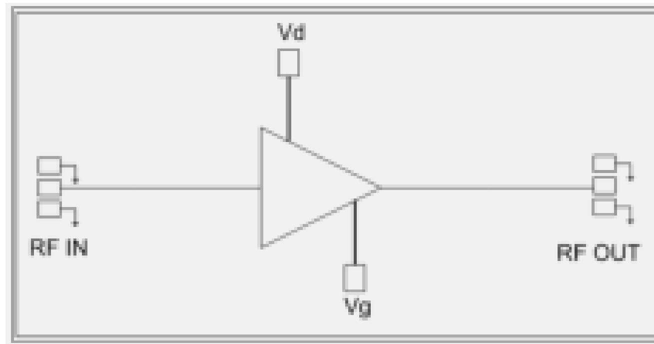
GaAs MMIC
Wide-band Amplifier
DC-67GHz

Features

- Frequency: DC-67GHz
- Small Signal Gain: 8dB
- Psat: 17dBm
- Power supply: +7V/110mA
- Input/Output: 50Ω
- Die Size: 2.5 x 1.2 x 0.1 mm

Functional Block Diagram



Typical Applications

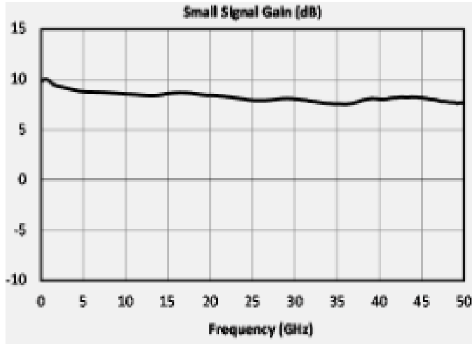
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

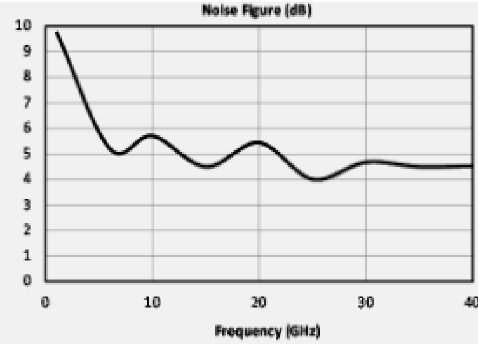
TA = +25°C, Vd = +7V

Parameters	Min.	Typ.	Max.	Units
Frequency		DC-50*		GHz
Small Signal Gain** (Negative Bias)		8		dB
P1dB** (Negative Bias)		13		dBm
Psat** (Negative Bias)		17		dBm
Input Return Loss		15		dB
Output Return Loss		10		dB
Static Current		110		mA
*Limited by test conditions, only DC-50G test data are provided. **Adjust VG (-2V-0V) to obtain device current of 125mA. VG can be suspended and at suspension state, the current is 150mA.				

