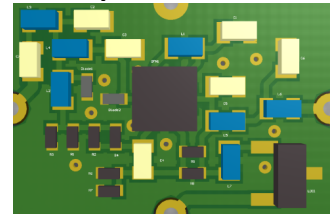


**GLA-01
Low Noise Amplifier Module**



Key Features :

- Frequency : 63.87MHz
- Input impedance : 0.5Ω
- Noise : 0.4dB
- Gain : 28.5dB
- OIP₃ : 26dBm
- Output VSMR : 1.2
- Magnet free
- 6V single supply
- Applications : MRI, RF telemetry, medical.

Description :

GLA-01 is a Low Noise Amplifier (LNA) with low input impedance, it is designed to work with 50Ω source impedance of multi-channel coils. The front end amplifier exhibits superior performance on noise figure, at different source impedance variation caused by different coil loading or by non-ideal coil design. Also, with its wider noise contour map, the front end amplifier can increase its blocked impedance by using higher source impedance design, at the same time, keep its superior signal noise ratio.

Electrical Characteristics (Ta = 25°C)

Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typical	Max	
S ₂₁	Gain	63.87 MHz	28.3	28.8	29.3	dB
ΔG	Gain Variation	63.87 MHz ± 1MHz	-	-	±0.1	dB
RE[Zin]	Input Impedance	63.87 MHz	0.4	0.5	0.6	Ω
IM[Zin]		63.87 MHz	-2	0	2	Ω
SWR ₂	Output VSMR	63.87 MHz	-	-	1.2	-
S ₁₂	Reverse Isolation	63.87 MHz	95	100	-	dB
NF	Noise Figure	63.87 MHz	-	0.35	0.45	dB
P _{1dB}	Output Power at 1dB Compression Point	63.87 MHz	9.5	10	-	dBm
OIP ₃	3 dB Point Output	Each signal channel P _{out} = 0dBm, 1MHz isolation	22	26	-	dBm
I _{dd}	Consumption Current	V _{dd} = 6V		18	20	mA
V _{dd}	Supply Operating Voltage		5.9	6	30	V

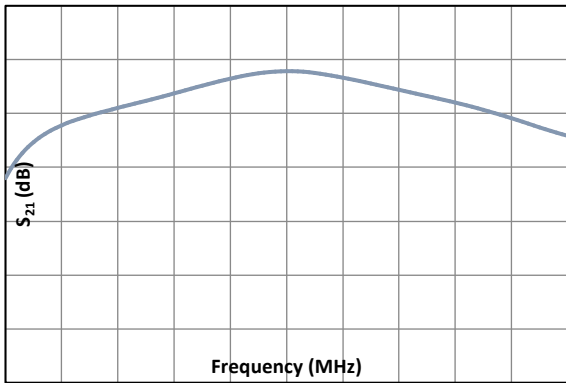
Absolute Maximum Ratings (Ta = 25°C)

Parameter	Unit	Value	Remark
Supply Voltage	V	+30V	
Input Signal Power	dBm	15dBm	
Operating Temperature	°C	-55 ~ +125°C	
Sintering Temperature	°C	-40 ~ +150°C	
Storage Temperature	°C	-65 ~ +150°C	

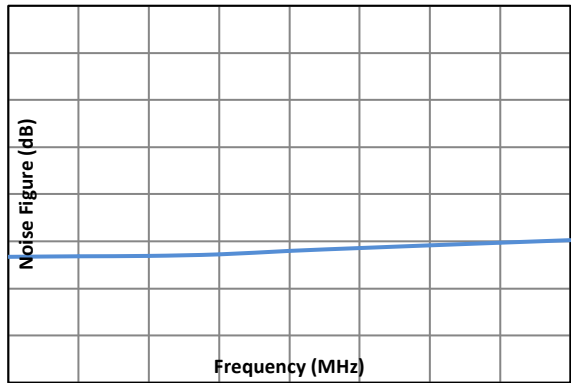
[1] Operation outside any of the Absolute Maximum Ratings may cause permanent device damage.

