Features

0.2 GHz to 10 GHz Frequency Range

Gain 38dB typ

Gain Flatness < ± 1 dB typ ± 2.5 db max

Typical Noise Figure < 3 dB

+29 dBm P1dB Typical

Internally Regulated

High EMI performance

DC to RF leakage –90 dBc typ –70 dBc max

Operates from a Single +12V Supply

Unconditionally Stable

State-of-the-Art GaAs Technology

Applications

Communication systems

Microwave Radio systems

Test Equipment

Point to Point Radios

Radar

General Description

LA10413 is a Broadband Low Noise amplifier with high power and low EMI leakage over the full frequency range. The amplifier I/Os are Internally matched to 50 Ohms. The device is ideal for use in communication 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		0.2 to 10 GHz	
Small Signal Gain		36dB minimum	
Gain Flatness		±2.5dB maximum	
Noise Figure		5dB maximum	Freq 0.5 to 10 GHz
Input Power		+15dBm minimum	CW, without damage
Output Power (P1dB)		+29dBm typical	1dB compression point @ 6 GHz
Output Power (P1dB)		+25dBm minimum	By design 0.2 to 10 GHz
RF Input Impedance		1.8:1	Reference to 50Ω VSWR
RF Output Impedance		1.8:1	Reference to 50Ω VSWR
EMI Leakage		-70dBc minimum	DC supply pin to RF out
Supply Voltage Positive		+12V	
Supply Current Positive		750mA maximum	

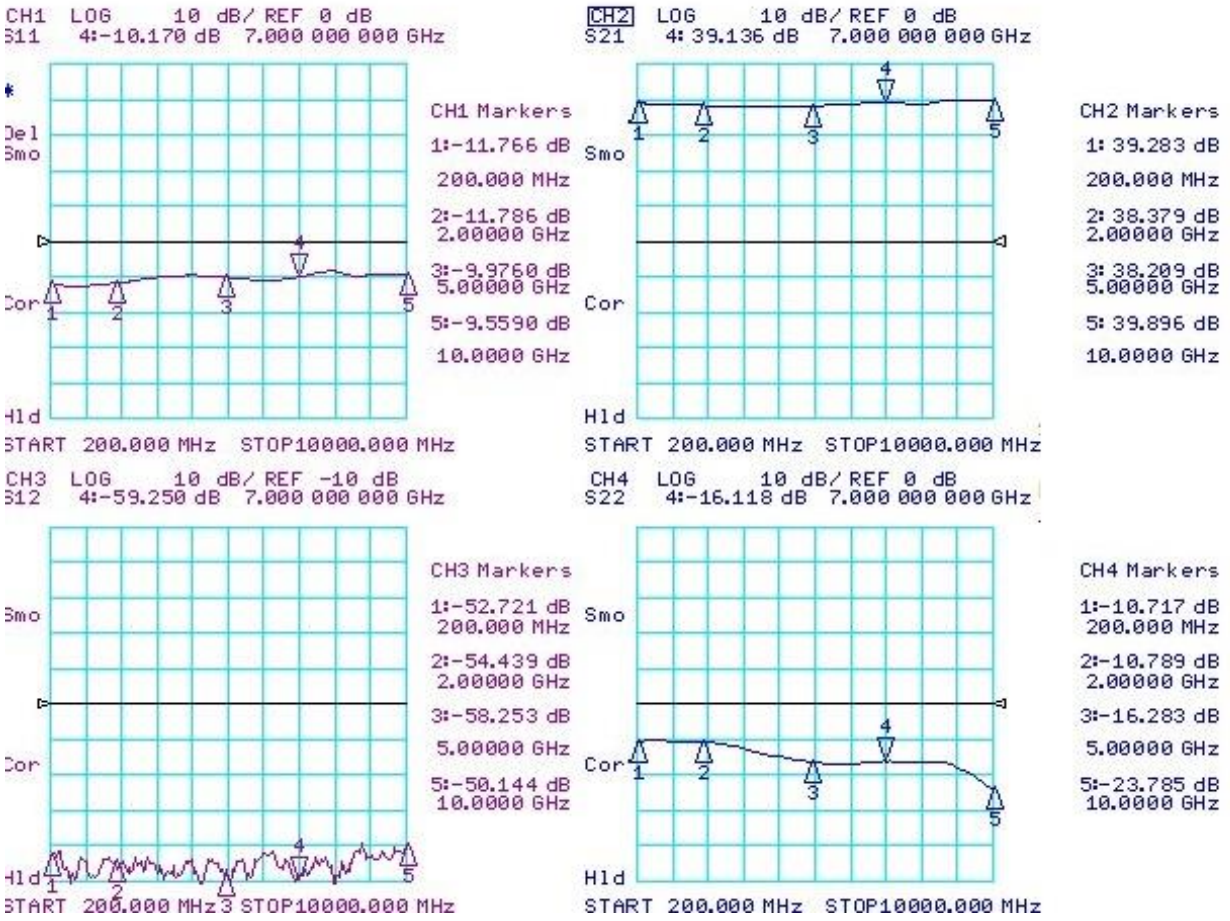
Maximum Ratings[1]

