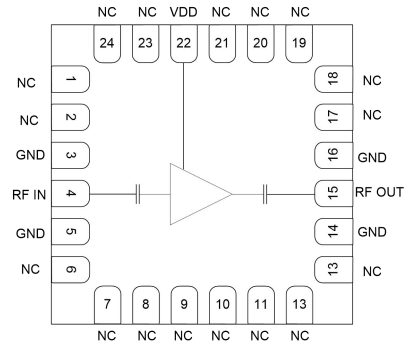


## GaAs MMIC low noise amplifier chip, 0.3-3.5GHz

### Performance characteristics

- Frequency range: 0.3-3.5GHz
- Small-signal gain: 30.5dB
- Gain flatness:  $\pm 0.5$ dB
- Noise figure: 0.7dB Typ.
- P-1dB: 18dBm
- Psat: 19dBm
- Power supply: +5V/80mA
- Input/Output: 50Ohm
- Chip size: QFN 4X4mm

### Functional block diagram



### Product Introduction

GLA-029C-CQ4 is a broadband low noise amplifier chip with a frequency range of 0.3GHz~3.5GHz, small signal gain of 30.5dB, in-band noise factor of 0.7dB, and P-1 power of 18dBm. The GLA-029C-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 parameters<sup>1</sup>

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.

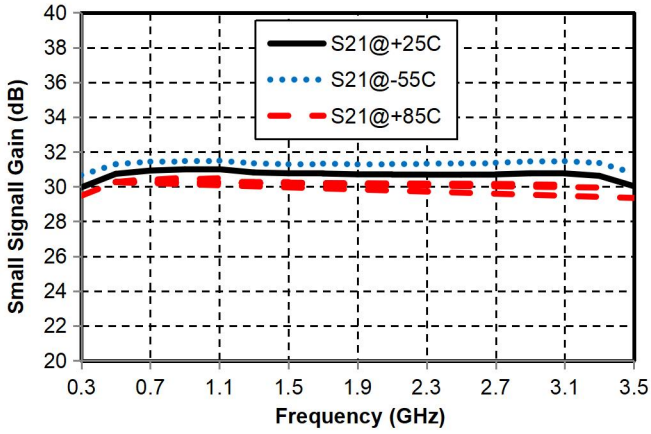
### Electrical performance parameters ( $T_A = +25^\circ\text{C}$ , $V_d = +5\text{V}$ )

Index	Minimum value	Typical value	Maximum value	Unit
Frequency range	0.3-3.5			GHz
Small signal gain	-	30.5	-	dB
Gain flatness	-	$\pm 0.5$	-	dB
Noise figure	-	0.7	-	dB
P-1dB	-	18	-	dBm
Psat	-	19	-	dBm
Input return loss	-	16	-	dB
Output return loss	-	15	-	dB
Static current	-	80	-	mA

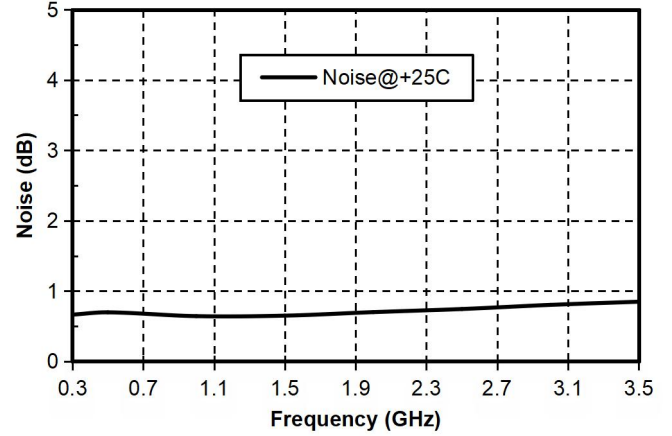
## GaAs MMIC low noise amplifier chip, 0.3-3.5GHz

