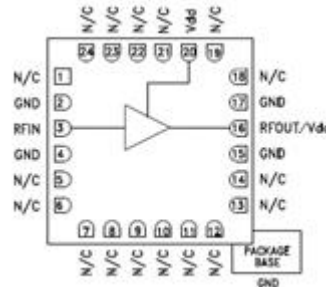


GaAs MMIC low noise amplifier chip, 0.1-3.5GHz

Performance characteristics

- Frequency range: 0.1-3.5GHz
- Small-signal gain: 30.5dB
- Noise figure: 0.8dB Typ.
- P-1dB: 18.5dBm
- Power supply: +5V/75mA
- Input/Output: 50Ohm
- Chip size: QFN 4X4mm

Functional block diagram



Product Introduction

GLA-0003B-CQ4 is a broadband low noise amplifier chip with a frequency range of 0.1GHz~3.5GHz, small signal gain of 30.5dB, in-band noise factor of 0.8dB, and P-1 power of 18.5dBm. The GLA-0003B-CQ4 is powered by a single +5V power supply. The amplifier adopts 4X4mm surface pasted leadless ceramic shell, which can realize airtight package, and the surface of the pin pad is gold-plated, which is suitable for reflow installation process.

Use restriction parameters¹

Maximum leakage voltage	+7V
Maximum input power	+20dBm
Working temperature	-55 ~ +85°C
Storage temperature	-65 ~ +150°C

【1】 Exceeding any of the above maximum limits may result in permanent damage.

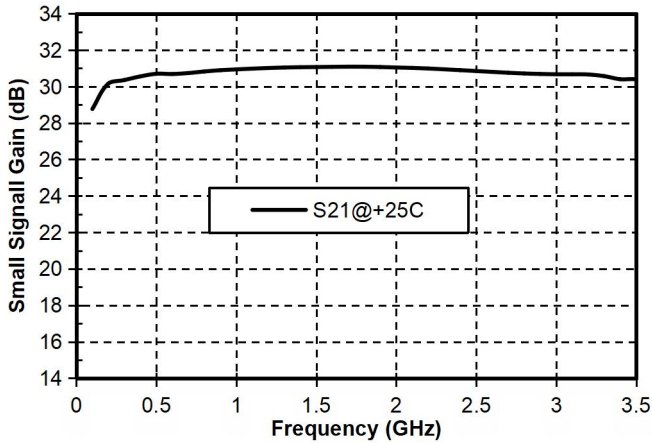
Electrical performance parameters (T_A = +25°C, V_d = +5V, R = 8Ω)

Index	Minimum value	Typical value	Maximum value	Unit
Frequency range	0.1-3.5			GHz
Small signal gain	-	30.5	-	dB
Gain flatness	-	±1.0	-	dB
Noise figure	-	0.8	-	dB
P-1dB	-	18.5	-	dBm
Psat	-	19	-	dBm
Input return loss	-	18	-	dB
Output return loss	-	21	-	dB
Static current	-	75	-	mA

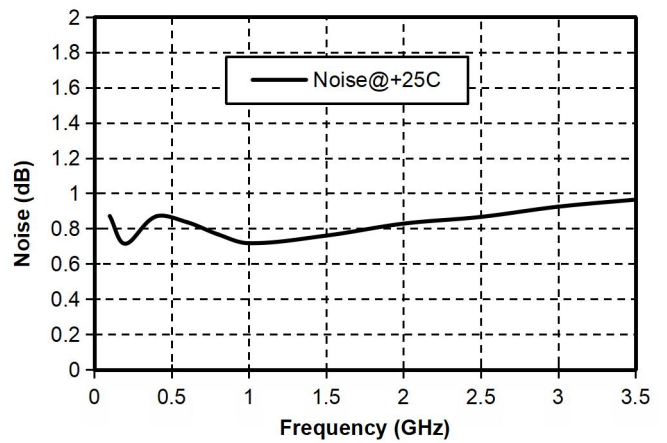
GaAs MMIC low noise amplifier chip, 0.1-3.5GHz

