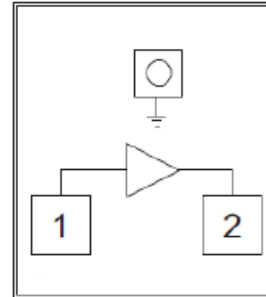


Features

- Operating Frequency: 0.2-4GHz
- Small Signal Gain: 19dB@1GHz
- Noise Figure: 1.0dB
- P-1dB: 20.5dBm
- Power Supply: +5V/75mA
- 50Ohm input/output
- Die Size: 1.0 x 0.9 x 0.1 mm

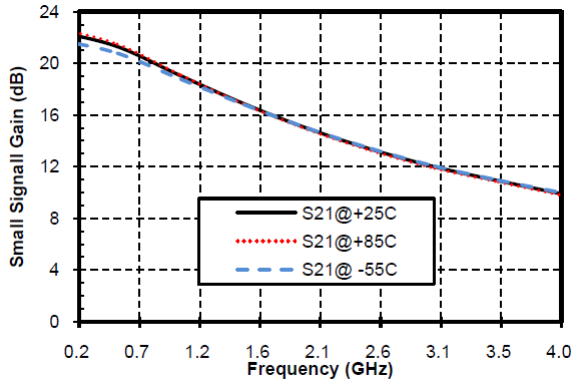
Functional Block Diagram

Typical Applications

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

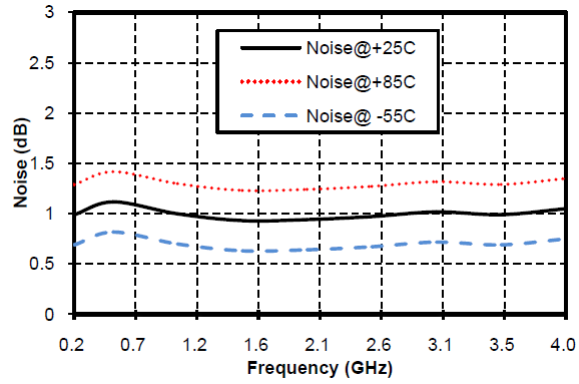
Electrical Specifications
TA = +25°C, Vd=+5V, R_{BIAS}=19.5Ω

Parameters	Min.	Typ.	Max.	Units
Frequency	0.2-4			GHz
Small Signal Gain	10	19	22	dB
Input Return Loss	18	20		dB
Output Return Loss	11	19		dB
P-1dB		20.5		dBm
Psat		21.5		dBm
Noise Figure		1.0		dB
Static Current		75		mA

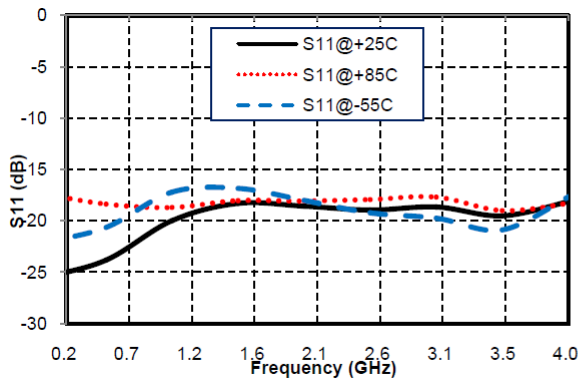
Gain vs. Frequency



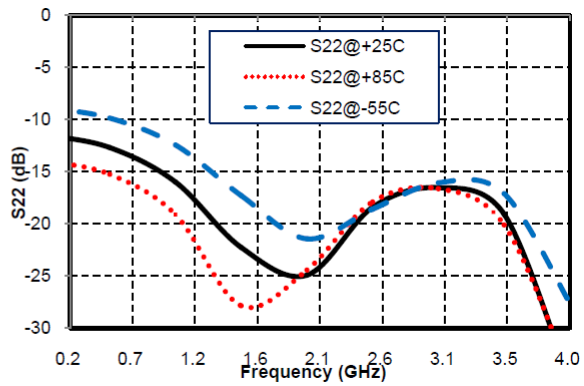
Noise Figure vs. Frequency



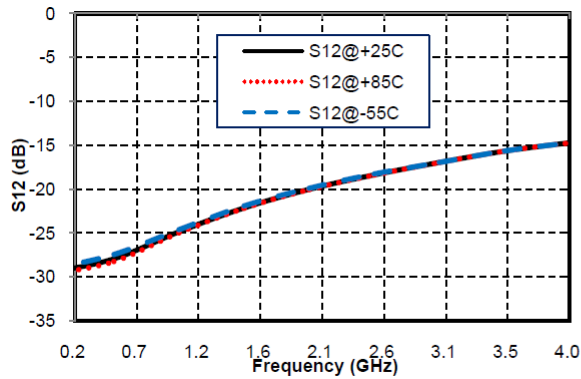
Input Return Loss vs. Frequency



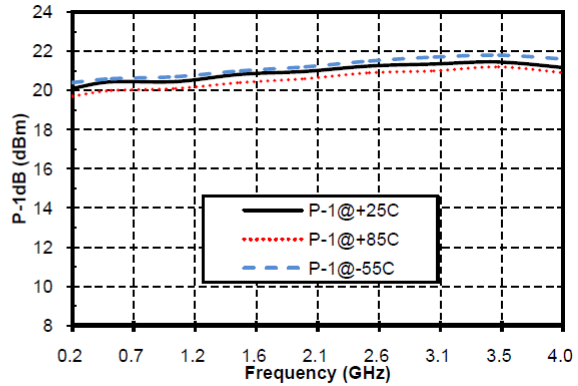
Output Return Loss vs. Frequency



Reverse Isolation vs. Frequency



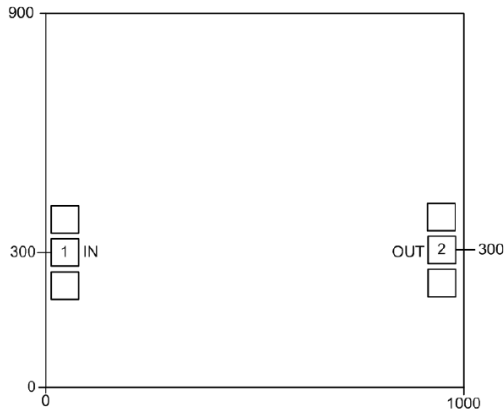
P-1dB vs. Frequency



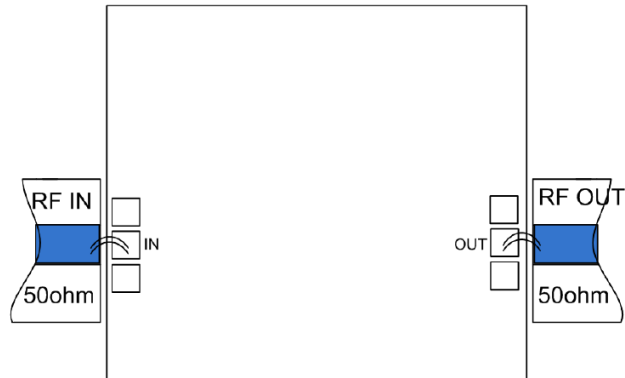


Outline Drawing(Die):

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