

LT-LNA-CRYO-412G is a cryogenic low noise amplifier with a typical small signal gain of 32 dB across the frequency range of 4 to 12 GHz. The drain voltage range requirement for the amplifier is 0.7 to 1.4V DC and gate voltage range is from -2 to +2V DC. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 4-12GHz
- Gain: 32dB Min
- Capable of operation at 4 K
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	4		12	GHz
Small Signal Gain	32			dB
Gain Flatness		±1.0		dB
Average Noise Temperature		4		K
Input Return Loss			-3	dB
Output Return Loss			-10	dB
Drain voltage range	0.7		1.4	V
Drain current range		20		mA
Gate voltage range	-2		+2	V
Power Consumption			26	mW
Impedance	50			Ohms

Mechanical Specifications:

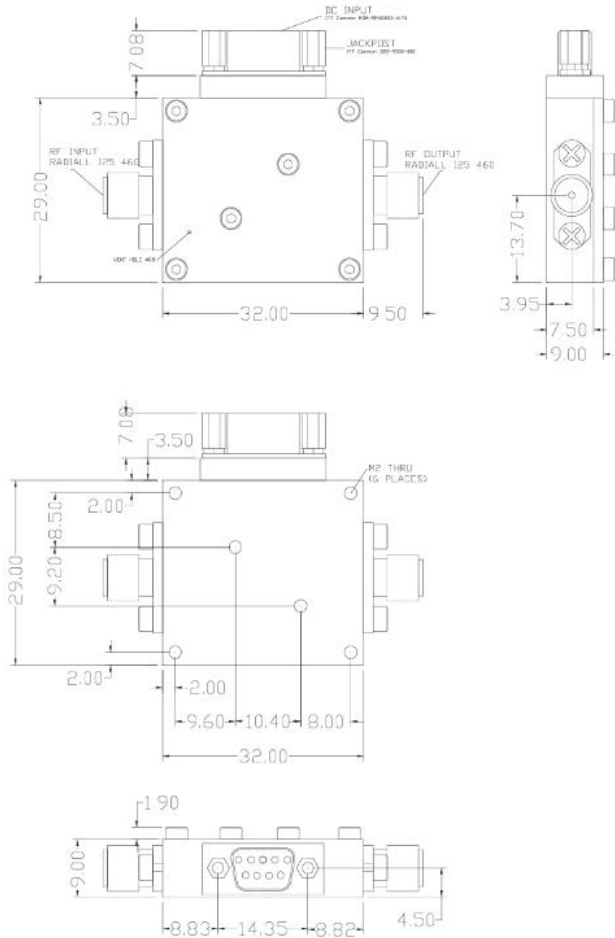
Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Micro MDM 9-Pin	
Size	32*29*9	mm

Absolute Maximum Ratings:

Parameter	Value
Drain voltage	+1.4 V
Gate voltage	+2 V
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm





ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

LT-LNA-CRYO-412G
Cryogenic Low Noise Amplifier
4-12GHz/4K Noise temperature/32dB Gain
sales@lauftex.ru | lauftex.ru



Supply Conector:

Micro MDM Pin			
Pin#	功能Function	Pin#	Function
1	GND	5	VG2
2	VD1	6	VD3
3	VG1	7	VG3
4	VD2	8~9	NC

