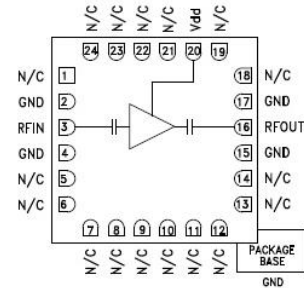


## GaAs MMIC Low Noise Amplifier Chip, 6 - 18 GHz

### Performance characteristics

- Frequency range: 6 - 18 GHz
- Small Signal Gain: 23 dB
- Noise figure: 1.5dB typ.
- P -1 dB: 13.5dBm
- Power supply: + 5V /40mA
- 50Ohm input / output
- 100% on-wafer testing
- Chip size: QFN 4X4

### Block Diagram



### Product Introduction

GLA-0618I-CQ4 is a broadband low noise amplifier chip with a frequency range of 6GHz~18GHz, a small signal gain of 23dB, and an in-band noise figure of 1.5dB . GLA -0618I-CQ4 is powered by a single +5V power supply. This chip is packaged in a 4 x 4 mm ceramic surface mount package, and the surface of the pin pad is gold-plated, which is suitable for reflow soldering installation.

### Use restriction parameter <sup>1</sup>

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.

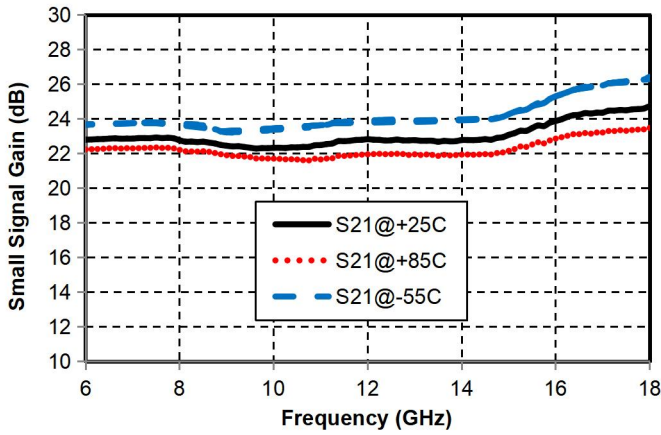
### Electrical performance parameters ( TA = +25°C, Vd = +5V )

Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	6-18			G Hz
Small Signal Gain	-	23	-	dB
Gain Flatness		± 1.2		dB
Noise Figure	-	1.5	-	dB
P -1 dB	-	13.5	-	dBm
Psat	-	14	-	dBm
Input return loss	-	16	-	dB
Output return loss	-	17	-	dB
Quiescent Current		40		mA

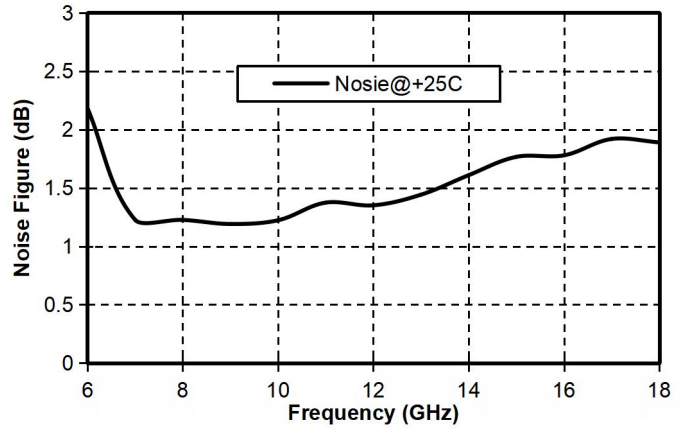
## GaAs MMIC Low Noise Amplifier Chip, 6-18 GHz