Typical Performance

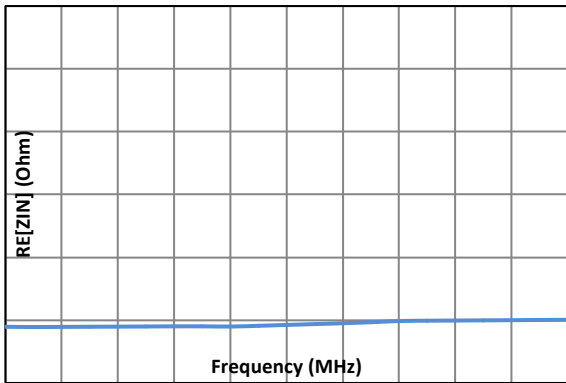
S_{21} Curve



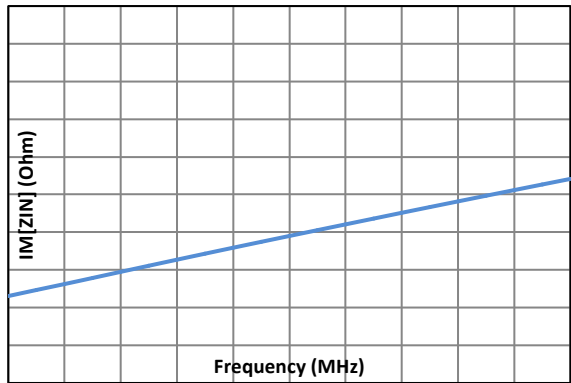
Noise Curve



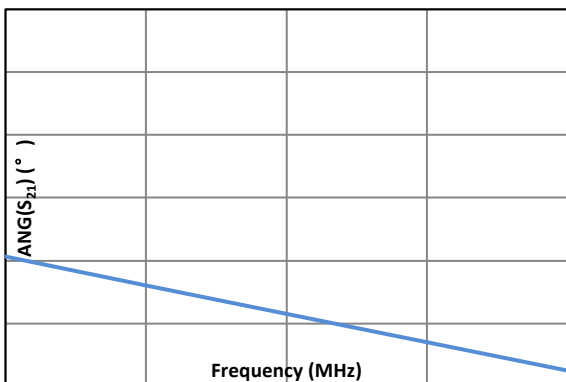
RE [Zin] Curve



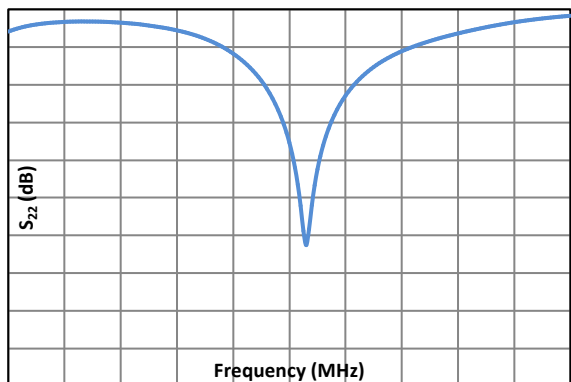
IM[Zin] Curve



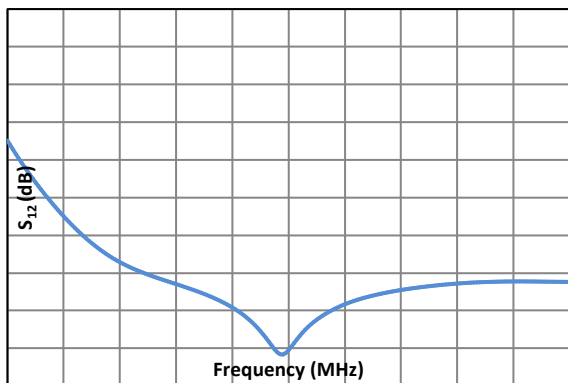
Phase Curve



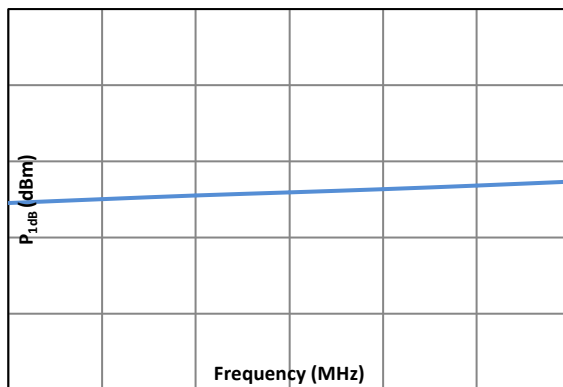
S_{22} Curve



