

LNF-LNC4_8D

4-8 GHz Cryogenic Low Noise Amplifier

Rev: March 2017



Product features

- RF bandwidth: 4-8 GHz
- Noise Temperature: 2.3 K typical
- Noise Figure: 0.034 dB typical
- Gain: 39 dB
- DC-power: $V_d=0.50$ V, $I_d=8$ mA
- One gate and one drain supply only
- RF-connectors: Male G3PO
- DC-connector: 5-pin female strip connector
- Stackable: 140 mil pitch

Product description

LNF-LNC4_8D is a slim and stackable version of our very popular ultra-low noise cryogenic 4-8 GHz amplifier. The LNA is packaged in a module using Corning Gilbert G3PO coaxial connectors and a 5-pin strip DC connector. The lightweight gold plated aluminum module measures only 25.34*20.70*3.556 mm.

The LNA is stackable with a 140 mil pitch, suitable for Corning Gilbert G3PO multi-position blocks.

Absolute maximum ratings

Parameter	Min	Max
V_{ds}	-0.5 V	2 V
I_{ds}		100 mA
V_{gs}	-20 V	+20 V
RF Input drive level		-10 dBm
DC voltage on RF input and output	-30V	30V

Typical RF Characteristics

Parameter	Test Condition	Value	Unit
Gain	4-8GHz	39	dB
Noise	4-8 GHz	2.3	K
IRL	4-8 GHz	15	dB
ORL	4-8 GHz	20	dB
P_{1dB}	5 GHz	-12	dBm
OIP3	5 GHz	-2	dBm