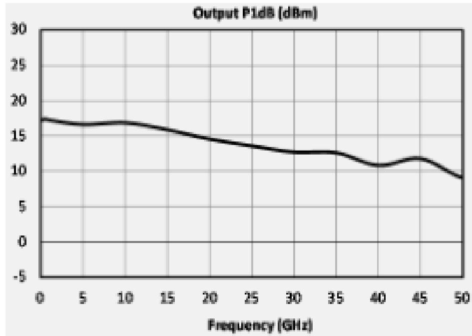
Gain vs. Frequency



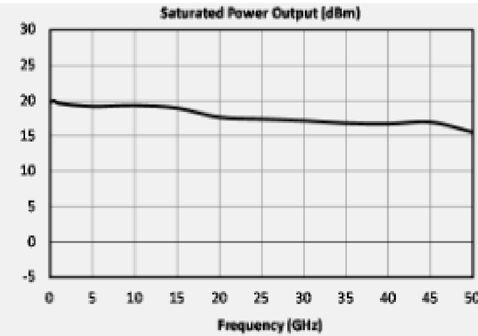
Noise Figure vs. Frequency



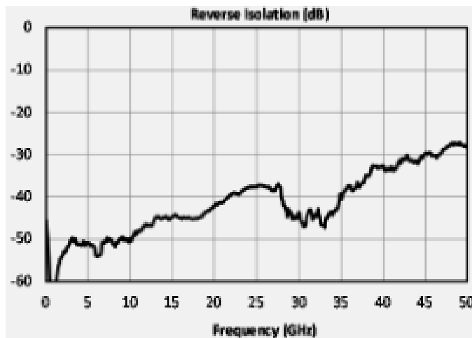
P1dB vs. Frequency



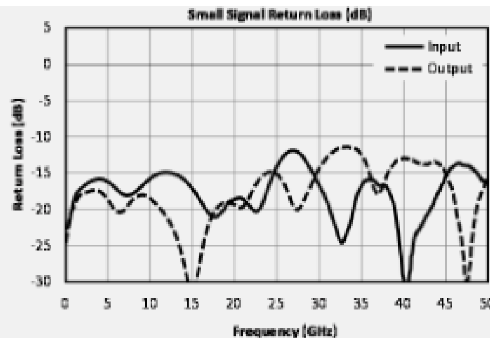
Psat vs. Frequency



Reverse Isolation vs. Frequency

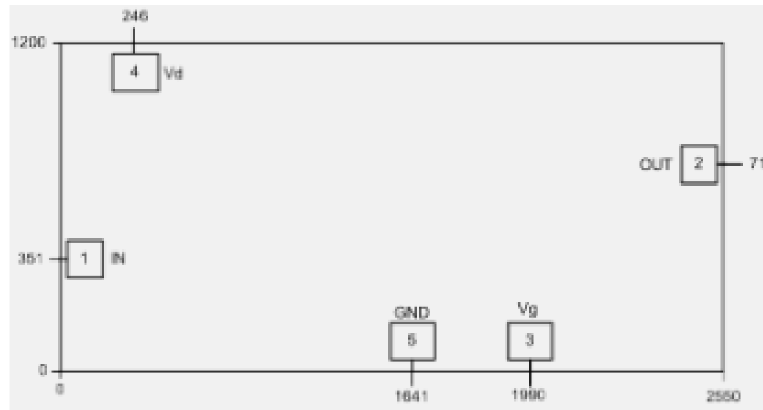


Input/Output Return Loss



Outline Drawing:

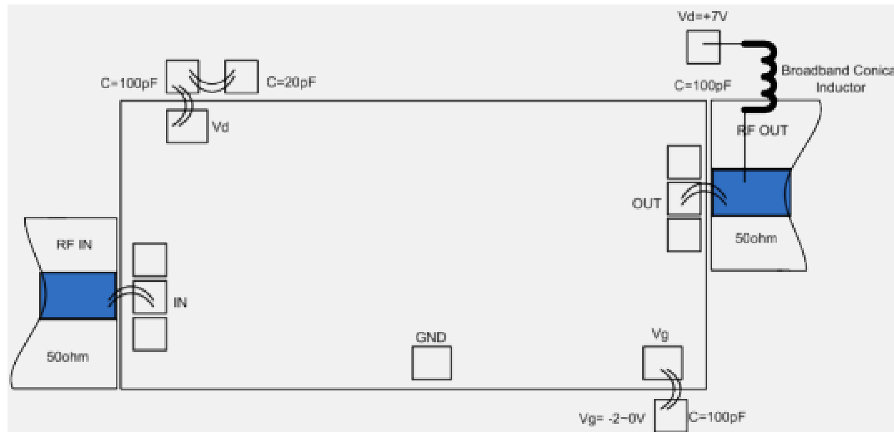
All Dimensions in µm



Pad Description

Pad	Function	Description	Equivalent Circuit
1	RF IN	RF signal input terminal; blocking capacitor required.	
2	RF OUT	RF signal output terminal; blocking capacitor required.	
3	Vg	Amplifier gate bias; connected to 100pF bypass capacitor.	
4	Vd	Amplifier drain bias, connected to external 100pF bypass capacitor.	
5	GND	Ground point used for probe test.	
Die bottom	GND	Die bottom must be connected to RF/DC ground.	

Assembly Drawing



Notes:
1. Die thickness: 100um
2. Typical bond pad is 100*100 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. Maximum drain voltage: +9V
2. Maximum gate bias: -2V
3. Maximum input power: +15dBm
4. Operating temperature: -55℃ to +85℃
5. Storage temperature: -65℃ to +150℃