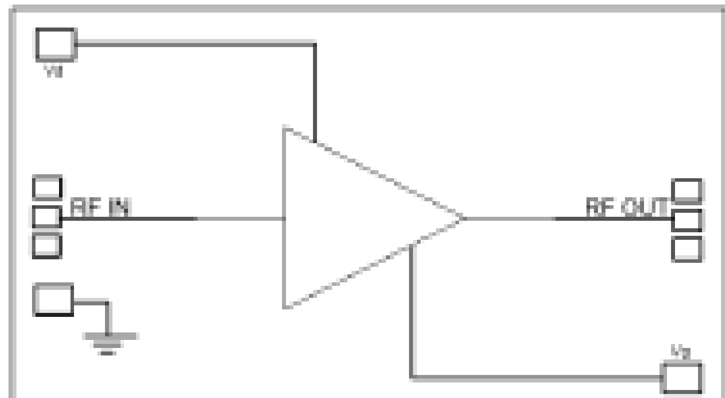
GaAs MMIC
Low Noise Amplifier
DC-20GHz

Features

- Frequency: DC-20GHz
- Small Signal Gain: 18dB
- Noise Figure: 2.0dB typ.
- P1dB: 16dBm
- Power supply: +8V/80mA
- Input/Output: 50Ω
- Die Size: 3.3 x 1.6 x 0.1 mm

Functional Block Diagram



Typical Applications

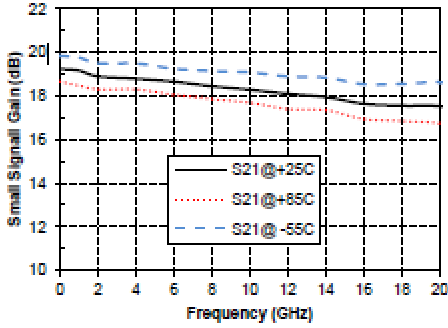
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

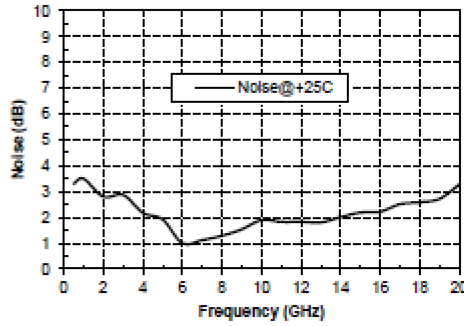
TA = +25ºC, Vd = +8V

Parameters	Min.	Typ.	Max.	Units
Frequency	DC-20			GHz
Small Signal Gain		18		dB
Gain Flatness		±0.75		dB
Noise Figure		2.0		dB
Output 1dB Compression (P1dB)		16		dBm
Input Return Loss		22		dB
Output Return Loss		20		dB
Static Current		80		mA

