

GaAs MMIC Low Noise Amplifier Chip, 2.5 - 3.5 GHz

Performance characteristics

- Frequency range: 2.5 - 3.5 GHz
- Small signal gain: 35dB
- Noise figure: 0.55dB Typ.
- P -1 dB: 12.5dBm
- Power supply: + 5V /40mA
- 50Ohm input / output
- 100% on-wafer testing
- Chip size: QFN 4X4

Product Introduction

GLA-025035-0.5-CQ4 is a broadband low noise amplifier chip, covering the frequency range of 2.5GHz~3.5GHz, with a small signal gain of 35dB and an in-band noise figure of 0.55dB. GLA-025035-0.5-PQ4 is powered by a single +5V power supply. The amplifier uses a 4X4mm surface-mount leadless ceramic tube shell, which can achieve airtight packaging. The surface of the pin pad is gold-plated, which is suitable for reflow soldering installation process.

Use limit parameters

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

Exceeding any of these maximum limits may cause permanent damage.

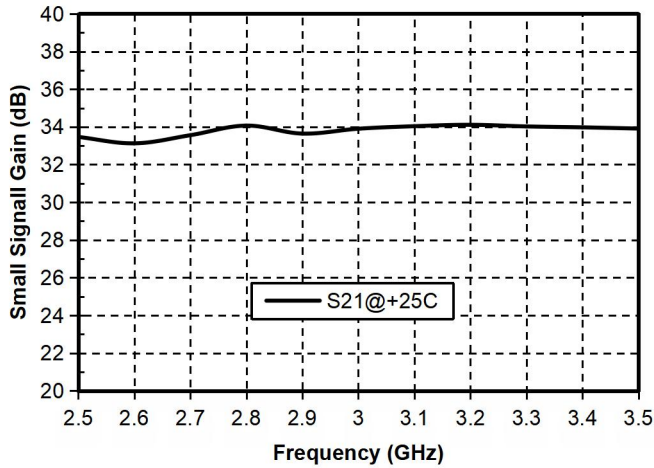
Electrical performance parameters (TA = +25°C, Vd = +5V)

Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	2.5-3.5			G Hz
Small Signal Gain	-	33.5	-	dB
Gain Flatness		± 0 . 5		dB
Noise Figure	-	0.7	-	dB
P -1dB	-	12.5	-	dBm
Psat	-	13.5	-	dBm
Input return loss	-	14	-	dB
Output return loss	-	14	-	dB
Quiescent Current	-	40	-	mA

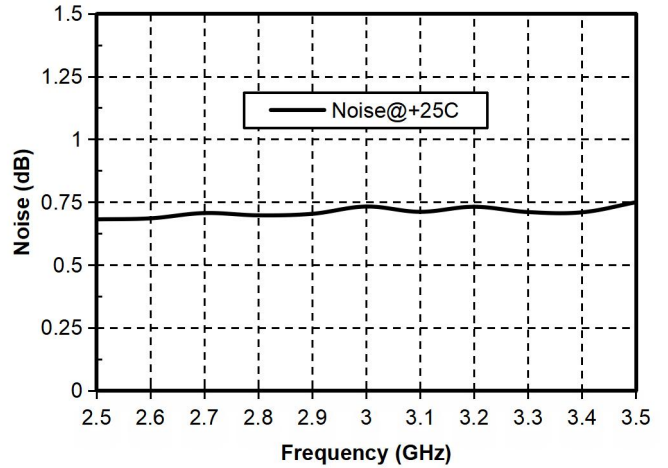
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Main index test curve

