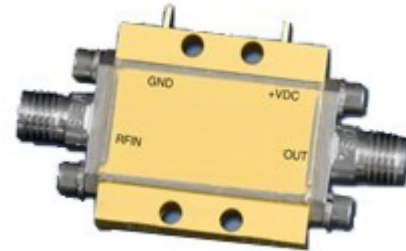


Low Noise Amplifier Module 1 – 6 GHz

Features

- 1 GHz to 6 GHz Frequency Range
- Gain: 34 dB
- P1dB: 12 dBm
- Gain flatness: ± 0.5 dB
- Low noise figure: 1.5 dB
- Unconditionally Stable
- 50 Ohm Input and Output Matched
- Hermetically Sealed Module
- Field Replaceable SMA connectors
- -55 °C to +85 °C Operating Temperature
- Tested to MIL-STD-810G
- Single DC Positive Supply
- Supply reverse polarity and over voltage protection
- Built-in DC Voltage Regulator

Picture



Applications

- Telecom Infrastructure
- Microwave Radio & VSAT
- Military & Space
- Test Instrumentation
- R&D Labs
- Communication Systems
- Radar Systems
- Electronic Warfare
- Generic IF Amplifier
- Low Noise Amplifier

Description

LNA1006 is a broadband PHEMT GaAs MMIC based positive gain slope low noise amplifier, operating in the 1 GHz to 6 GHz frequency range. The amplifier offers 1.5 dB typical Noise Figure, 12 dBm of P1dB and 34 dB small signal gain, with the gain flatness of ± 0.5 dB performance. This amplifier requires only a single positive DC supply, is unconditionally stable, operates over the temperature range of -55 °C to +85 °C, and characterized by a light weight (20 g) and small size (0.89"x0.85"x0.28").

Electrical Specifications ($T_A = 25^\circ\text{C}$, DC Voltage = +15V, DC Current = 75mA)

Parameter	Units	Minimum	Typical	Maximum
Frequency Range	GHz	1		6
Gain	dB		34	
Gain Flatness	dB		± 0.5	
Output 1dB Compression (P1dB)	dBm		+12	
Noise Figure	dB		1.5	
Operating DC Voltage	V	7		15
Operating DC Current	mA		75	

Absolute Maximum Rating

Parameter	Rating	Units
Source Voltage	+15	V
RF Input Power	0	dBm
Operating Temperature (base-plate)	-55 to +85	°C
Storage Temperature	-65 to +150	°C