Main index test curve

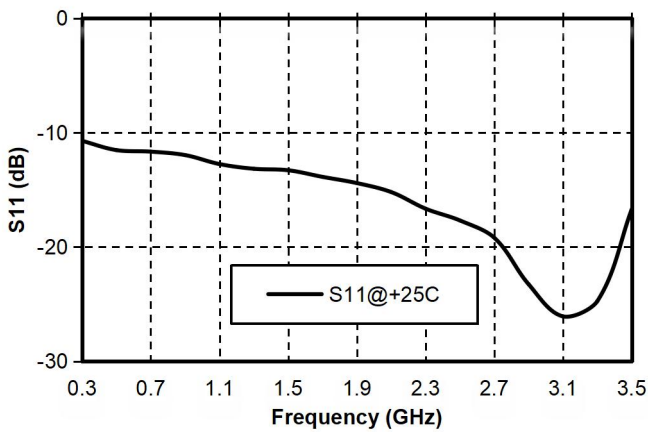
Gain vs. Frequency



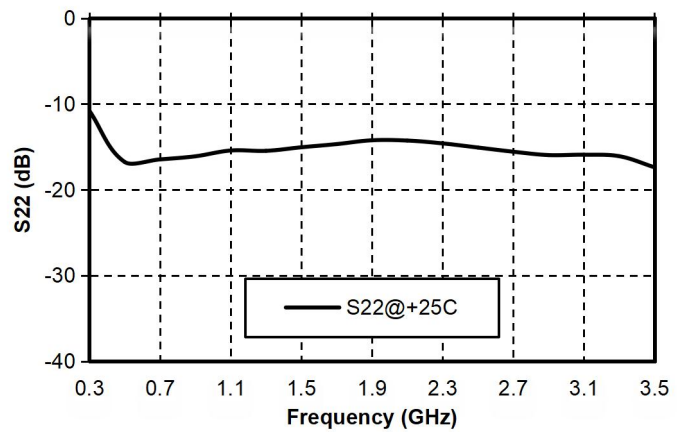
Noise coefficient vs. Frequency



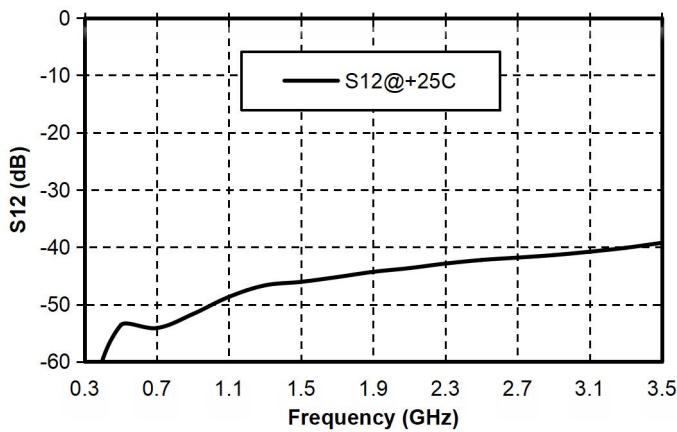
Input return loss vs. Frequency



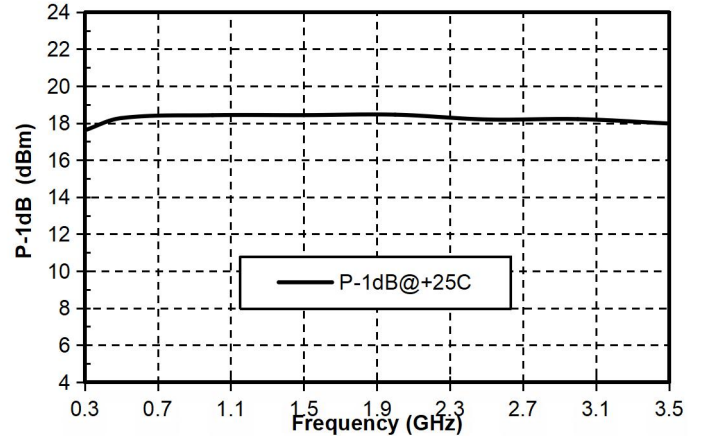
Output return loss vs. Frequency



Reverse isolation vs. Frequency

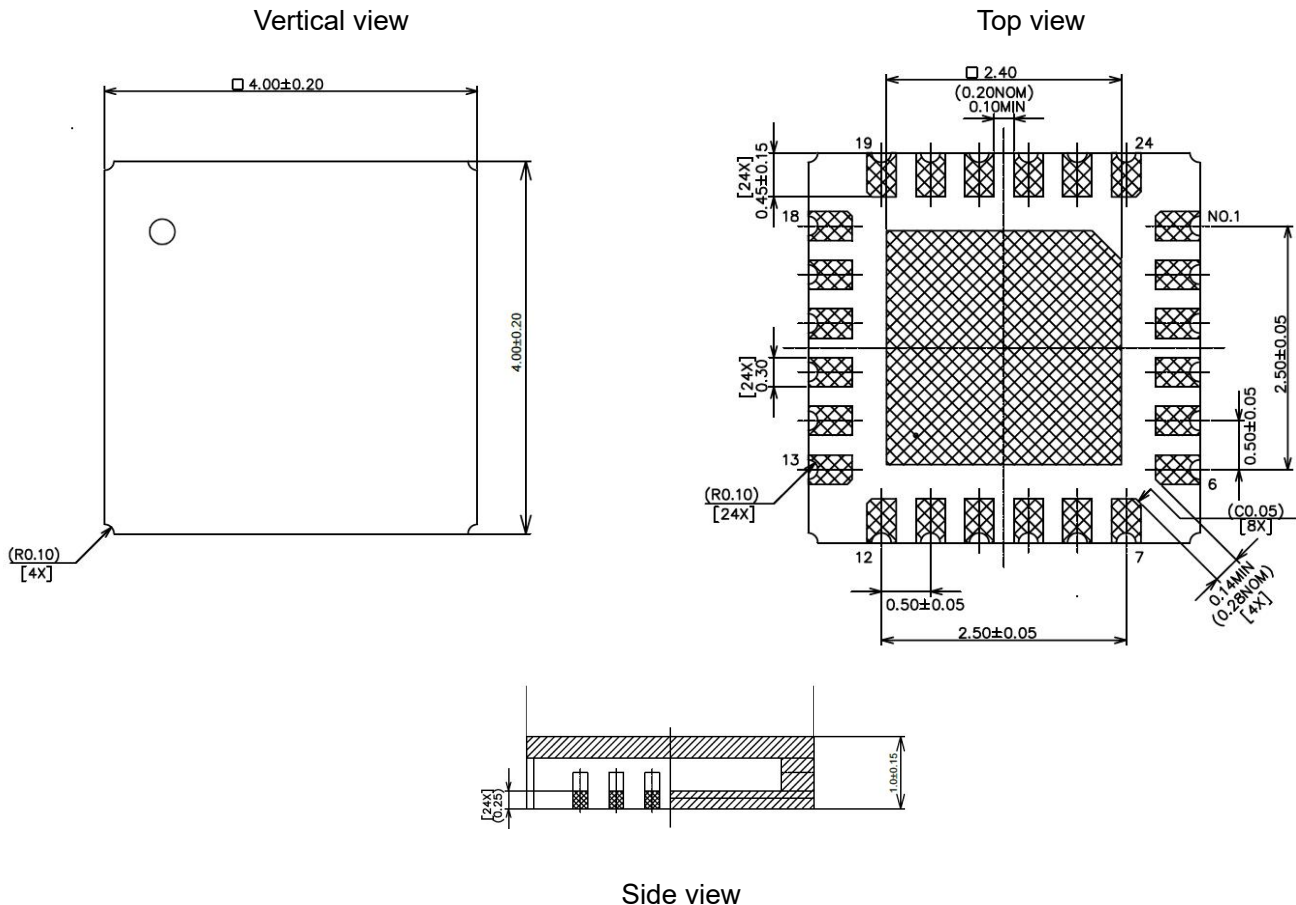


P-1dB vs. Frequency



## GaAs MMIC low noise amplifier chip, 0.3-3.5GHz

### Exterior structure



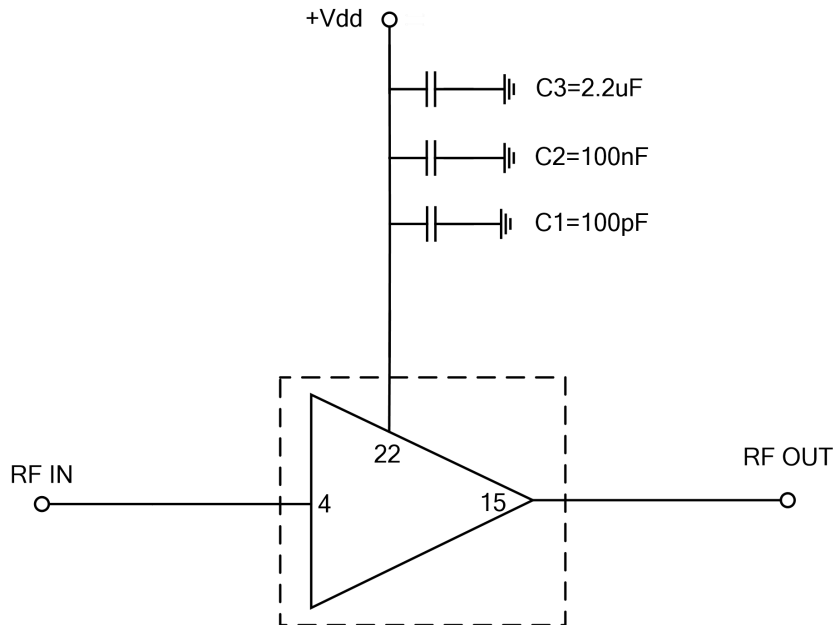
Side view

The units in the figure are millimeters. Tolerance  $\pm 0.2\text{mm}$ .

Pin definition		
Bond point number	Functional symbols	Function Description
4	RFIN	At the input end of the RF signal, separate the capacitor
15	RFOUT	At the output end of the RF signal, separate the capacitor
22	VDD	Amplifier drain bias
3、5、14、16	GND	The pin must be properly grounded to the RF and DC
Chip bottom	GND	The bottom of the chip must be properly grounded to the RF and DC
Others	NC	Suspended pin, can be grounded

## GaAs MMIC low noise amplifier chip, 0.3-3.5GHz

### Recommended circuit



### Notice

- Sealing material: ceramic material in accordance with ROHS specification
- Lead frame material: copper alloy
- lead surface coating: nickel gold, gold layer thickness greater than 1.5um
- Maximum peak reflow temperature: 260°C