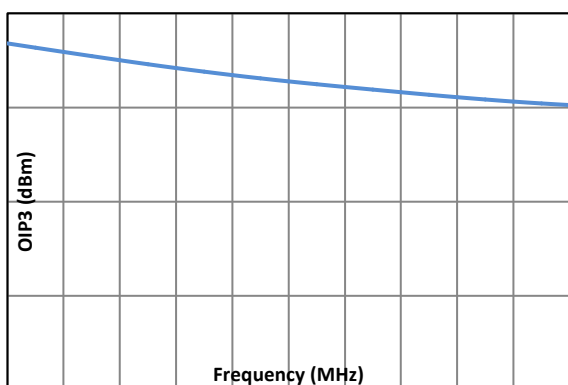
S₁₂ Curve



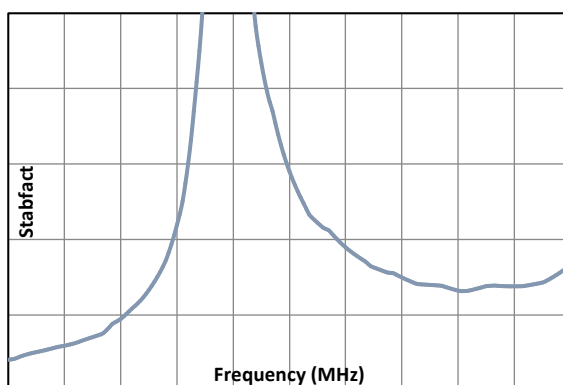
P_{1dB} Curve



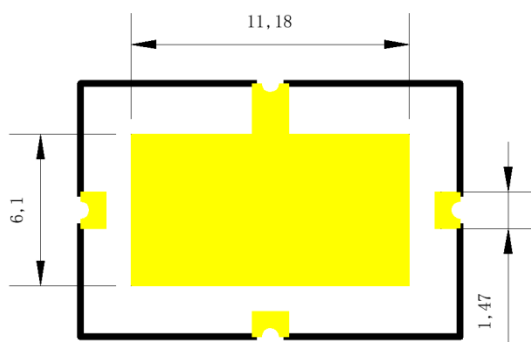
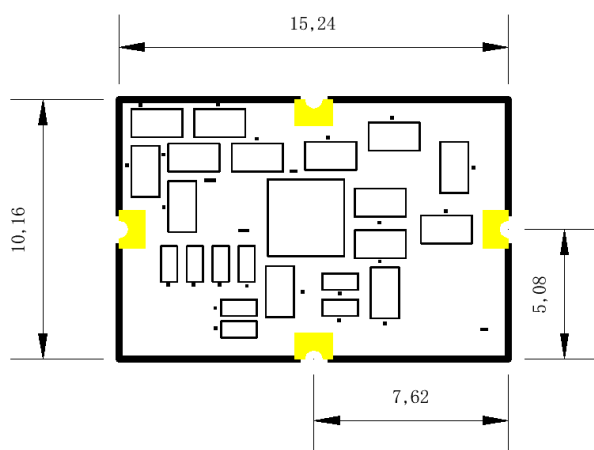
OIP₃ Curve



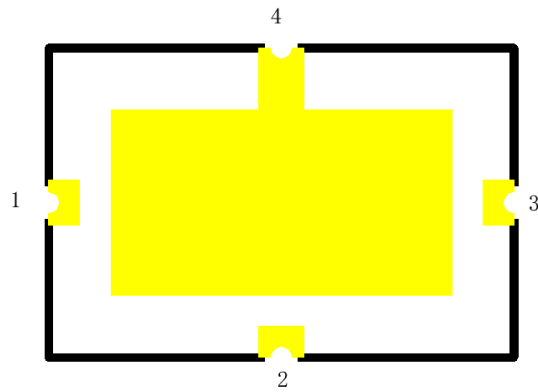
Stability Curve



Chip Dimensions (Unit : μm)



Chip Layout Diagram



Lead	1	2	3	4
Use	IN	NC/ V_{dd}	OUT/ V_{dd}	GND