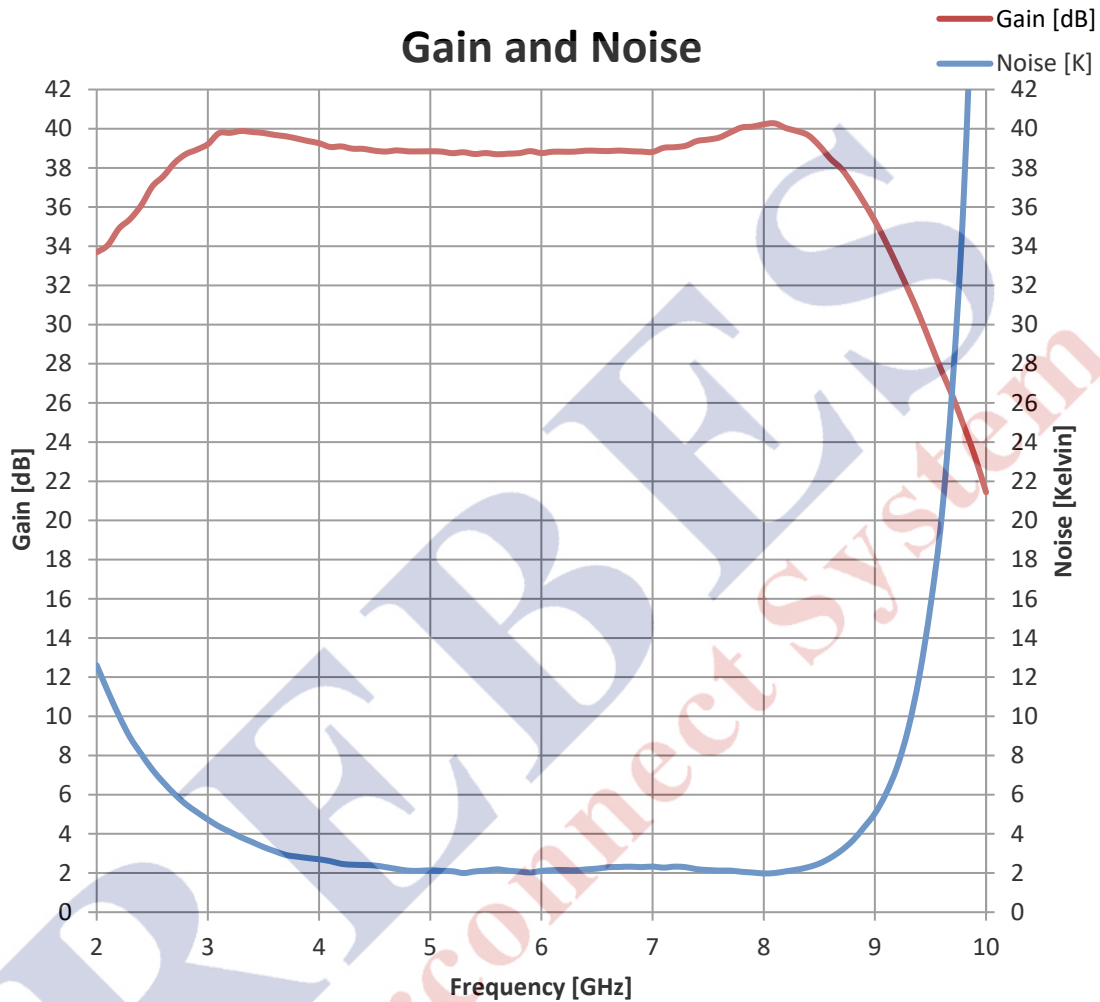
Typical DC Characteristics

Parameter	Value	Unit
V_{ds}	0.5	V
I_{ds}	8	mA
V_{gs}	+0.04V	V
I_{gs}	3.6	μ A
P_{dc}	4.0	mW

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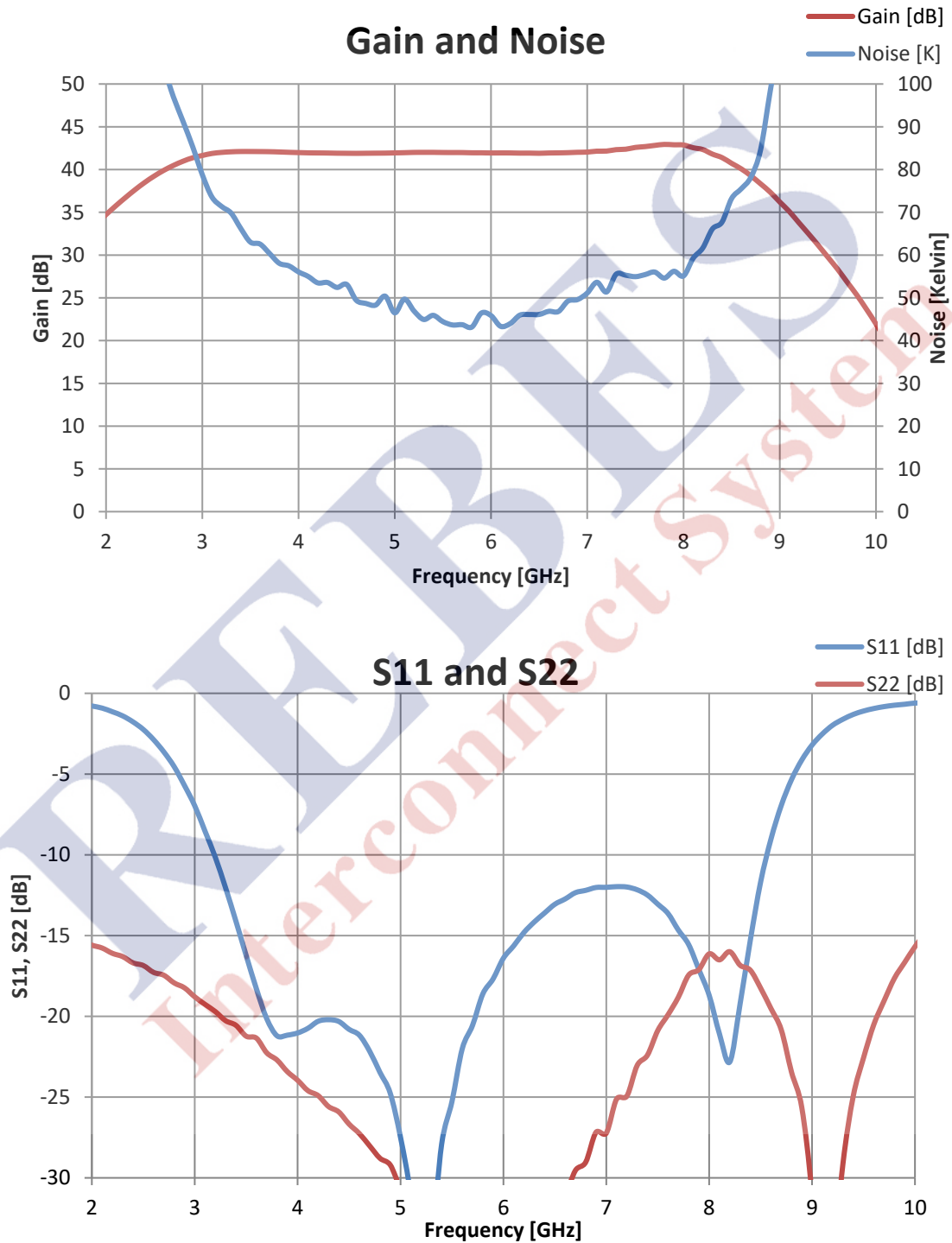
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Measured typical data $T_{amb}=5\text{ K}$ 

