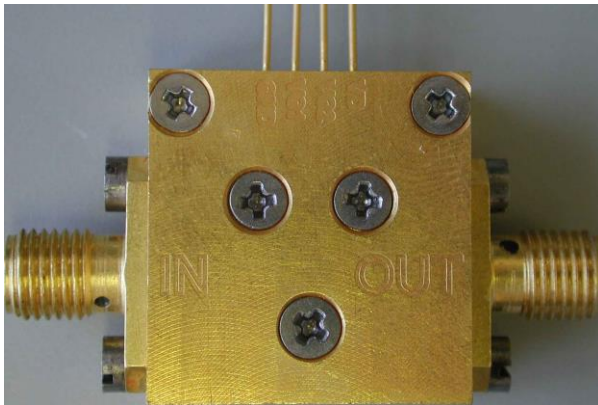


**Features**

RF Frequency:	4-12 GHz
Gain @ 15K:	32 dB $\pm$ 2dB, typical
Noise temperature @ 15 K:	< 5 K, typical average
Noise figure @ 15 K:	< 0.08 dB, typical average
IRL:	> 15 dB, typical
ORL:	> 20 dB, typical
Operating temperature:	4.2 K- 320 K
DC power @ 15 K:	1.2 Vdc, 20 mA

**Description**

The CITCRYO4-12A is a cryogenic, low noise, broadband amplifier. In its standard configuration it comes with female SMA connectors on the RF-input and output and a 4-pin 2 mm pitch header for the DC. The amplifier requires three separate DC-voltages.



Performance Characteristics ( $T_a=15K$ )

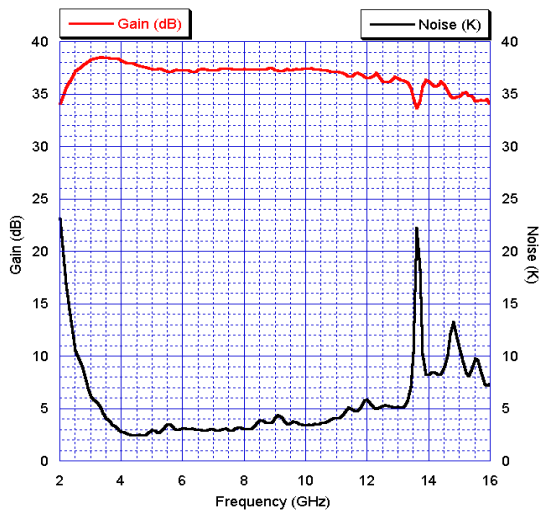
Parameter	Min	Typ	Max	Unit
Linear Gain				
4 GHz	30	32		dB
8 GHz	30	32		dB
12 GHz	30	32		dB
Noise Temp				
4 GHz		4.	6.0	K
8 GHz		4	6	K
12 GHz		7	11	K

Parameter	Min	Typ	Max	Unit
IRL				
4 GHz	20	25		dB
8 GHz	15	18		dB
12 GHz	19	21		dB
ORL				
4 GHz	20	30		dB
8 GHz	20	27		dB
12 GHz	20	25		dB

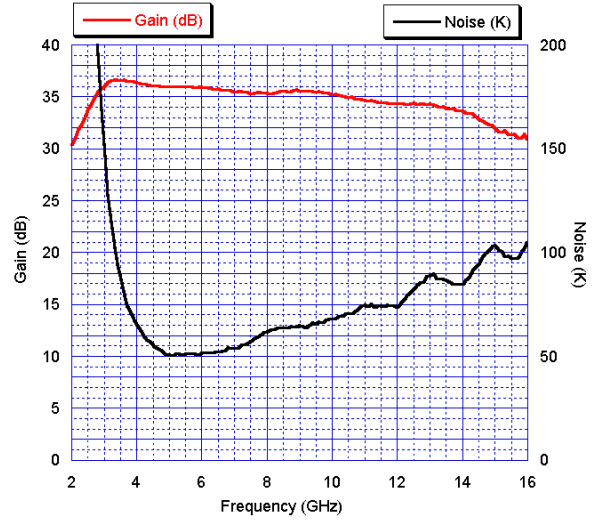
# CITCRYO4-12A Cryogenic HEMT Low Noise Amplifier

Measured typical performance characteristics ( $T_a=297\text{K}$  unless otherwise indicated)

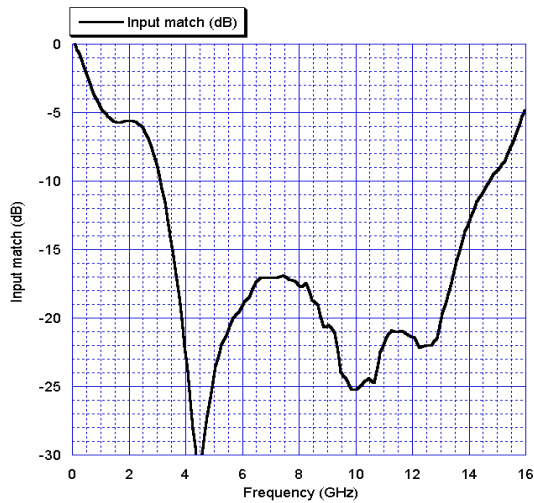
Gain and Noise versus Frequency ( $T_a=11\text{K}$ )