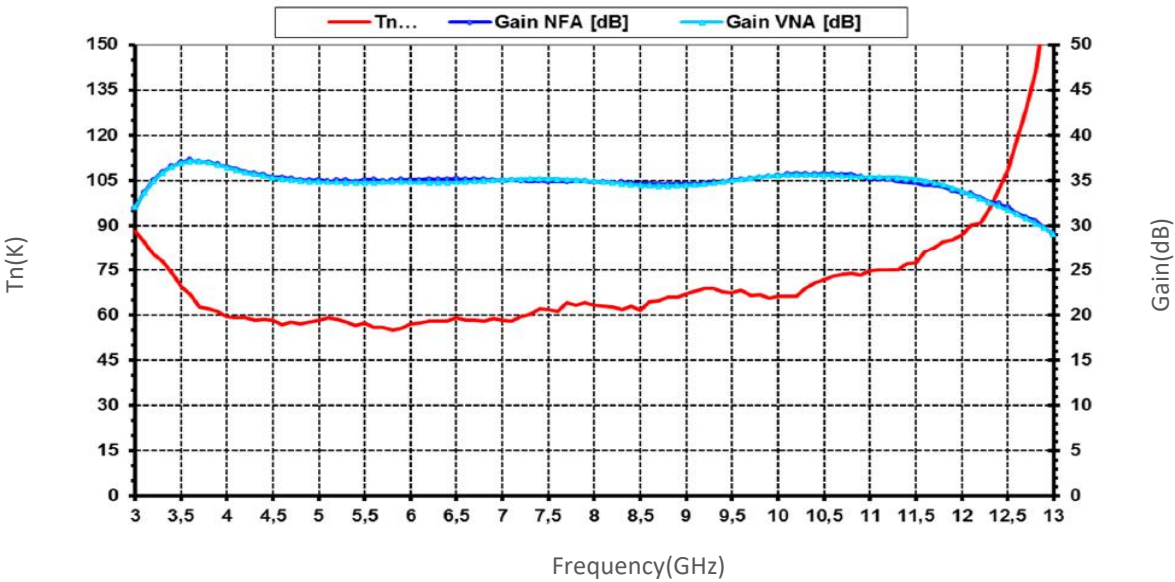
Environmental Conditions:

Parameter	Min	Typ	Max	Units
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Typical Performance Data(T=295K):

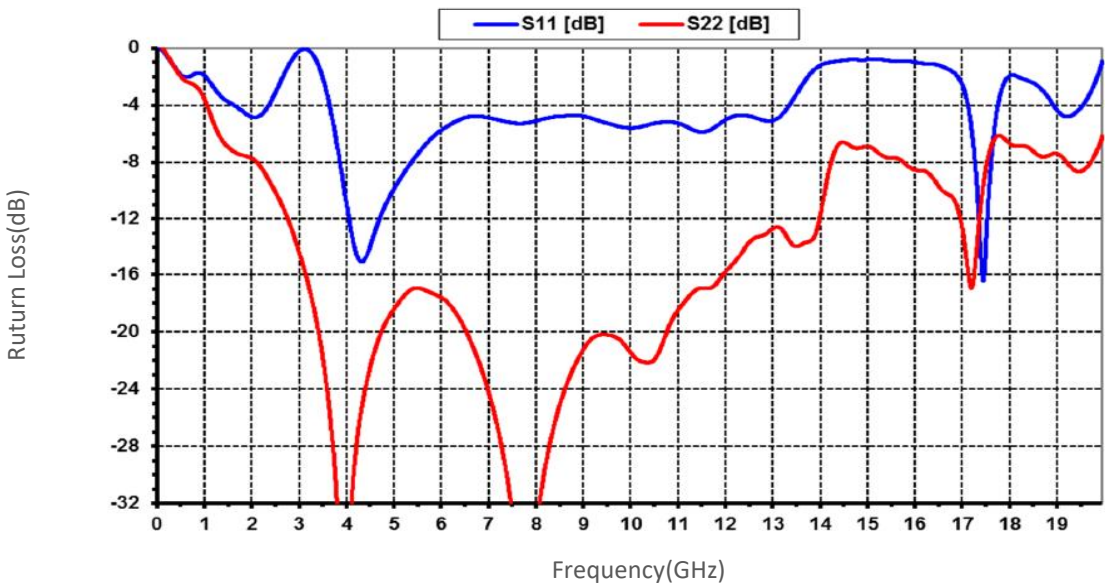
Gain vs Frequency

Vd(1,2,3)=1.5V;Id(1,2,3)=10mA:



