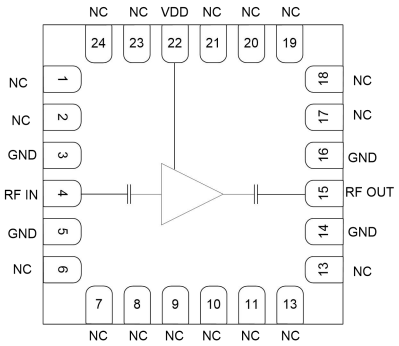
GLA-008016A-CQ4

GaAs MMIC Low Noise Amplifier Chip, 0.8 - 1.6 GHz

Performance characteristics

- Frequency range: 0.8 - 1.6 GHz
- Small signal gain: 35dB
- Gain flatness : ± 0.75dB
- Noise figure: 0.4dB Typ.
- P -1 dB: 13dBm
- Psat : 14.5dBm
- Power supply: + 5V /45mA
- 50Ohm input / output
- Chip size: QFN 4X4mm

Functional Block Diagram



Product Introduction

GLA-008016A-CQ4 is a broadband low noise amplifier chip with a frequency range of 0.8GHz~1.6GHz, a small signal gain of 35dB, an in-band noise figure of 0.4dB, and a P-1 power of 13dBm. GLA-008016A is powered by a single +5V power supply. The amplifier uses a 4X4mm surface-mount leadless ceramic tube shell to achieve airtight packaging. The surface of the pin pad is gold-plated and is suitable for reflow soldering installation.

Use restriction parameter [1]	
Maximum drain voltage	+7V
Maximum input power	+20dBm
Operating temperature	-55 ~ +85°C
Storage temperature	-65 ~ +150°C

【1】 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		0.8-1.6		G Hz
Small Signal Gain	-	35	-	dB
Gain Flatness	-	± 0 . 75	-	dB
Noise Figure	-	0.4	-	dB
P -1dB	-	13	-	dBm
Psat	-	14.5	-	dBm
Input return loss	-	17	-	dB
Output return loss	-	11	-	dB
Quiescent Current		45		mA

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Web: www.standardcircuit.com
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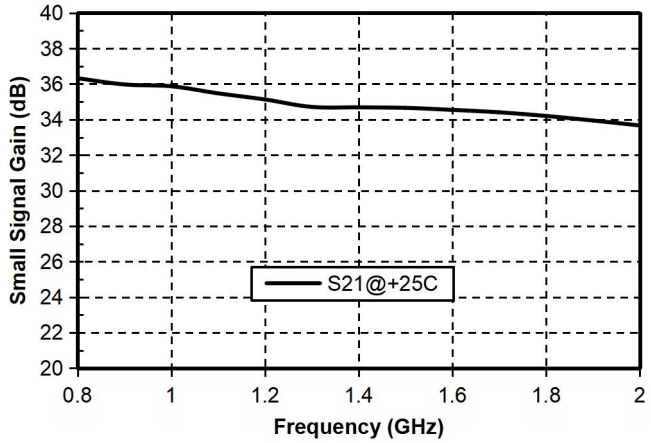
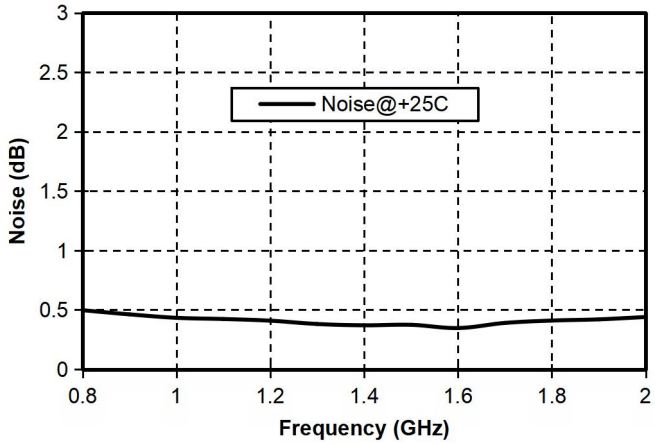
Main index test curve

