Data Sheet

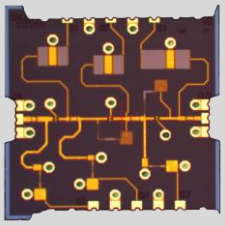
MMIC Low Noise K-Band Amplifier (18.2-21.2GHz)

Description

Callisto has developed a unique, low noise LNA MMIC, ready for integration into a wide range of applications where noise performance associated parameters are critical.

The MMIC is based on leading foundry processes for InP HEMT technology, to deliver optimised Noise, Gain and Input/Output Return Loss performance.

This Data Sheet provides measured results for Noise, Gain and S-Parameters and the chip layout.



Applications

- Telecommunications: Satcom reception systems, phased array antenna
- Radar
- Instrumentation

MMIC Features

- Noise Figure: 1.3dB max
- Gain: 29dB
- Chip size 2x2 mm
- Device availability:
  - Tested, inspected Known Good Die (KGD)

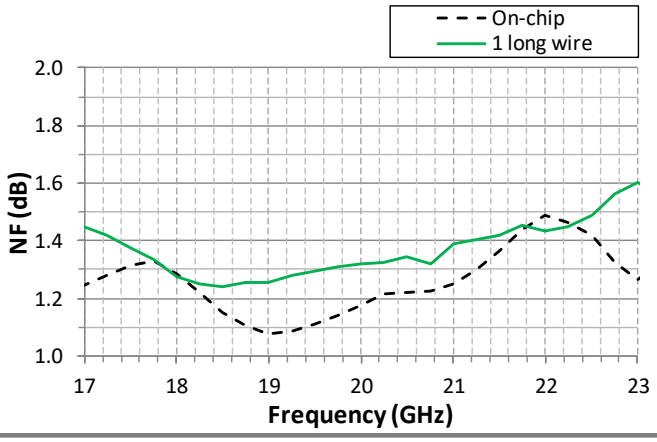
On-Chip Specifications

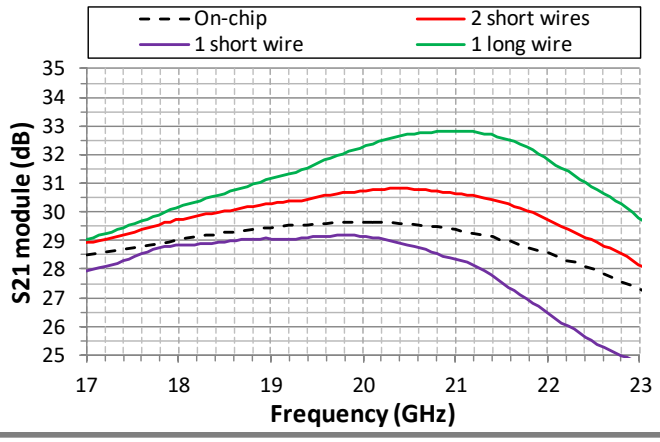
Parameters	Specifications
Frequency Range	18.2 – 21.2GHz
Overall gain	29dBmin
Noise Figure	1.3dBmax
Input VSWR	2.0:1 max
Output VSWR	2.4:1 max
P 1dB	0dBm min
K Factor	3.3 min

DC Characteristics

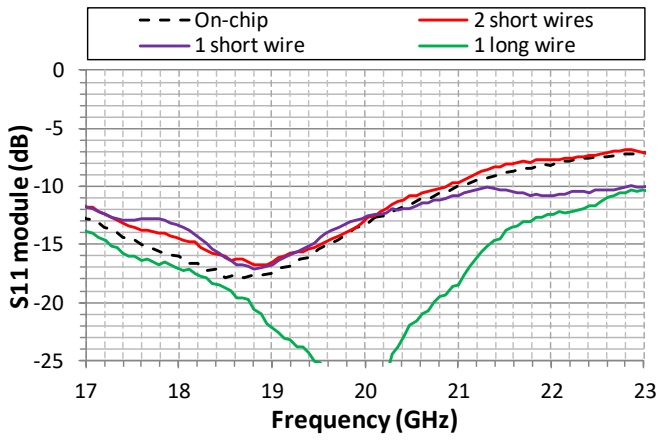
Parameters	Typical	Max. Ratings
Drain Voltage 1&2	+1.1V	+1.4V
Drain Voltage 3	+3.0V	+3.5V
Drain Current 1&2	10mA	70mA
Drain Current 3	25mA	
Gate Voltage		-0.6V and +0.6V