Low Noise Amplifier Module 1 – 6 GHz

Typical Performance

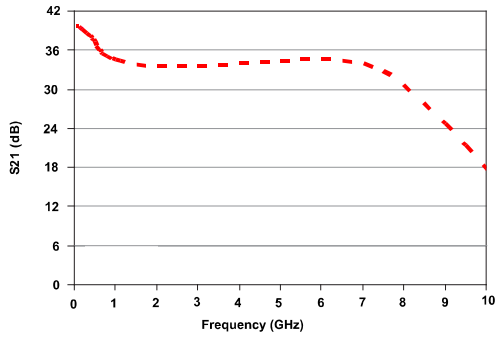


Figure 1. Small Signal Gain

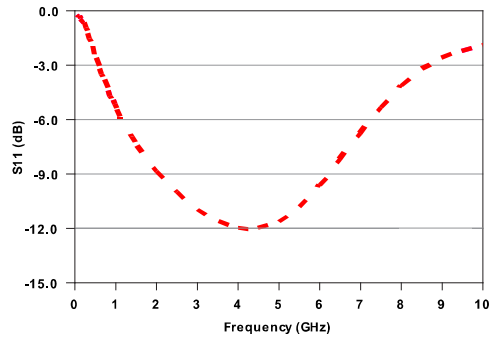


Figure 2. Input Return Loss

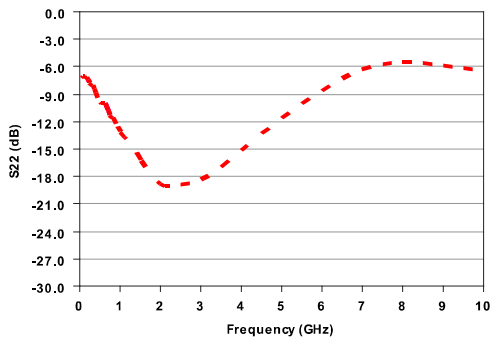


Figure 3. Output Return Loss

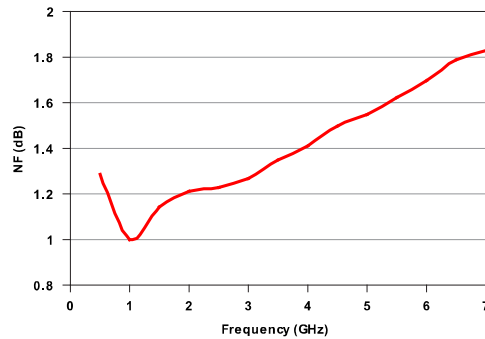


Figure 4. Noise Figure

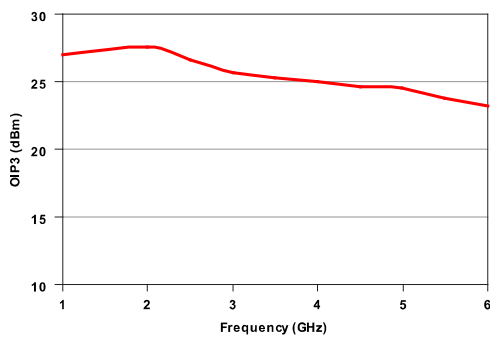


Figure 5. OIP3

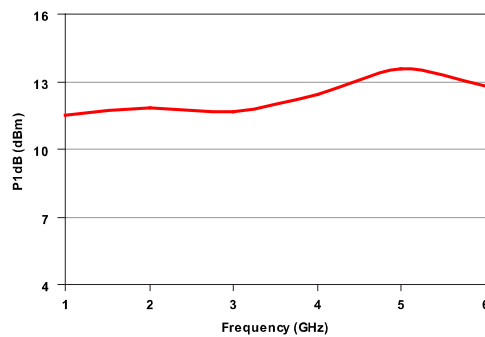
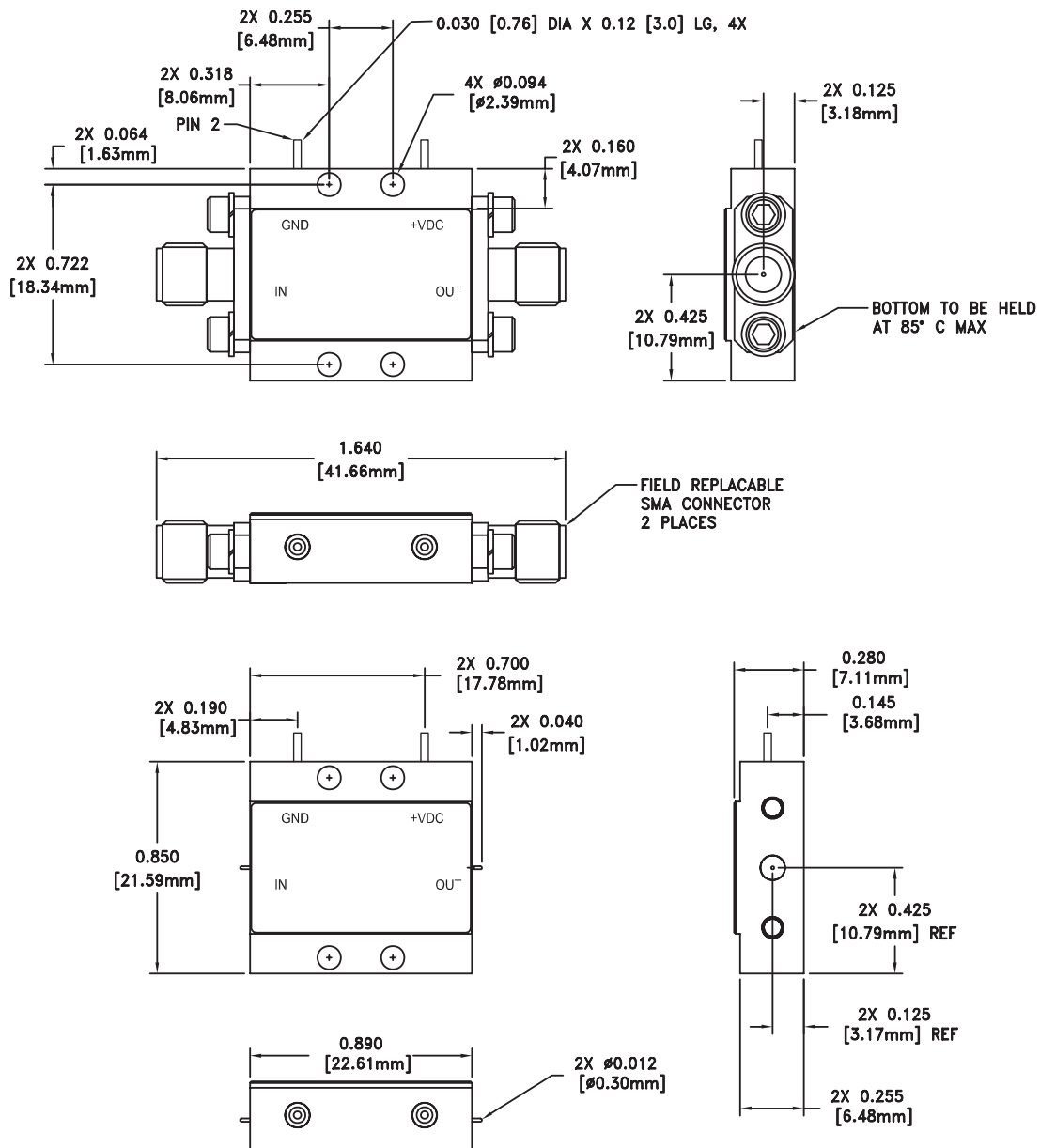


Figure 6. OP1dB

Low Noise Amplifier Module 1 – 6 GHz

Package Outline Drawing



NOTES:

1. PACKAGE, LEADS, COVER MATERIAL: KOVAR™
2. SPACER MATERIAL: ALUMINUM
3. PLATING: ELECTROLYTIC GOLD 50 MICROINCHES MIN., OVER ELECTROLYTIC NICKEL 75 MICROINCHES MIN.
4. ALL DIMENSIONS ARE IN INCHES [MILLIMETERS].
5. TOLERANCES \pm 0.005 [0.13] UNLESS OTHERWISE SPECIFIED.
6. FIELD REPLACEABLE SMA CONNECTORS.