

Features

- 0.1 GHz to 6 GHz Frequency Range
- Typical P1dB power > +21dBm
- Gain 45 dB Typical
- Gain Flatness ± 0.8 dB Typical
- 1.2 dB Typical Noise Figure
- Internally Regulated
- Operates from Single +12V Supply
- Unconditionally Stable
- 1W Input Power Protection Limiter
- State-of-the-Art GaAs Technology

Applications

- Radar
- Test Equipment
- Communications Systems
- Receiver front end
- Microwave Radio Systems

General Description

LA10409 is a Low Noise amplifier with very low noise figure, Medium Power and 1W limiter over the full frequency range. The amplifier I/Os are Internally matched to 50 Ohms. The device is ideal for use as Front End of receiver system, or where amplification is required without adding excessive noise in a Hi-Rel communications system for Commercial or Military applications



Electrical Specifications

Parameter	Symbol	Specification	Conditions
Frequency Range		0.1 to 6 GHz	
Small Signal Gain		42dB minimum	
Gain Flatness		±2dB maximum	0.3 to 6 GHz
Noise Figure		1.8dB maximum	
Input Power		+30dBm minimum	CW, without damage
Output Power (P1dB)		+21dBm typical	1dB compression point @ 3 GHz
OIP3		29dBm typical	@ 15GHz Two tone F1-F2 = 10MHz
RF Input Impedance		1.8:1	Reference to 50Ω VSWR
RF Output Impedance		1.5:1	Reference to 50Ω VSWR
Supply Voltage Positive		+12V	
Supply Current Positive		200mA maximum	

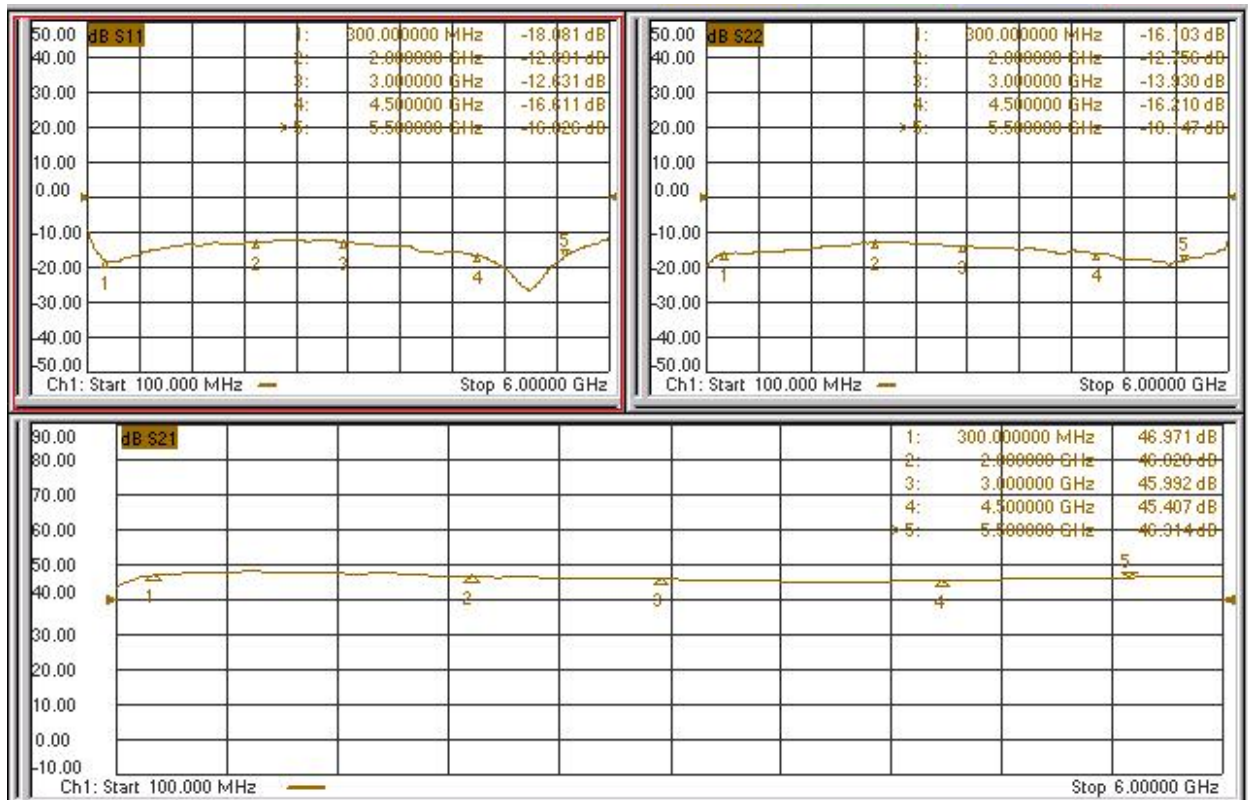
Maximum Ratings¹

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Operating Temperature	OTR	-40		+85	°C	
Storage Temperature	STR	-55		+125	°C	
RF Input power (CW)				+30	dBm	
Die J _{unction}	T _J			+150	°C	
Positive Supply Voltage				+12.5	V	