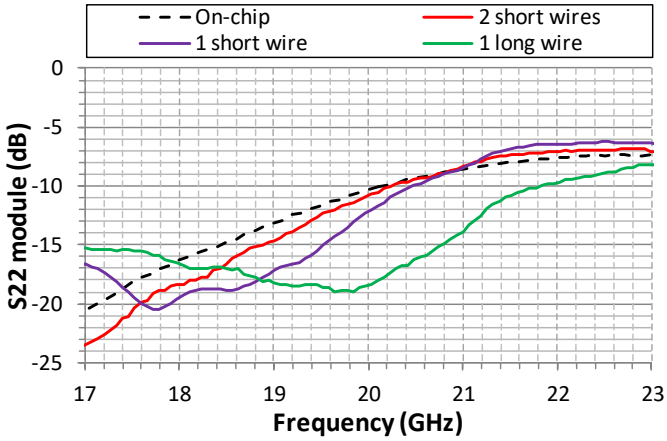
Typical Measurements





Typical Measurements-Continued

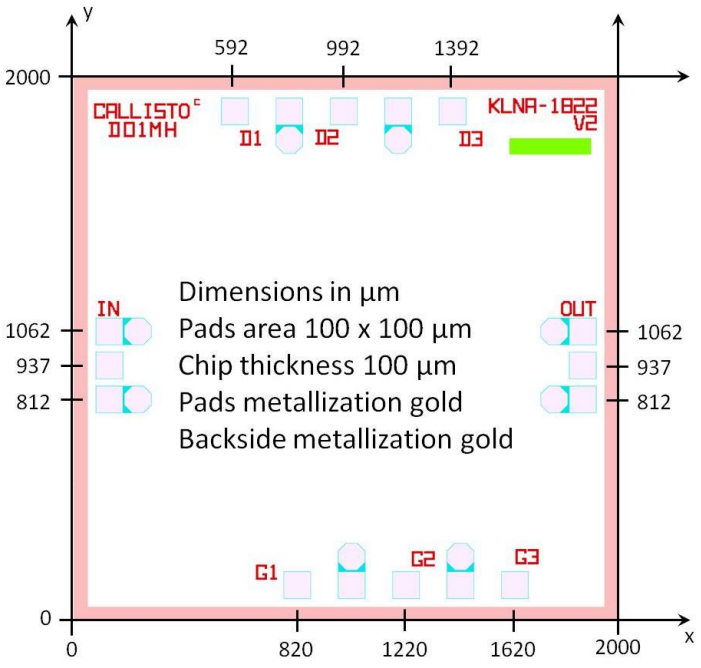




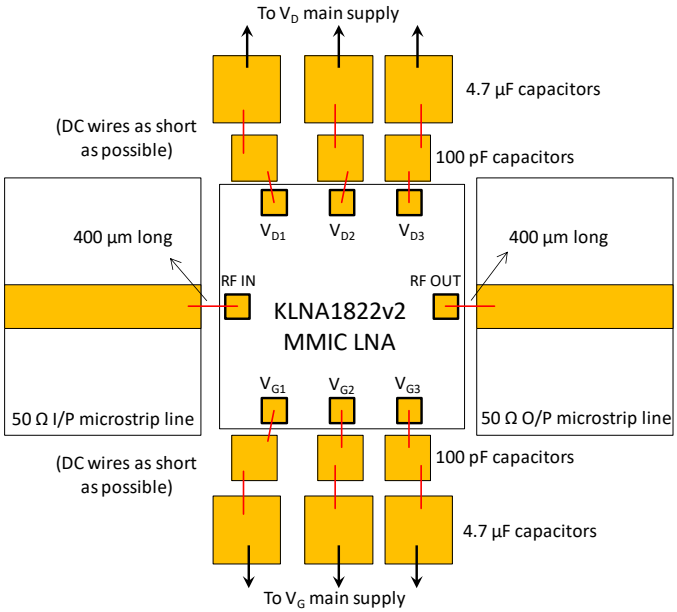
Physical Specifications

Parameters	Specifications
Size	2x2mm
Operating Temperature Range	-40°C to +60°C
Storage Temperature Range	-55°C to +150°C
Junction Temperature	+150°C max

MMIC Layout



Recommended Assembly



GaAs MMIC devices are susceptible to damage from ElectroStatic Discharges (ESD). Proper precautions should be observed during handling, assembly and test.