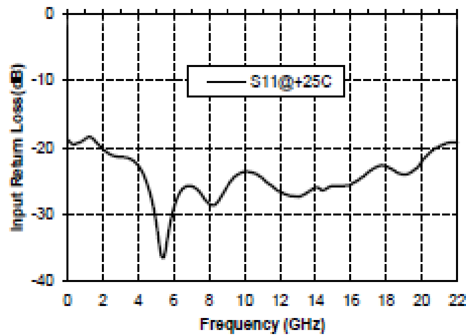
Gain vs. Frequency



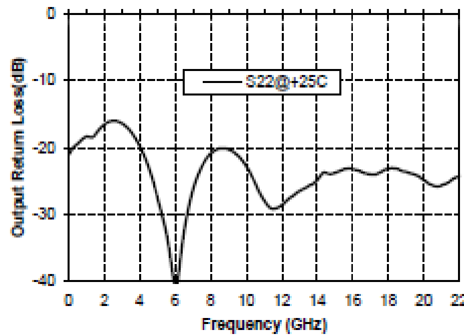
Noise Figure vs. Frequency



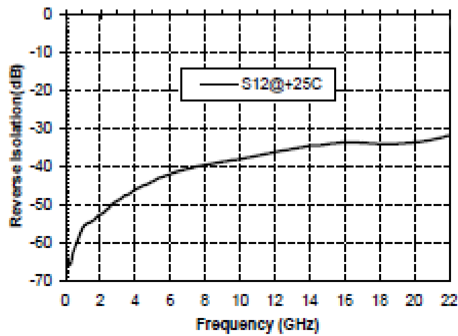
Input Return Loss vs. Frequency



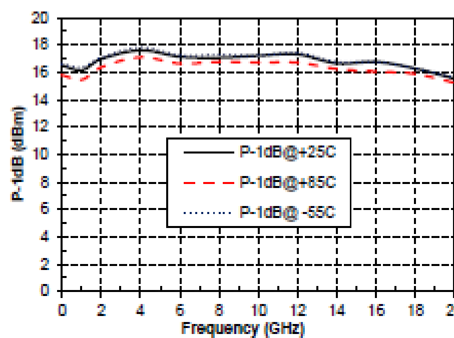
Output Return Loss vs. Frequency



Reverse Isolation vs. Frequency

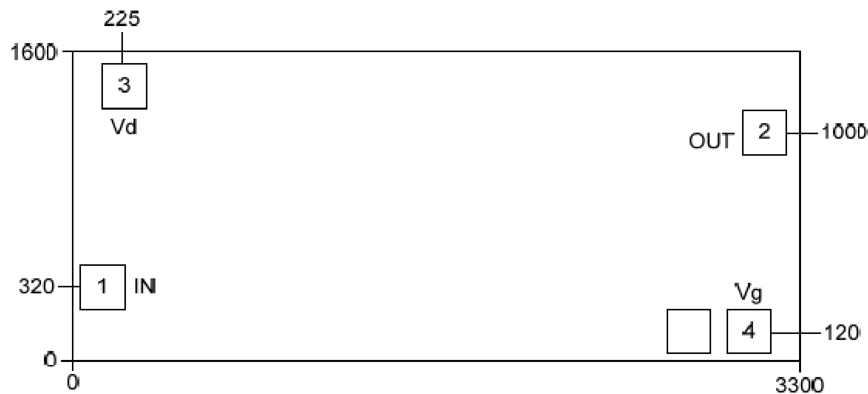


P1dB vs. Frequency



Outline Drawing:

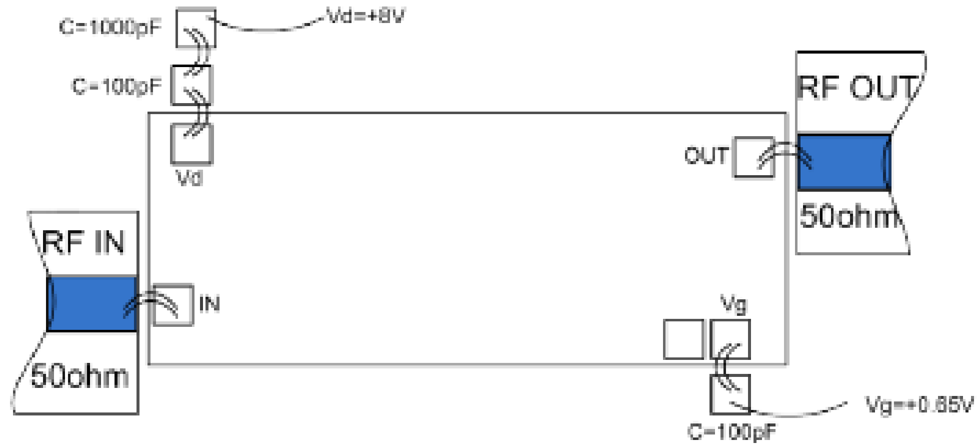
All Dimensions in µm



Pad Description

Pad	Function	Description	Equivalent Circuit
1	RF IN	RF signal input terminal; blocking capacitor required.	RF IN
2	RF OUT	RF signal output terminal; blocking capacitor required.	RF Out
3	VD	Amplifier drain bias; external 100pF bypass capacitor required.	
4	VG	Amplifier gate bias; external 100pF bypass capacitor required.	Vg
Die bottom	GND	Die bottom must be connected to RF/DC ground.	

Assembly Drawing



Notes:
1. Typical bond pad is 100*100 μm^2
2. Bond pad metalization: Gold
3. Backside metalization: Gold
4. Backside of the die (GND)
5. No connection required for unlabeled bond pads

Maximum Ratings:
1. Maximum drain voltage: +12V
2. Maximum input power: +20dBm
3. Operating temperature: -55℃ to +85℃
4. Storage temperature: -65℃ to +150℃