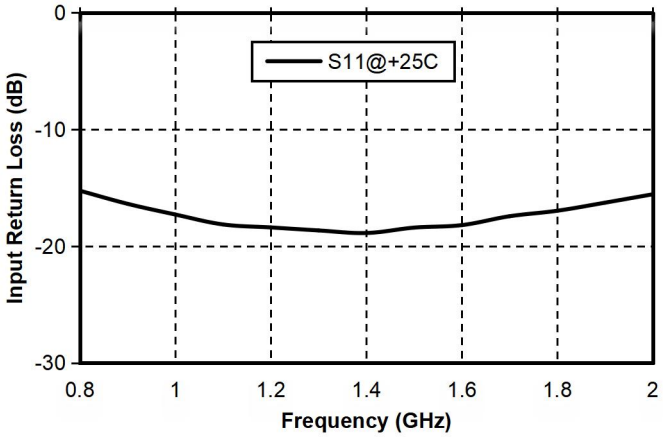
Gain vs. Frequency



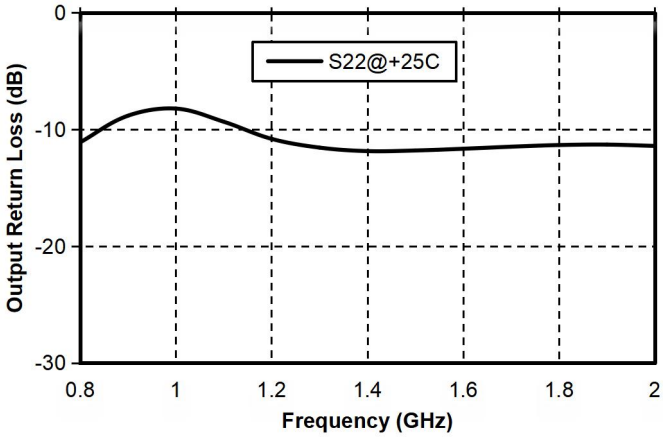
Noise Figure vs. Frequency



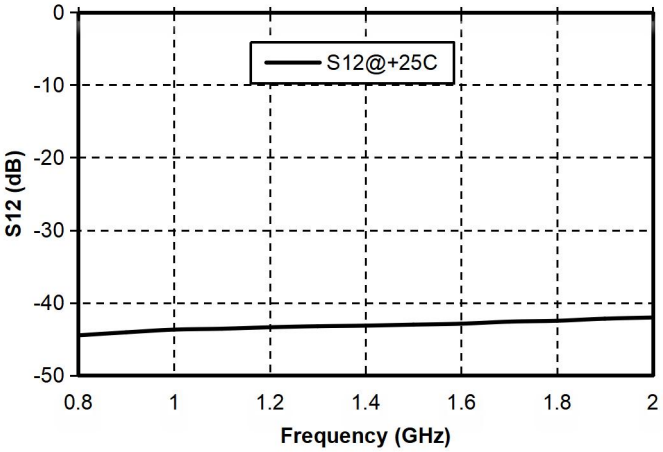
Input Return Loss vs. Frequency



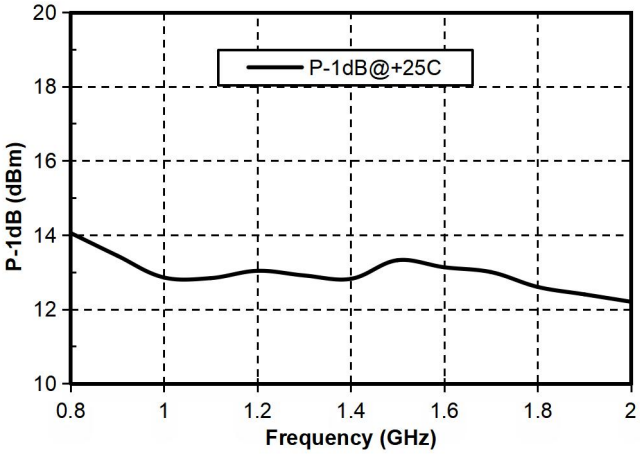
Output Return Loss vs. Frequency



Reverse Isolation vs. Frequency



P-1dB vs. Frequency



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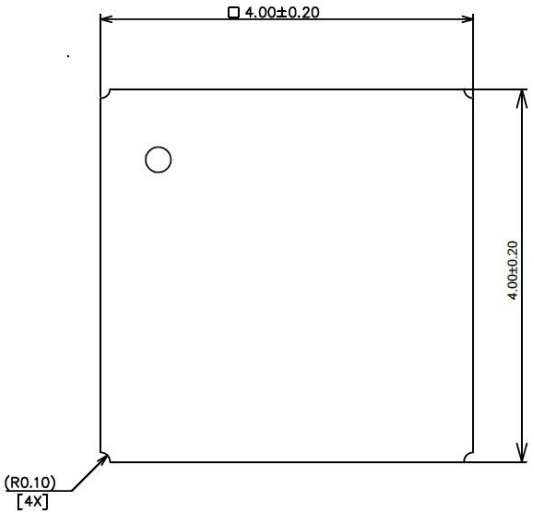
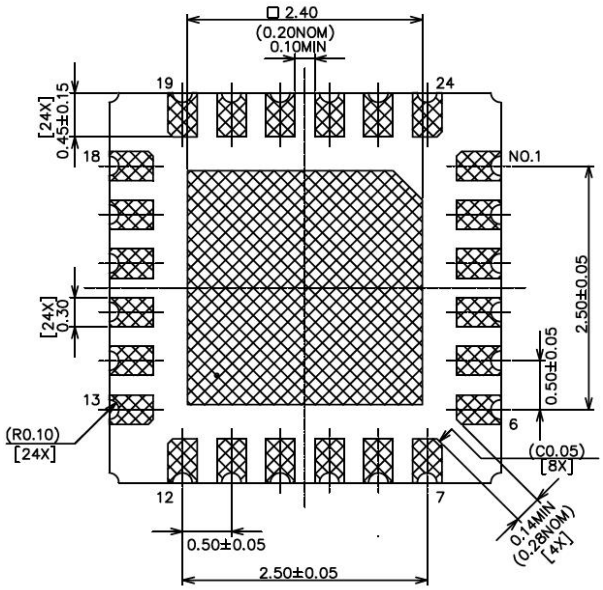
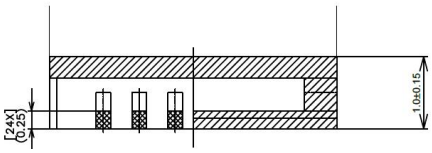
Type Structure

Top view



Bottom view





Side View

The units in the figure are all millimeters, with a tolerance of ±0.2 mm.

Pin Definition		