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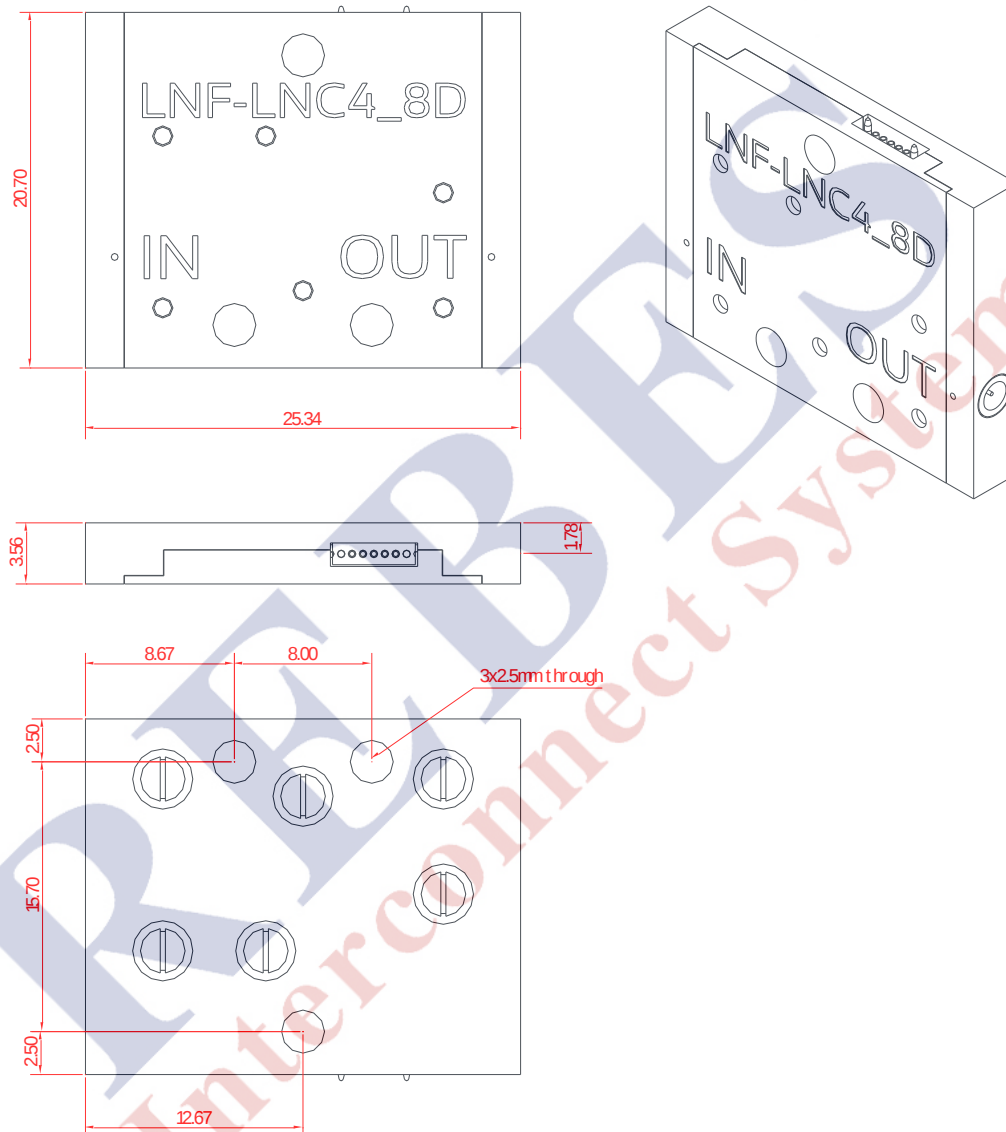
Measured typical data @ $T_{amb}=296\text{ K}$ 

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Drawings



Dimensions are in millimeters