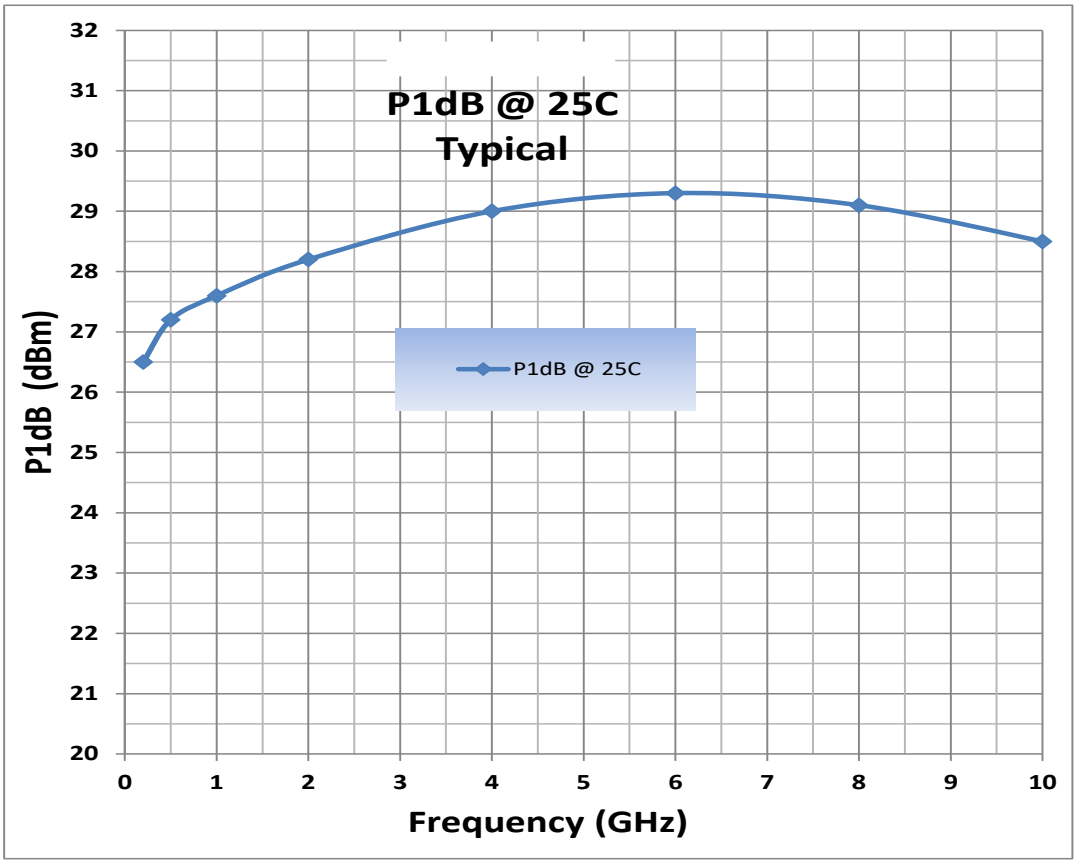
Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Operating Temperature	OTR	-40		+85	°C	
Storage Temperature	STR	-40		+125	°C	
RF Input power (CW)				+15	dBm	
Die $J_{unction}$	T_J			+150	°C	
Positive Supply Voltage				+15	V	

