

Features

- Single Biasing Voltage (Self Biased)
- Operating Frequency: 18-40GHz
- Gain: 20dB@+5V; 19.5dB@+4V
- P1dB: +16dBm@+5V; +14dBm@+4V
- Psat:17.5 dBm @ +5 V; +15.5 dBm @ +4 V;
- Noise figure:2.5 dB @ +5 V; 2.3 dB @ +4 V;
- Power Supply: +5 V @ 69 mA; +4 V @ 52 mA
- Input/Output: 50Ω
- Die Size: 1.5x 0.8x 0.1 mm

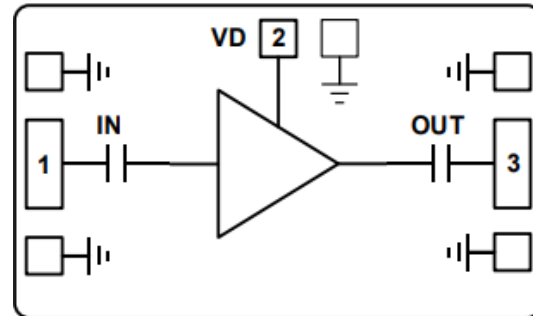
Typical Applications

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

Electrical Specifications

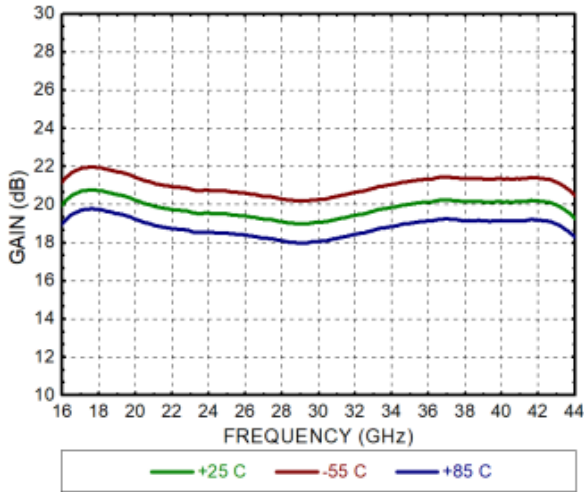
TA = +25°C

Parameters	VDD=+5V			VDD=+4V			Units
	Min	Typ.	Max	Min	Typ.	Max	
Frequency	18-40			18-40			GHz
Gain		20			19.5		dB
Gain Flatness		±1			±0.8		dB
Input Return Loss		15			15		dB
Output Return Loss		15			15		dB
P1dB		16			14		dBm
Psat		17.5			15.5		dBm
OIP3		26			24		dBm
NF		2.5			2.3		dB
Operating Current	55	69	85	37	52	68	mA