Pin number	Function Symbol	Functional Description
4	RFIN	RF signal input terminal, no DC blocking capacitor required
15	RFOUT	RF signal output terminal, no DC blocking capacitor required
22	VDD	Amplifier Drain Bias
3, 5, 14, 16	GND	The pins need to be well grounded to the RF and DC grounds
Chip bottom	GND	The bottom of the chip needs to be well grounded to RF and DC
other	NC	Floating pin , can be grounded

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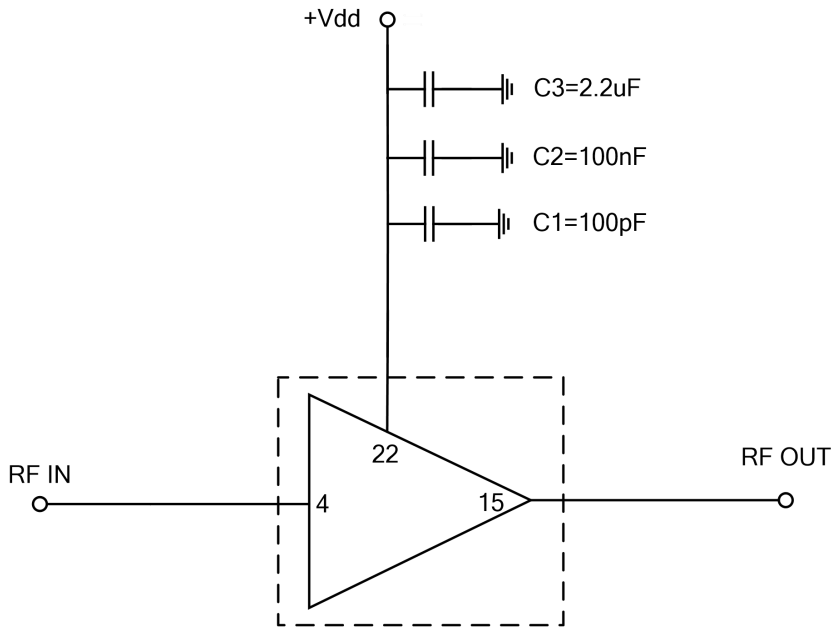
Recommended Circuit



Precautions for use

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

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