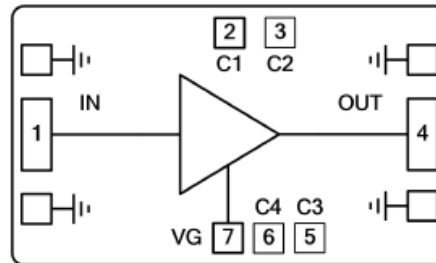


Features

- Operating Frequency: DC-20GHz
- Gain: 16.5dB
- P1dB: +21.5dBm
- Psat: +24dBm
- Power Supply: +8V@ 150mA
- Input/Output: 50Ω
- Die Size: 3.05x 1.3 x 0.1 mm

Functional Block Diagram

Typical Applications

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

Electrical Specifications

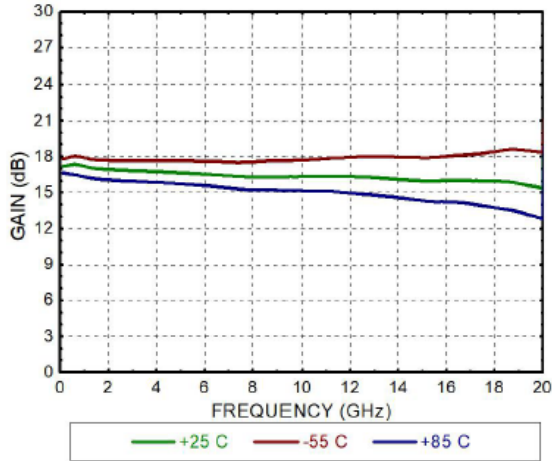
TA = +25°C, Vdd = +8V, Vg=-0.9V*, Idd = 150mA*

Parameters	Min	Typ.	Max	Min	Typ.	Max	Min	Typ.	Min	Units
Frequency	DC-6			6-12			12-20			GHz
Gain		17			16.5			16		dB
Gain Flatness		±0.4			±0.2			±0.4		dB
Input Return Loss		15			13			13		dB
Output Return Loss		20			20			20		dB
P1dB		21.5			21.5			20		dBm
Psat		25			24.5			23		dBm
OIP3		31			31			30		dBm
NF		4			3			6		dB
Operating Current		150			150			150		mA

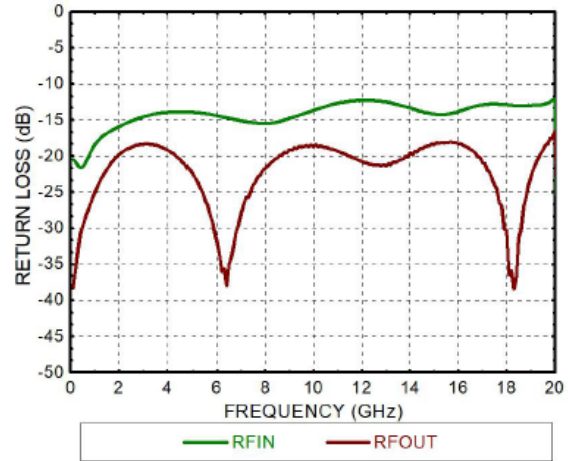
Note: Adjusting Vg to control Idd around 150mA, Vg range: -1.8V~-0.2V