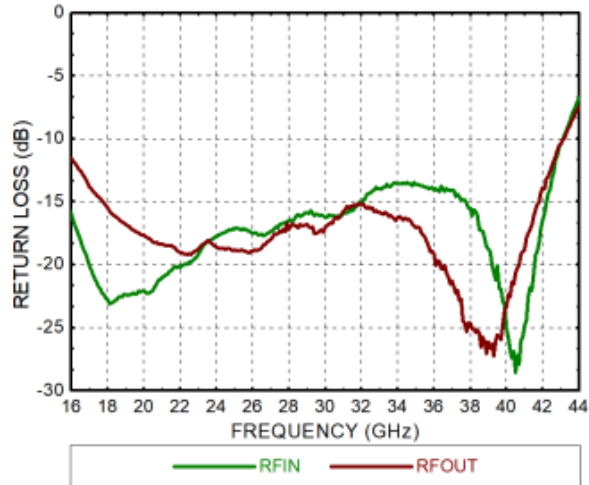
Functional Block Diagram




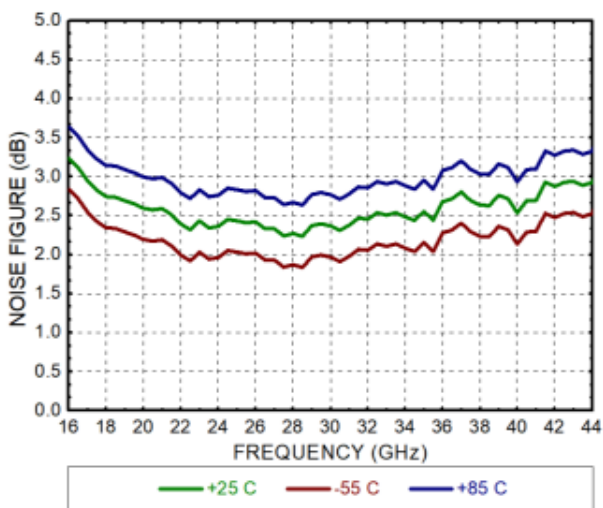
Gain@VDD=+5V



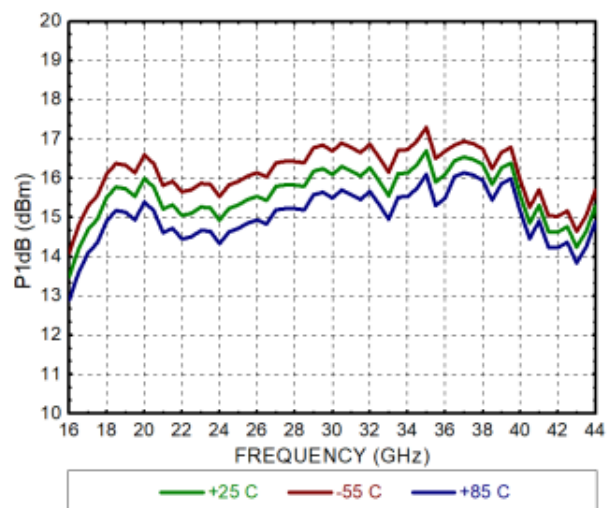
Return Loss@VDD=+5V



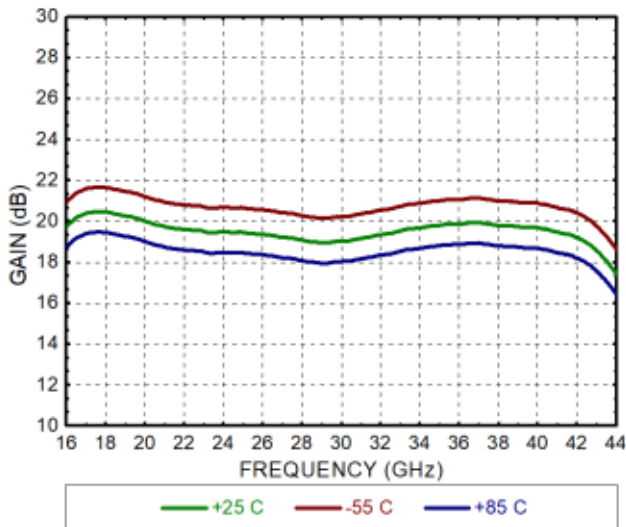
NF@VDD=+5V



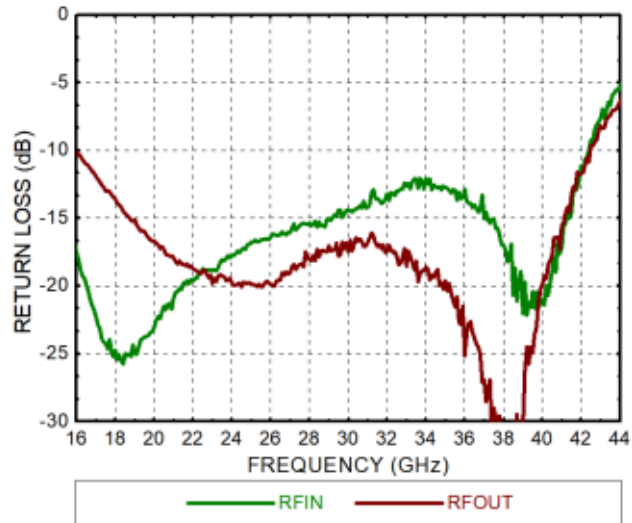
Output Power P-1@VDD=+5V



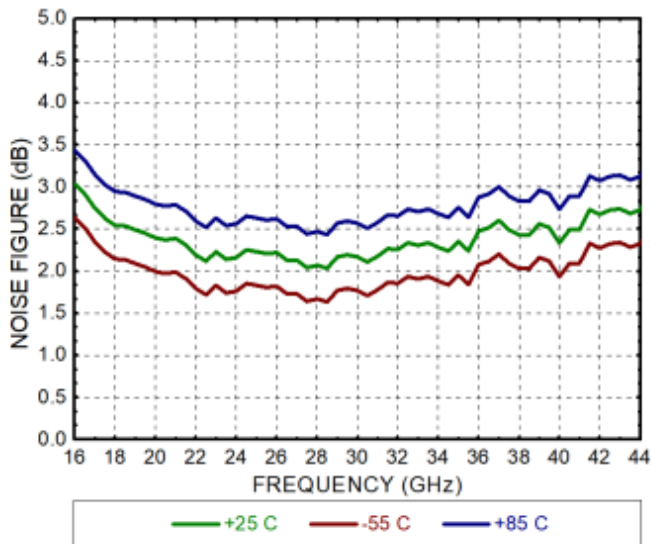
Gain@VDD=+4V