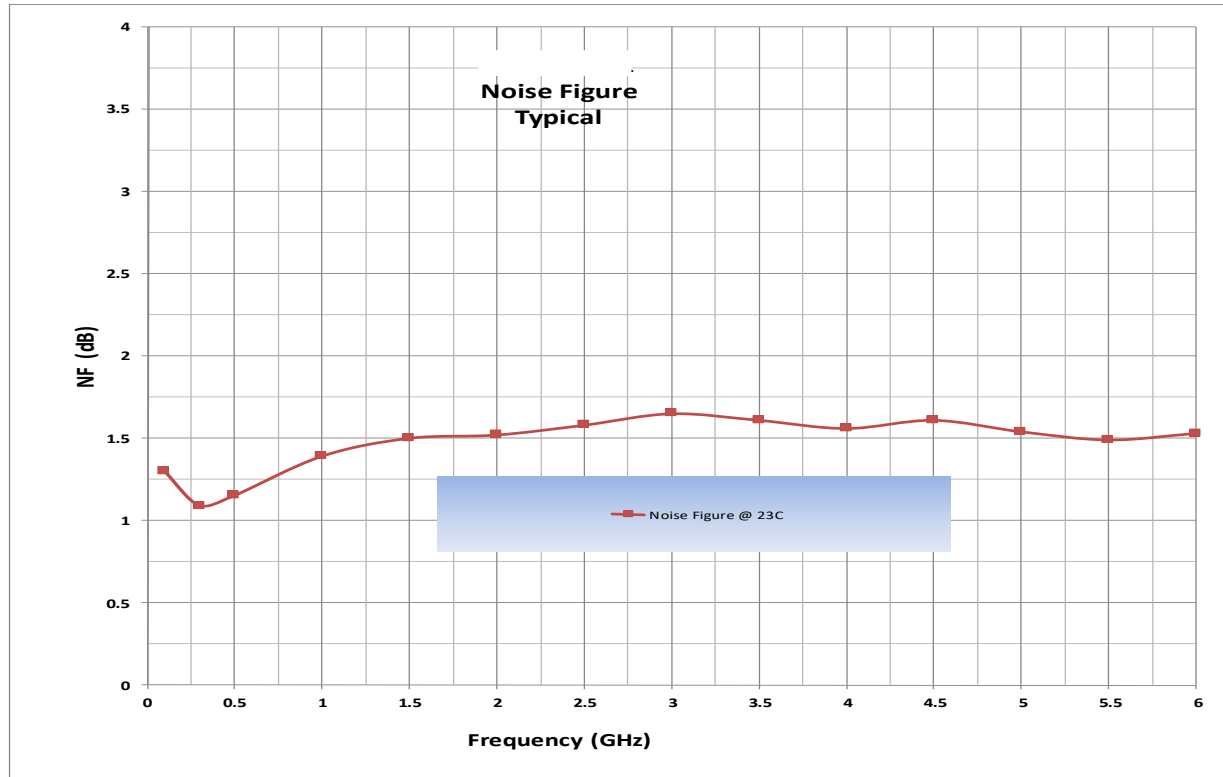
Notes

Note 1	Unconditional Stability
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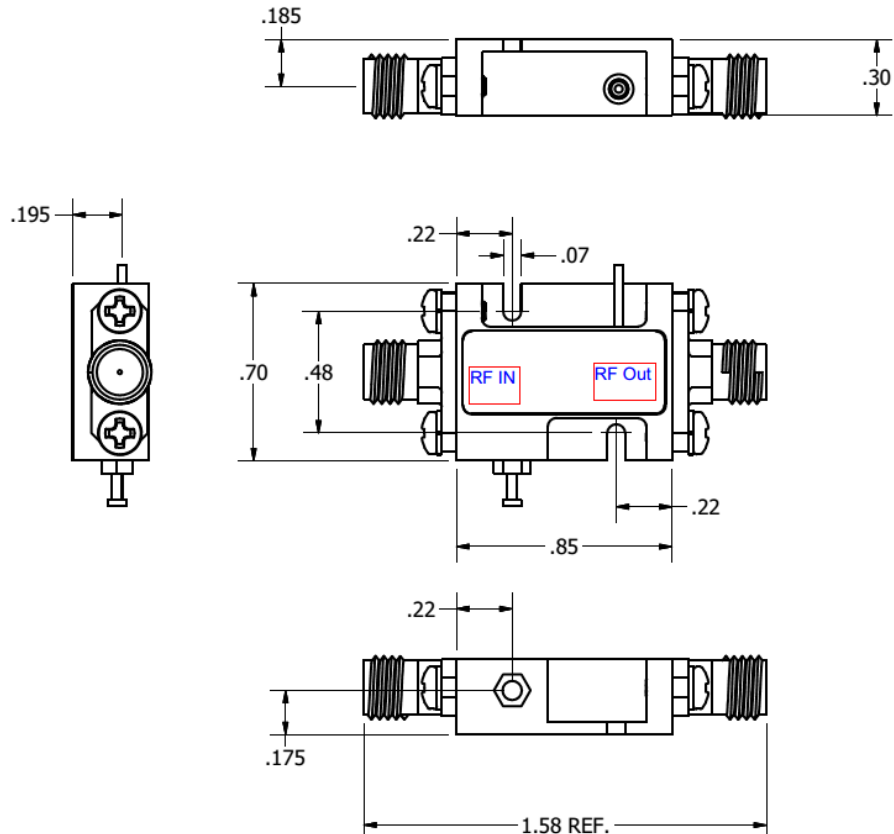
Simulation Plots



Typical Noise Figure



Package Outline: SMA Connectorized (inches)



**Housing: Aluminum Gold over Nickel plated
Removable SMA and Ground Slug**

Note: The unit must be attached to proper heat sink

Revision History

Date	Rev	Author	Details of Revision
04-23-25	0	AR	Initial Version