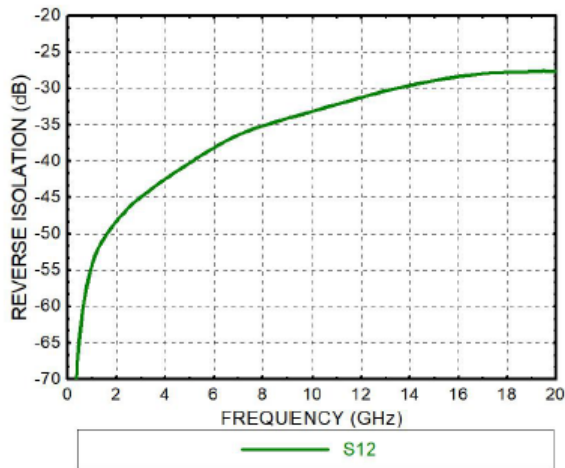
Gain



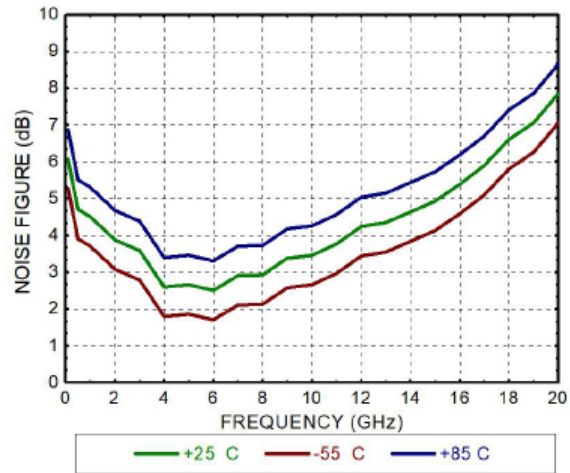
Return Loss



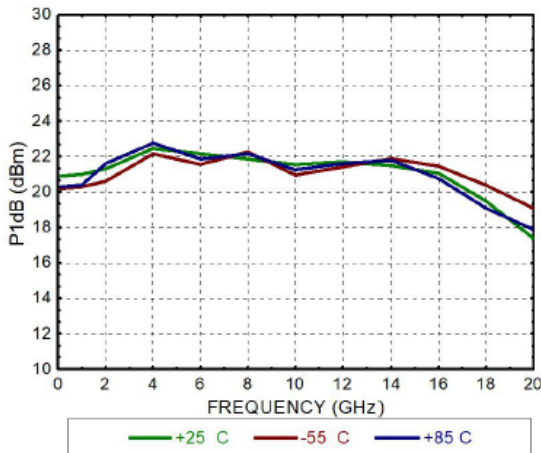
Reverse Isolation



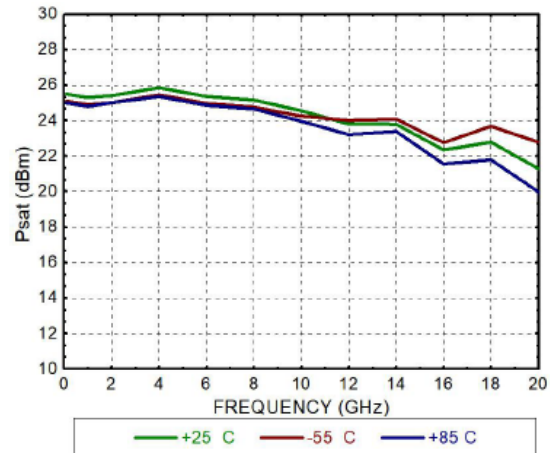
NF



P1dB

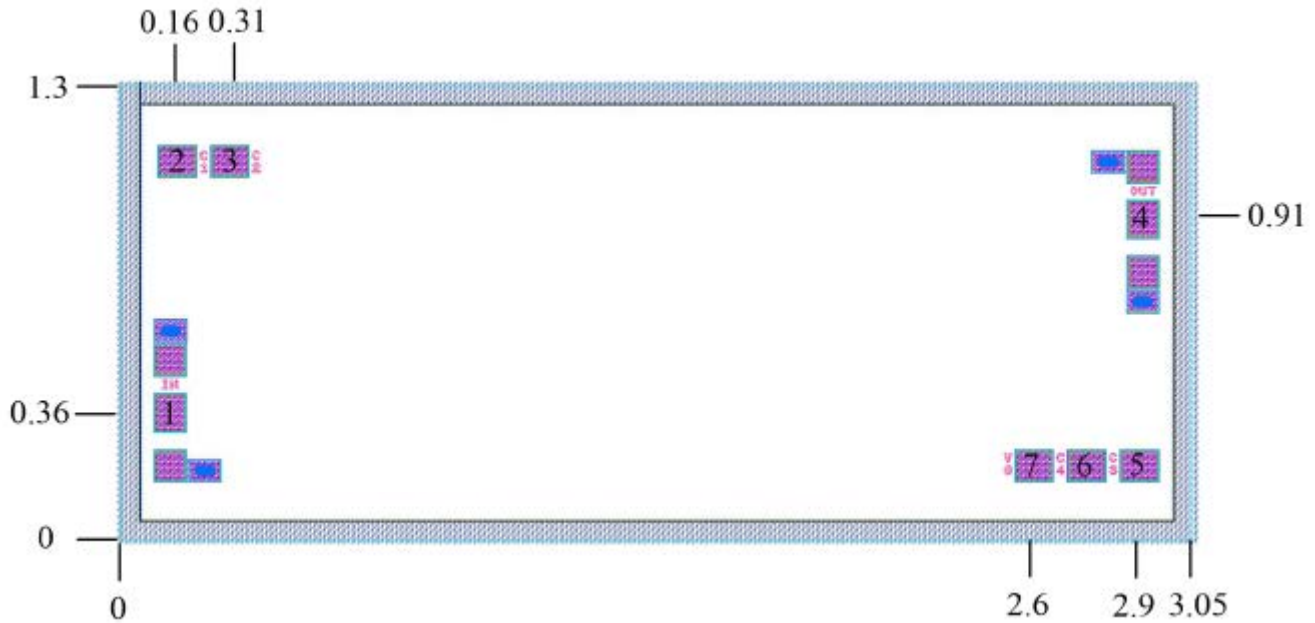


Psat





Outline Drawing:
All Dimensions in mm

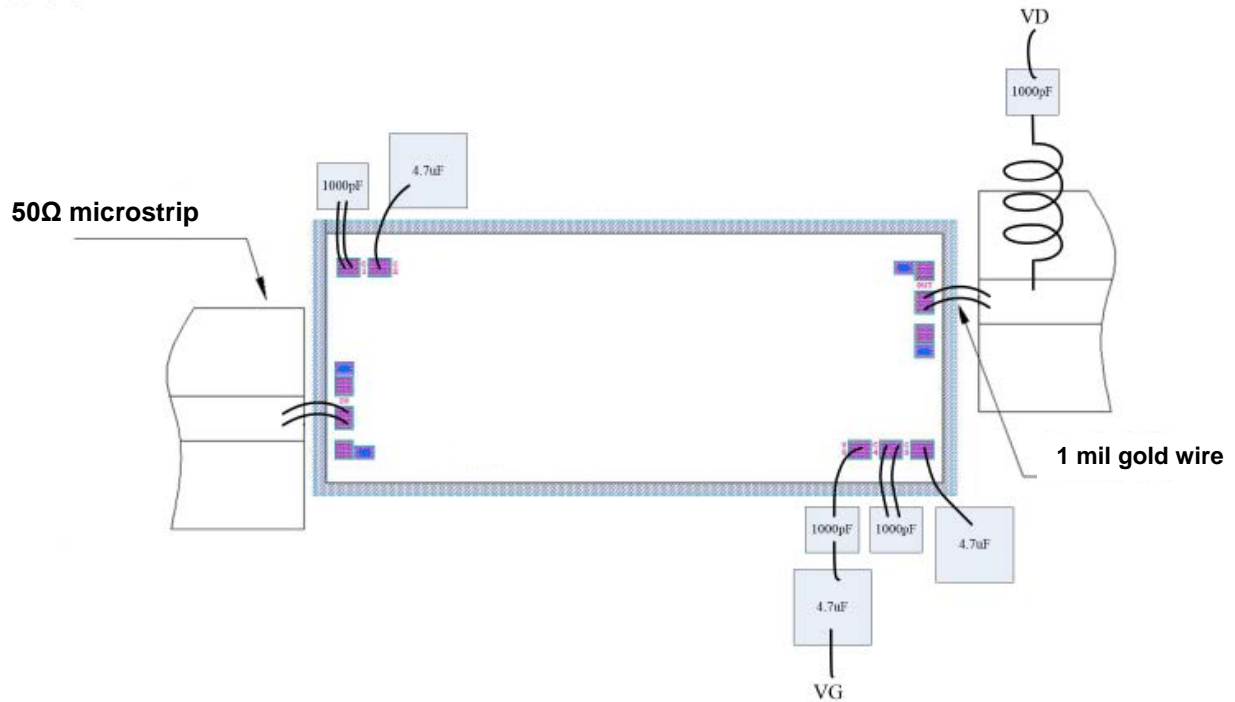


Pad Description

PAD	Function	Description
1	IN	DC coupling, matched to 50Ω, connected to external DC-blocking capacitor
2	C1	Low frequency signal filtering port, connected to external 1000pF bypass capacitor
3	C2	Low frequency signal filtering port, connected to external 4.7uF bypass capacitor
4	OUT	DC coupling, matched to 50Ω, connected to external wide-band conical inductor and DC-blocking capacitor
5	C3	Low frequency signal filtering port, connected to external 4.7uF bypass capacitor
6	C4	Low frequency signal filtering port, connected to external 1000pF bypass capacitor
7	VG	Gate control voltage, connected to external 1000pF and 4.7uF bypass capacitor
Back	GND	Die bottom must be connected to RF/DC ground



Assembly Drawing



Notes:

1. Die thickness: 100um
2. Typical bond pad is 110*90 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: +18dBm
2. Power supply voltage: +9V
3. Operating temperature: -55°C to +85°C
4. Storage temperature: -65°C to +150°C