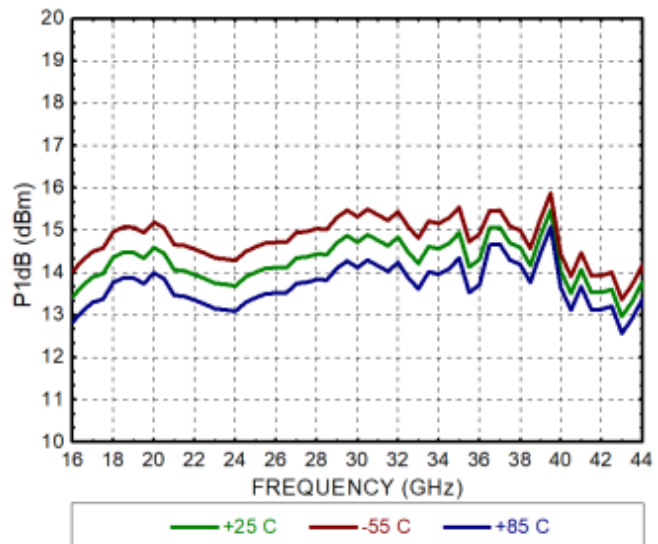
Return Loss@VDD=+4V



NF@VDD=+4V



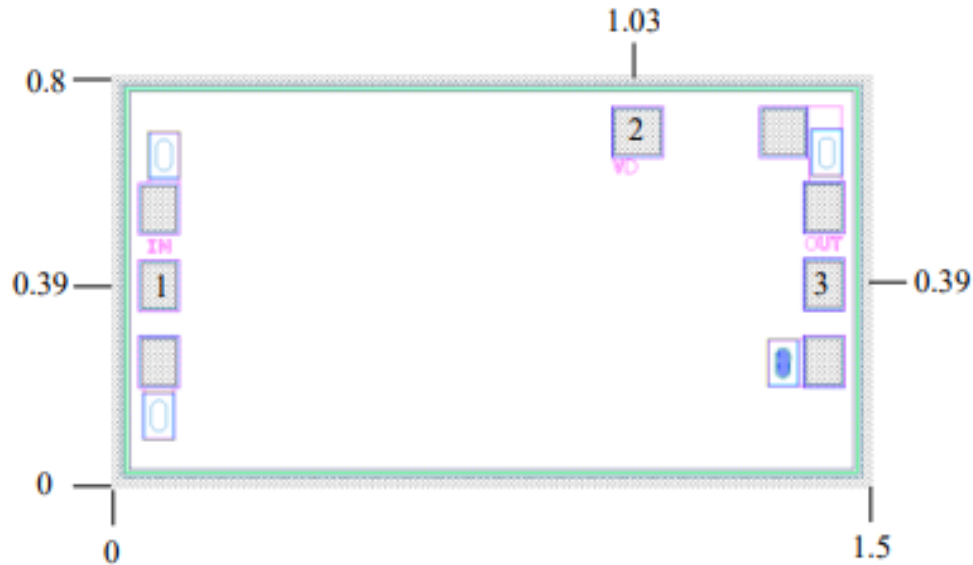
Output Power P-1@VDD=+4V





Outline Drawing:

All Dimensions in mm

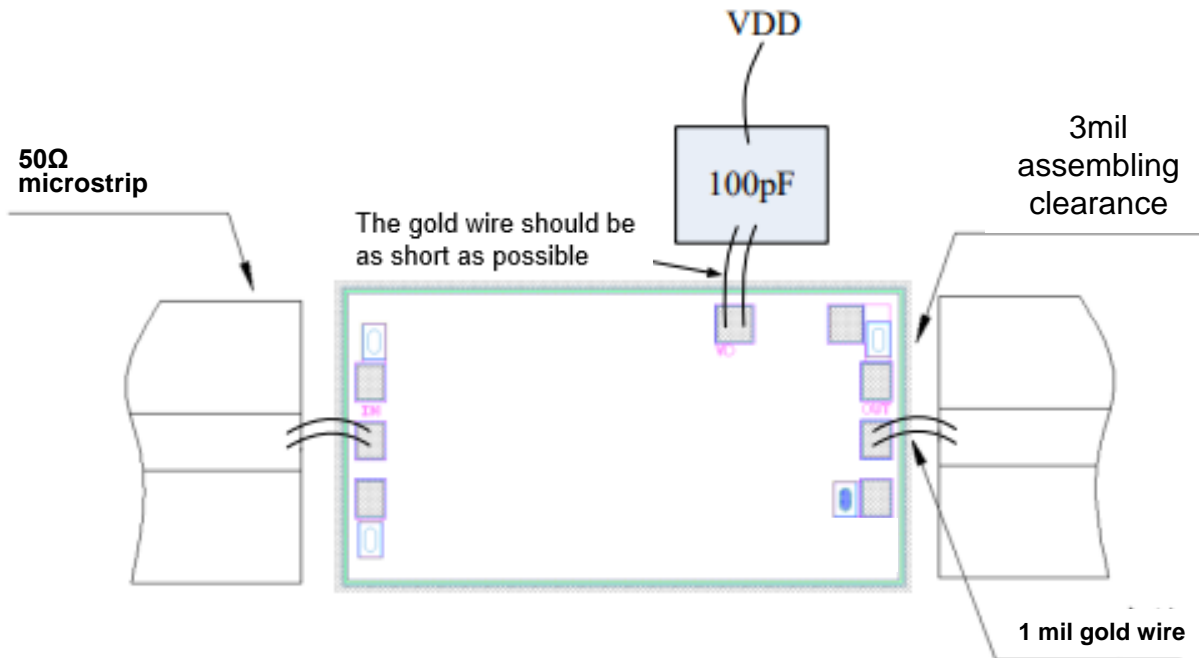


Pad Description

PAD	Function	Description
1	IN	AC coupling, matched to 50Ω
2	VD	Supply voltage to amplifier, connected to external 100pF bypass capacitor
3	OUT	AC coupling, matched to 50Ω
Back	GND	Die bottom must be connected to RF/DC ground



Assembly Drawing



Notes:

1. Die thickness: 100um
2. Typical bond pad is 100*80 μm^2
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: +15dBm
2. Power supply voltage: +6V
3. Operating temperature: -55°C to +85°C
4. Storage temperature: -65°C to +150°C