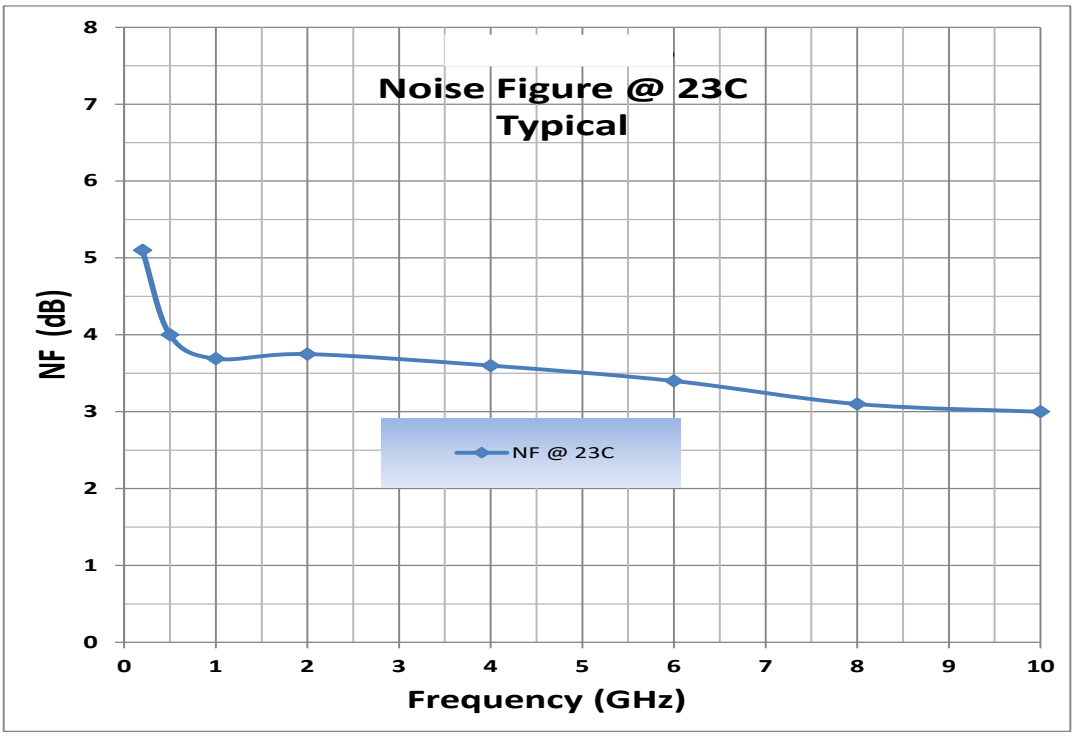
Notes

Note 1	Unconditional Stability

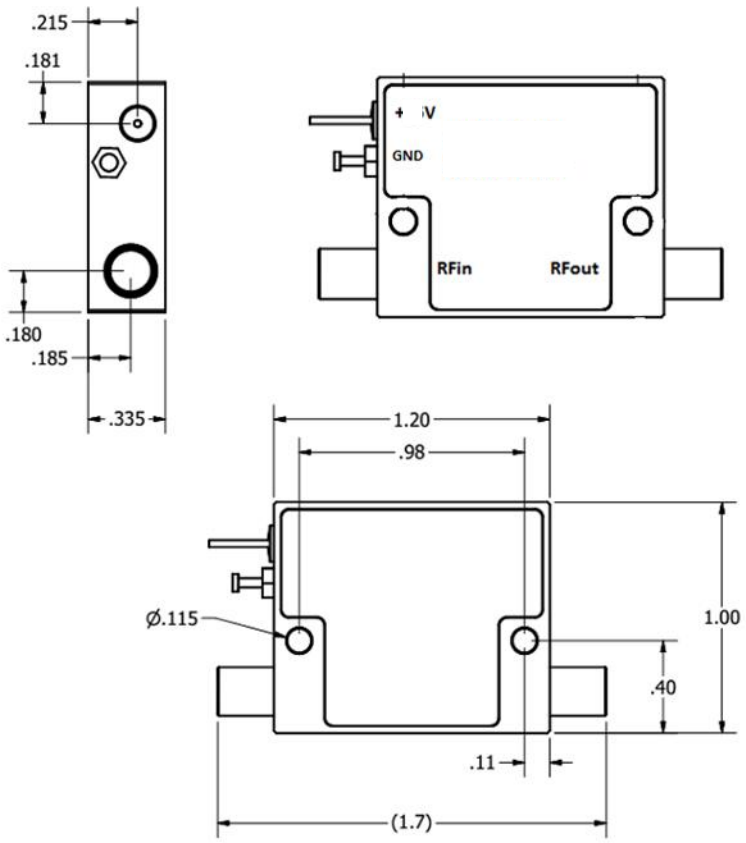
Simulation Plots




P1dB @ 25C
Typical
P1dB (dBm)
Frequency (GHz)
P1dB @ 25C
32
31
30
29
28
27
26
25
24
23
22
21
20
0
1
2
3
4
5
6
7
8
9
10


Noise Figure @ 23C
Typical
NF (dB)
Frequency (GHz)
NF @ 23C
8
7
6
5
4
3
2
1
0
0
1
2
3
4
5
6
7
8
9
10

Package Outline: SMA-F Connectorized(inches)



Housing: Aluminum Gold over Nickel plated
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