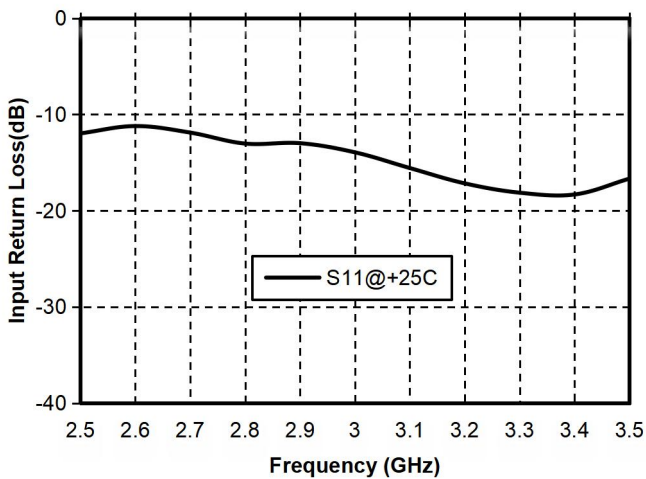
Gain vs. Frequency



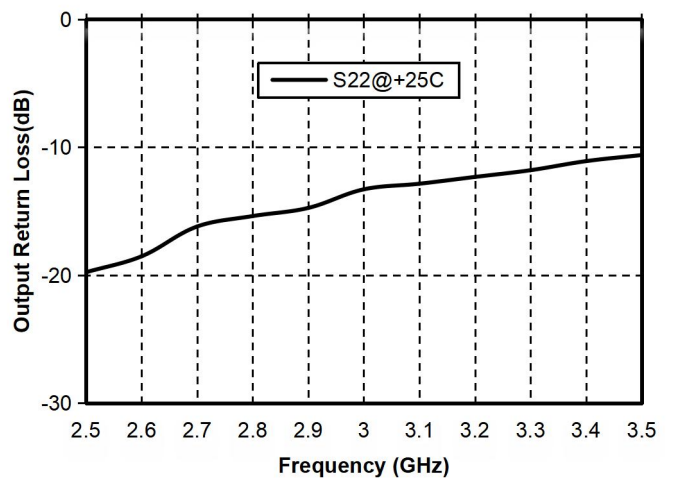
Noise Figure vs. Frequency



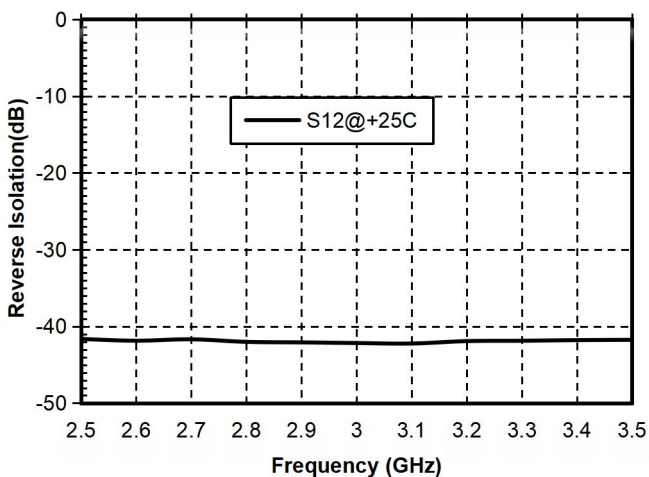
Input Return Loss vs. Frequency



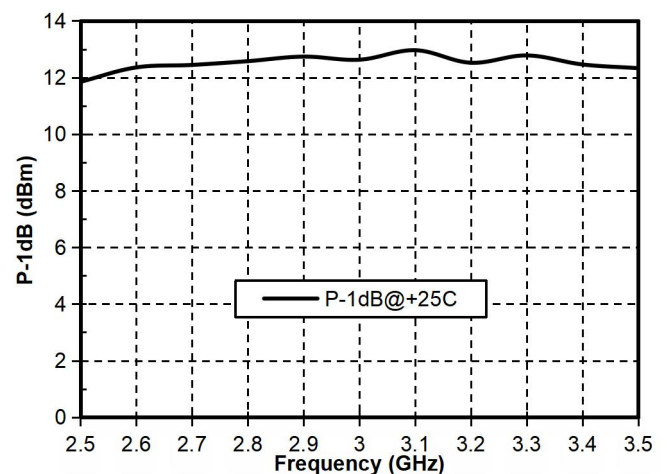
Output Return Loss vs. Frequency



Reverse Isolation vs. Frequency

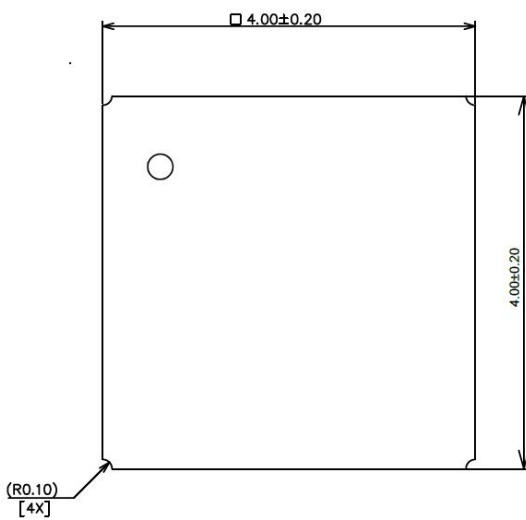


P-1dB vs. Frequency

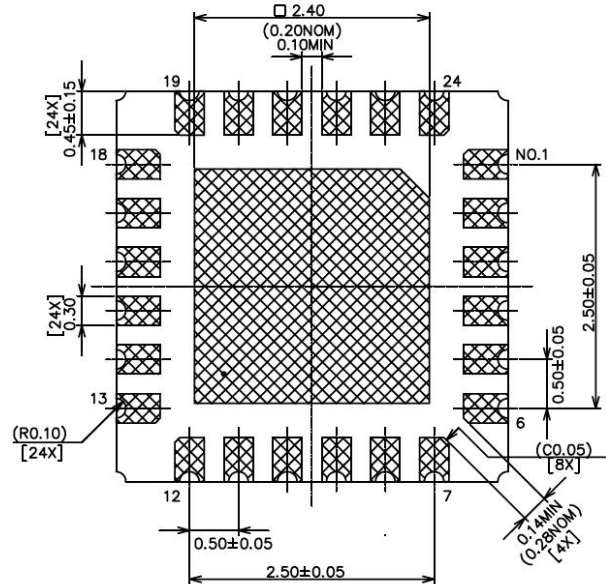


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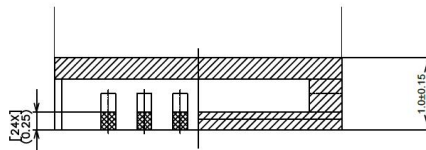
Appearance structure



Top view



Bottom view



Side View

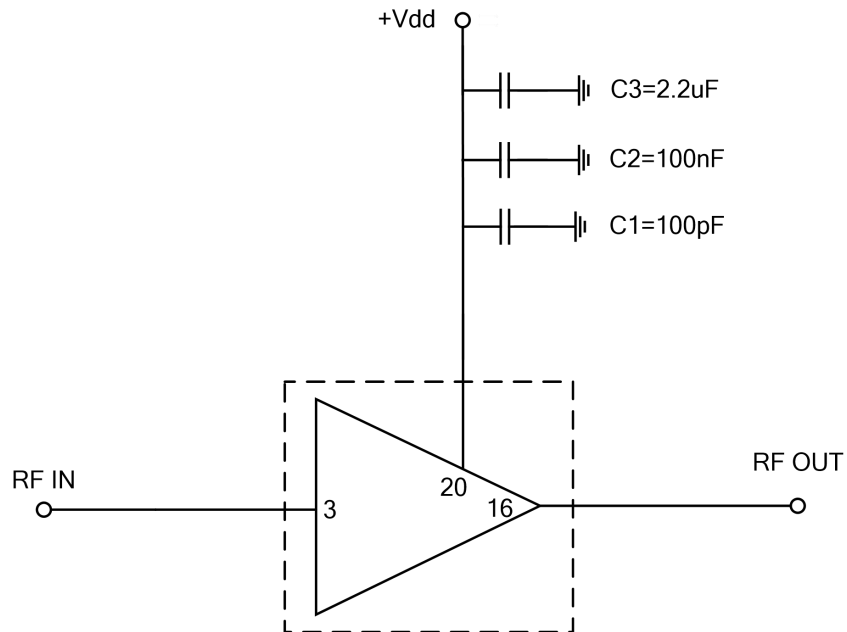
All units in the figures are millimeters .

Pin Definition

Bonding point number	Function Symbol	Functional Description
3	RFIN	RF signal input terminal, no DC blocking capacitor required
16	RFOUT	RF signal output terminal, no DC blocking capacitor required
20	VDD	Amplifier Drain Bias
1, 2, 4-15, 17-19, 21-24	NC	No welding required

GaAs MMIC Low Noise Amplifier Chip, 4 - 8 GHz

Recommended Circuit



Raw material	Capacitance, inductance, resistance
C1	100pF
C 2	100nF
C 3	2.2uF

Precautions for use

- Sealing material : Ceramic material that meets ROHS standards
- Lead frame material: copper alloy
- Lead surface plating: gold, gold layer thickness greater than 1.5um
- Maximum reflow peak temperature: 260 °C