Noise Figure vs Frequency

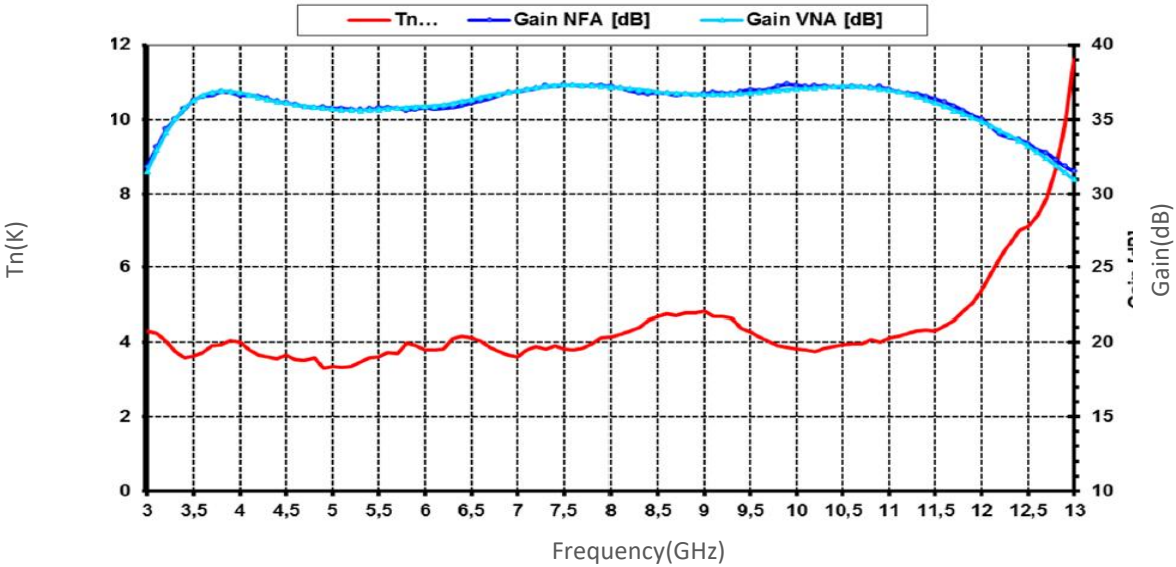
Vd(1,2,3)=1.5V;Id(1,2,3)=10mA:



Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

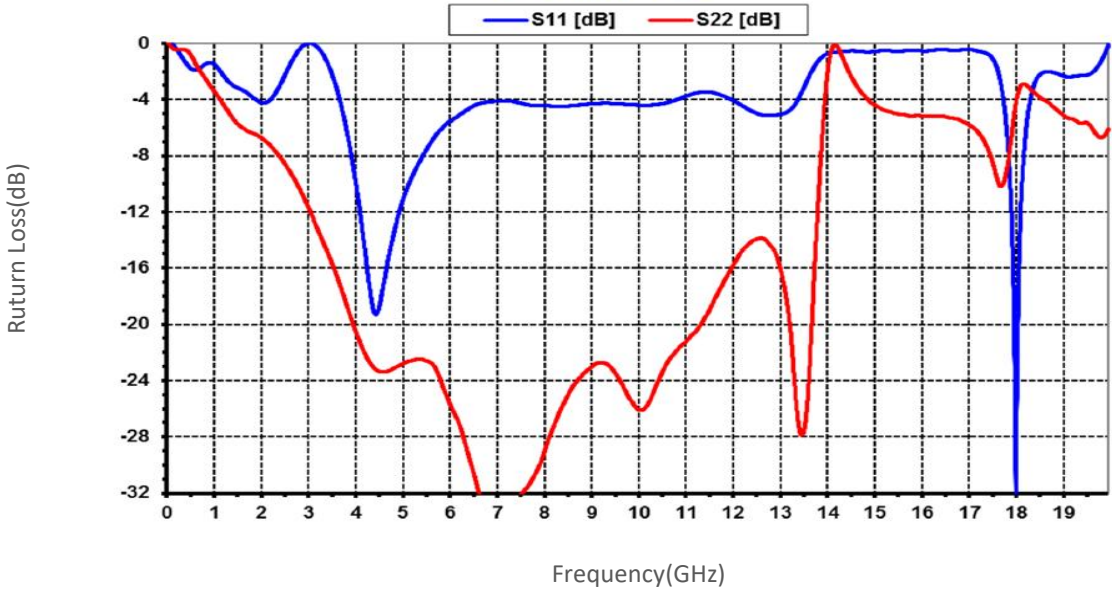
Typical Performance Data(T=11K):

Pd<25mW: Gain vs Frequency



Noise Figure vs Frequency

Pd<25mW:



Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.