Main index test curve

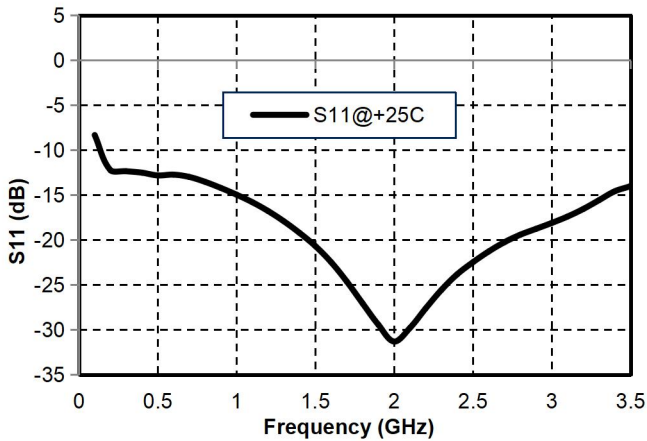
Gain vs. Frequency



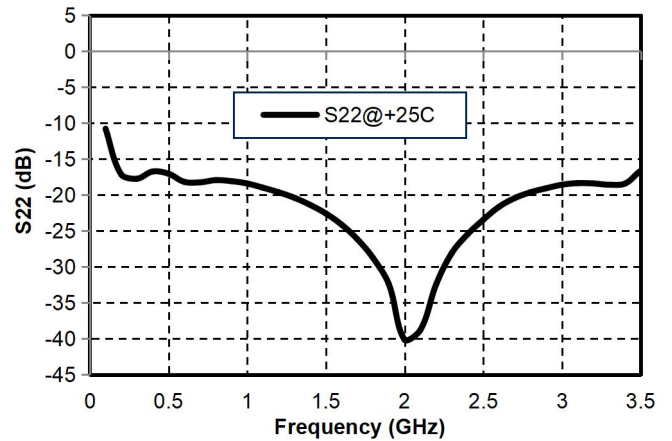
Noise coefficient vs. Frequency



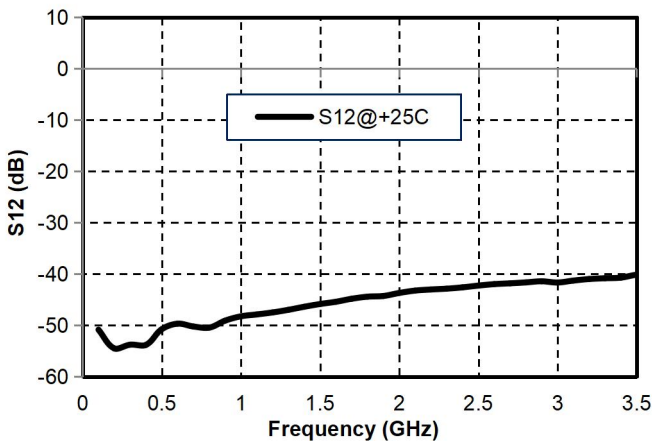
Input return loss vs. Frequency



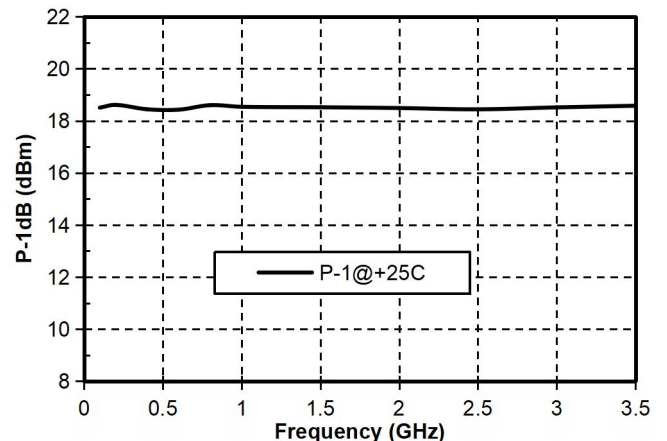
Output return loss vs. Frequency



Reverse isolation vs. Frequency

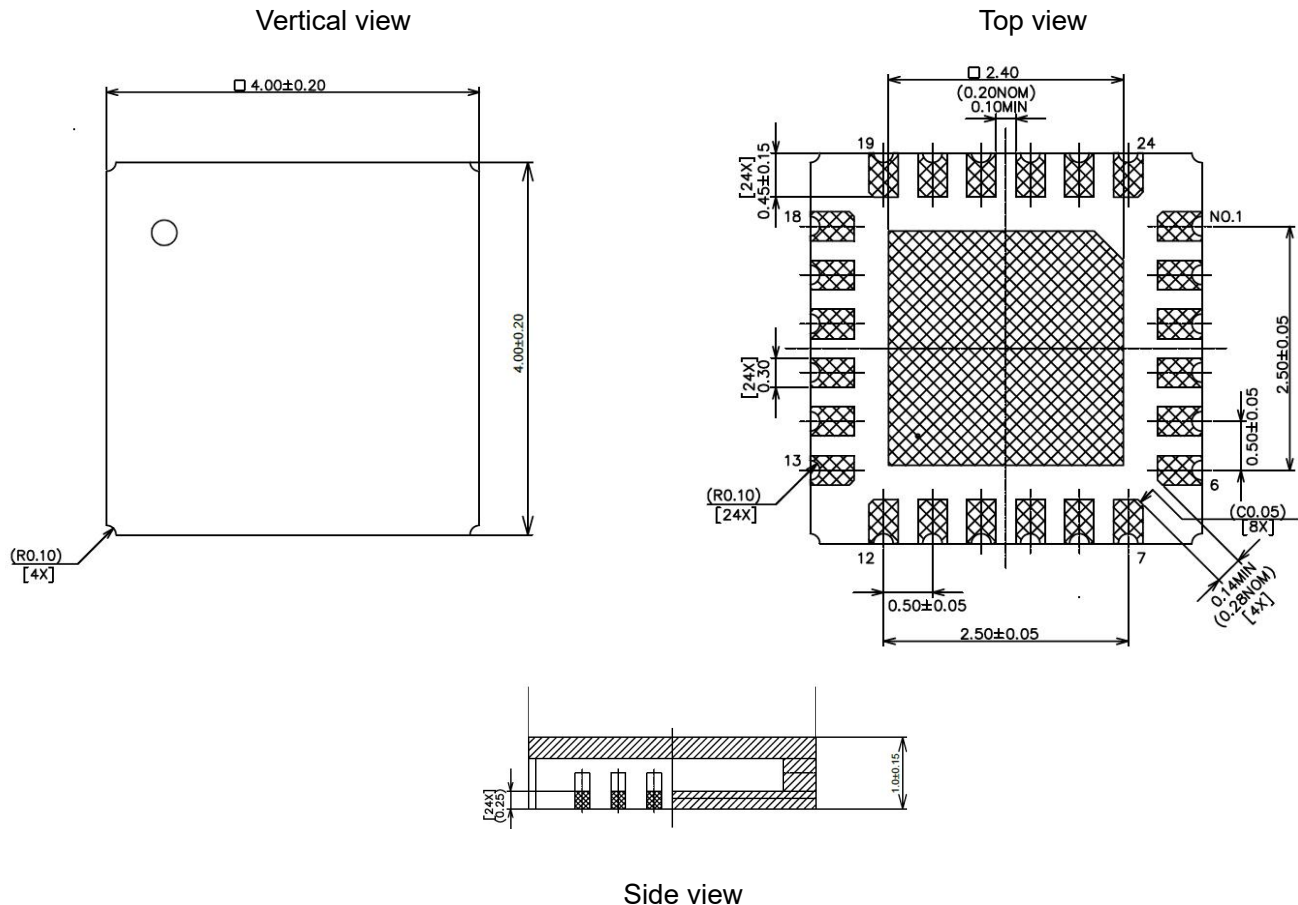


P-1dB vs. Frequency



GaAs MMIC low noise amplifier chip, 0.1-3.5GHz

Exterior structure

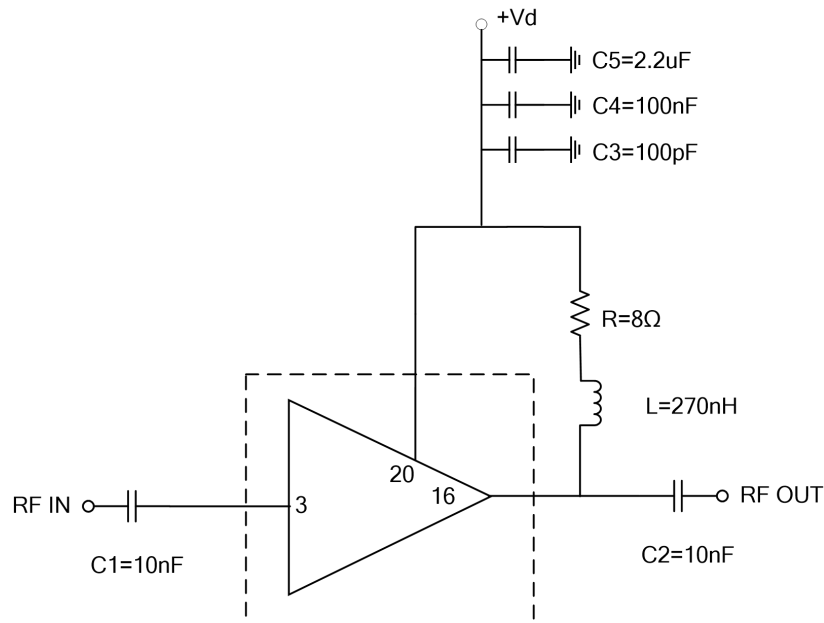


The units in the figure are millimeters.

Pin definition		
Bond point number	Functional symbols	Function Description
3	RFIN	At the input end of the RF signal, separate the capacitor
16	RFOUT、VDD	RF signal output end, need to isolate the straight capacitor; Amplifier drain bias
20	VDD	Amplifier drain bias
2、4、15、17	GND	The bottom of the chip must be properly grounded to the RF and DC
1、5~14、18、19、21~24	NC	No welding required

GaAs MMIC low noise amplifier chip, 0.1-3.5GHz

Recommended circuit



Notice

- Sealing material: Ceramic material in accordance with ROHS specification
- Lead frame material: copper alloy
- lead surface coating: gold, gold layer thickness greater than $1.5\mu\text{m}$
- Maximum peak reflow temperature: 260°C