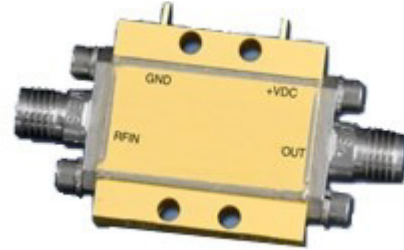


Wideband Low Noise Amplifier Module 4 – 20 GHz

Features

- 4 GHz to 20 GHz Frequency Range
- Gain: 34 dB
- P1dB: 18 dBm
- Gain flatness: ± 1 dB
- Low noise figure: 2 dB
- Input Power CW Survivability: 4 W
- 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
- 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
- Wireless Communications
- Unmanned Systems
- Power Amplifier
- Low Noise Amplifier
- RF Front Ends

Description

LNA2042 is a combination limiter/LNA which provides 4 W CW survivability, 34 dB mid-band gain, and 2 dB mid-band noise figure, with operation across 4-20 GHz. The 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 = 200mA)

Parameter	Units	Minimum	Typical	Maximum
Frequency Range	GHz	4		20
Gain	dB		34	
Gain Flatness	dB		± 1	
Output 1dB Compression (P1dB)	dBm		18	
Noise Figure	dB		2	
Operating DC Voltage	V	7		15
Operating DC Current	mA		200	

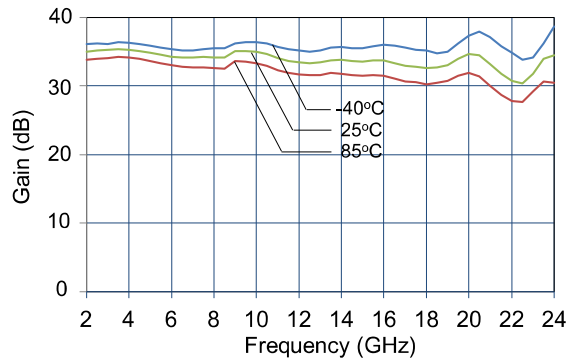
Absolute Maximum Rating

Parameter	Rating	Units
Source Voltage	+15	V
RF Input Power	36	dBm
Operating Temperature (base-plate)	-55 to +85	°C
Storage Temperature	-65 to +150	°C

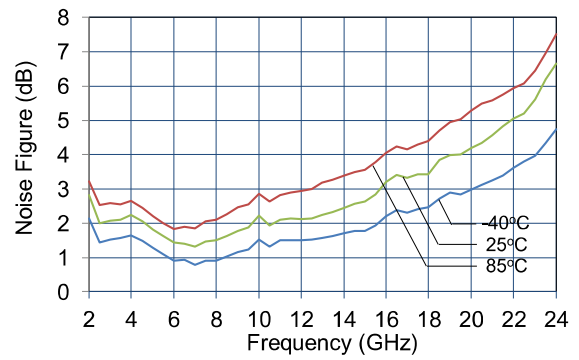
Wideband Low Noise Amplifier Module 4 – 20 GHz

