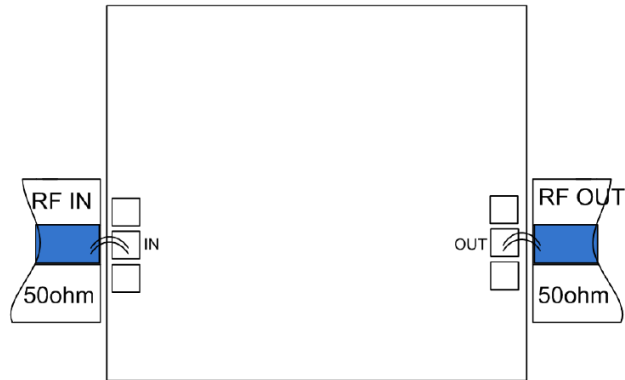


Outline Drawing(Die):

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
	C1, C2	0.01μF	0.01μF	0.01μF	0.01μF
	V _{CC} (V)	5			
	R _{BIAS} (Ω)	19.5			

*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: +20dBm
2. Drain Voltage: +7V
3. Storage temperature: -65°C to +150°C
4. Operating temperature: -55°C to +85°C