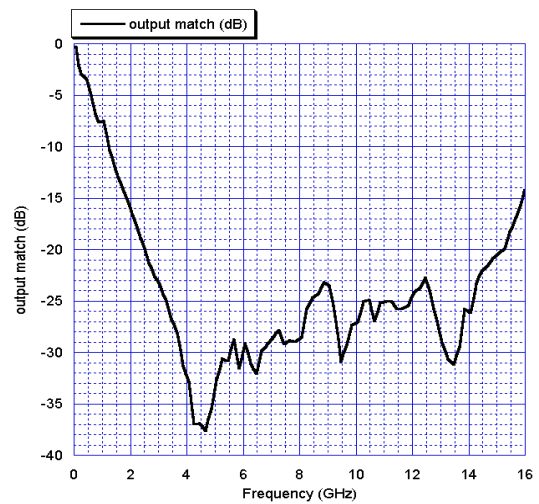
Gain and Noise versus Frequency



Input Match

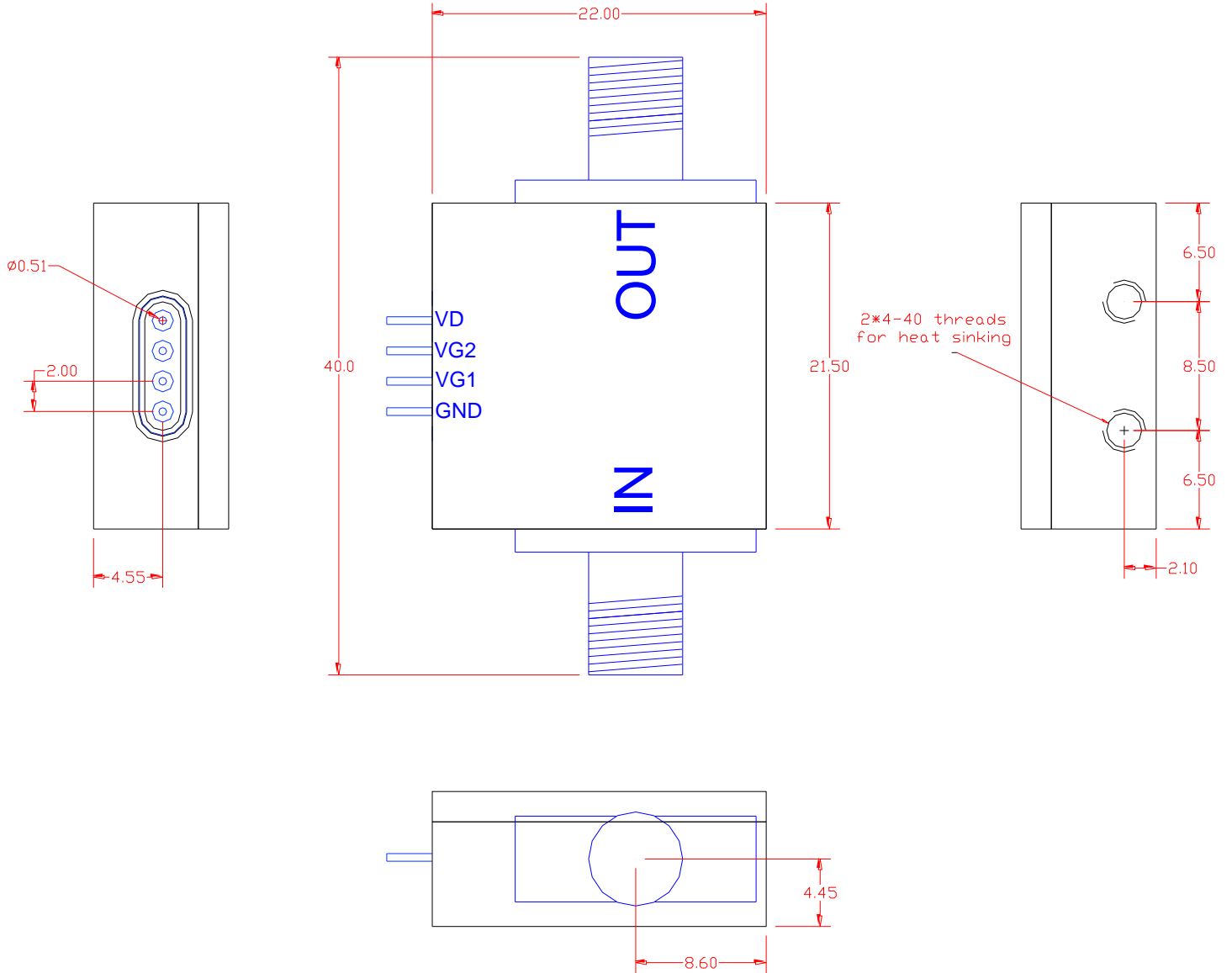


Output Match



# CITCRYO4-12A Cryogenic HEMT Low Noise Amplifier

## Module drawing



## Contact Information

Sales:  
Denise Smith  
[denise@cosmicmicrotech.com](mailto:denise@cosmicmicrotech.com)

Tel:

Technical:  
Steve Smith  
[steve@cosmicmicrotech.com](mailto:steve@cosmicmicrotech.com)

Cosmic Microwave Technology, Inc.