Typical Performance

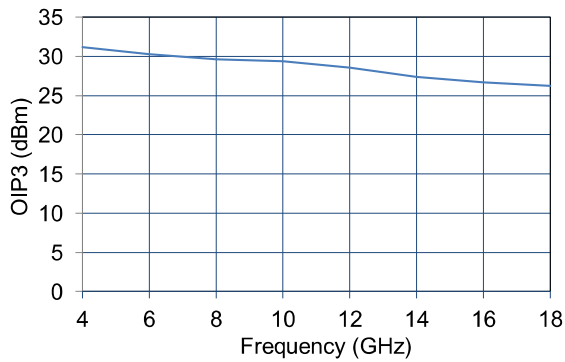
Gain vs. Frequency



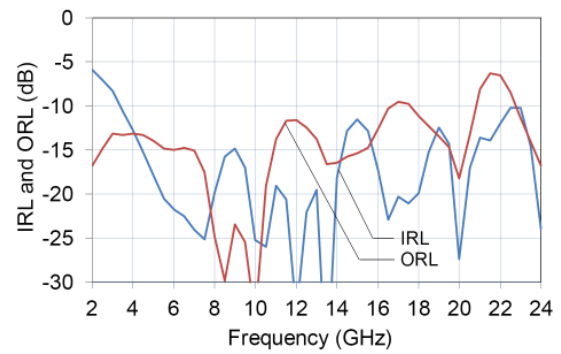
Noise Figure vs. Frequency



Third Order Output Intercept Point

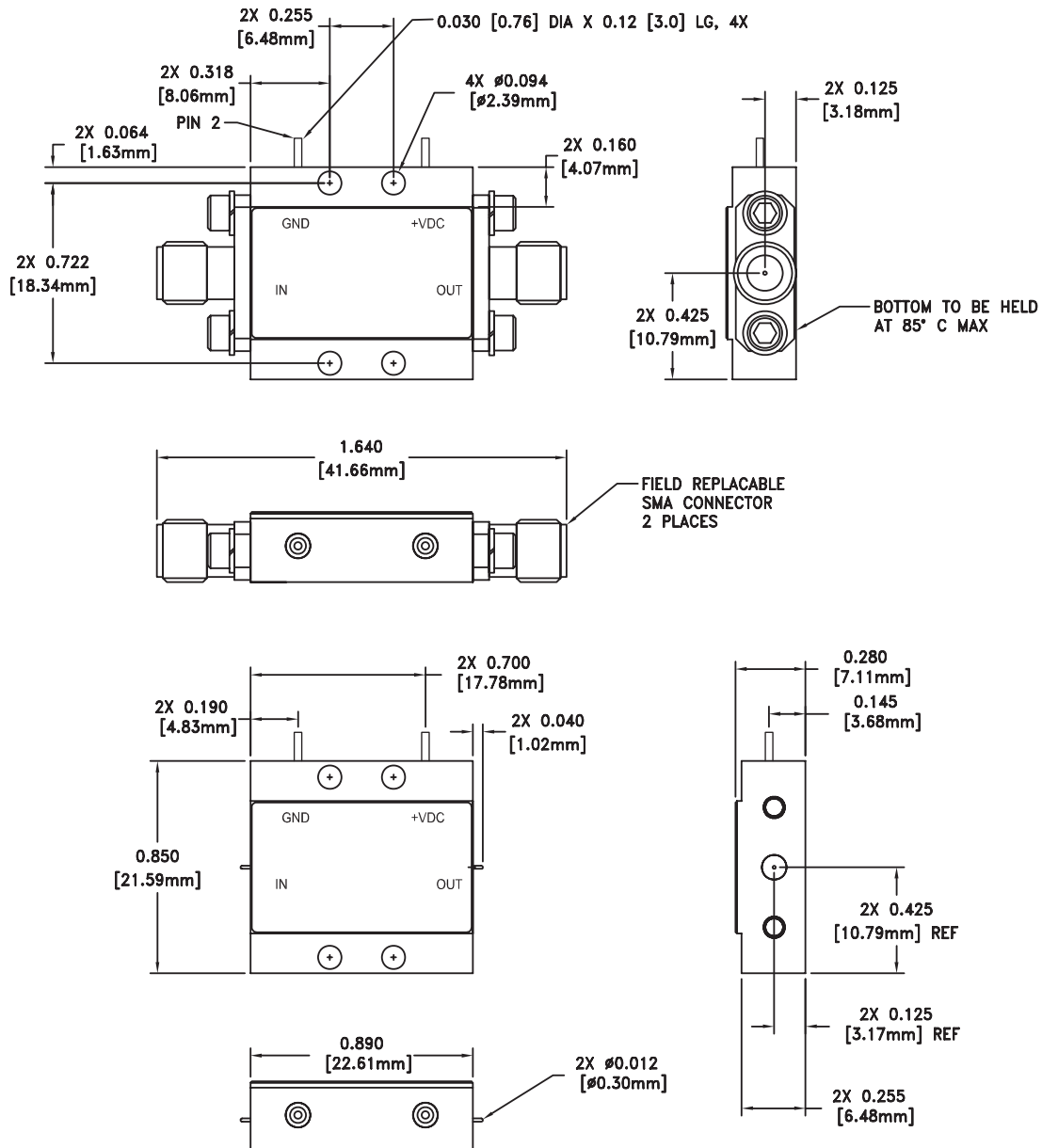


Return Loss vs. Frequency



Wideband Low Noise Amplifier Module 4 – 20 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.