Main index test curve

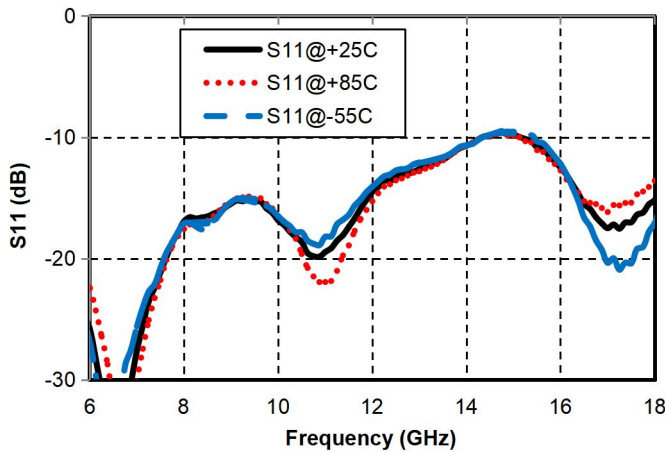
Gain vs. Frequency



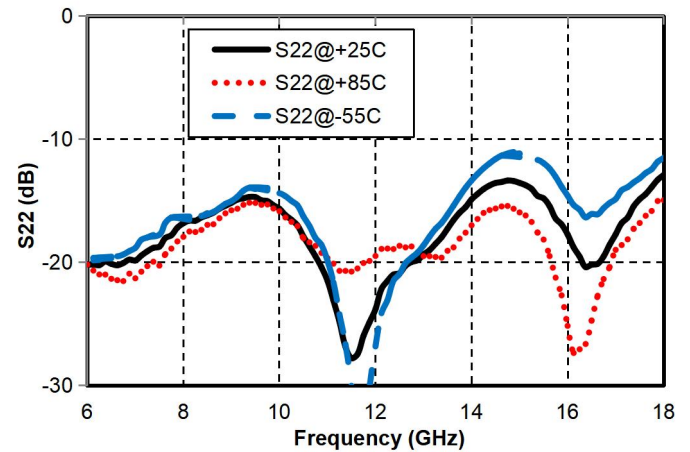
Noise Figure vs. Frequency



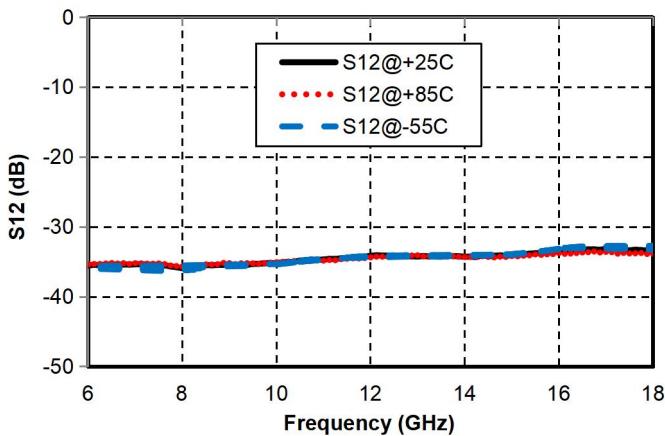
Input Return Loss vs. Frequency



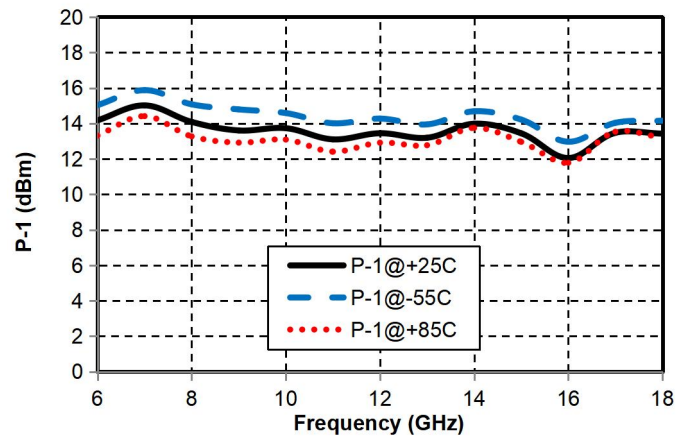
Output Return Loss vs. Frequency



Reverse Isolation vs. Frequency

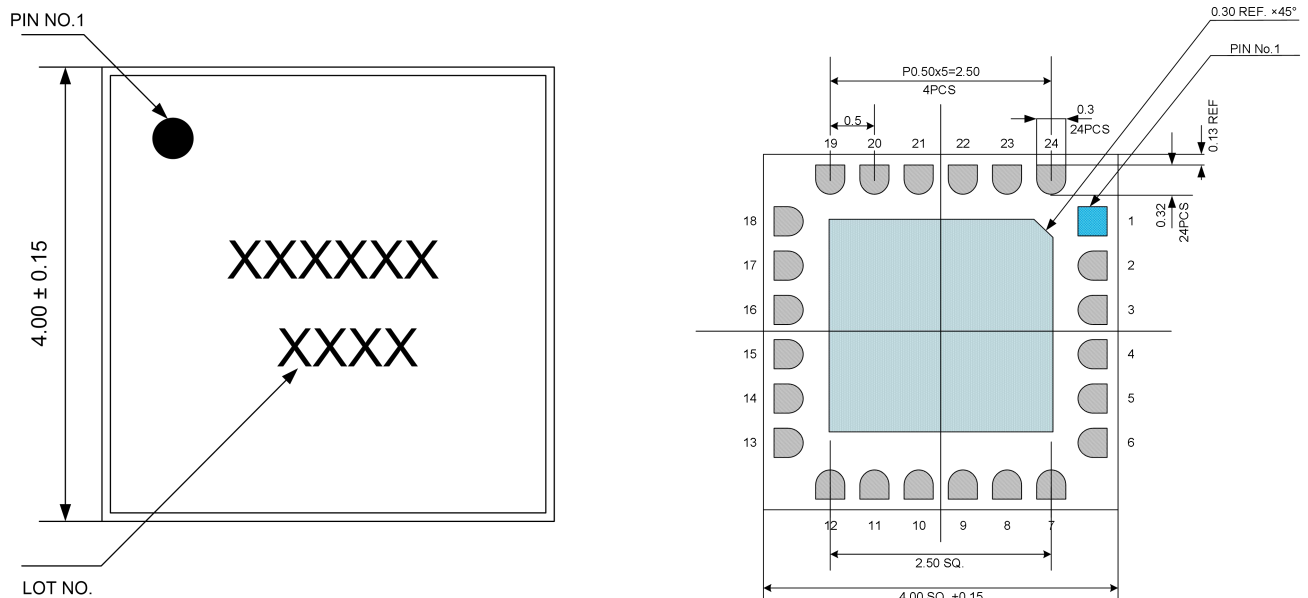


P-1dB vs. Frequency



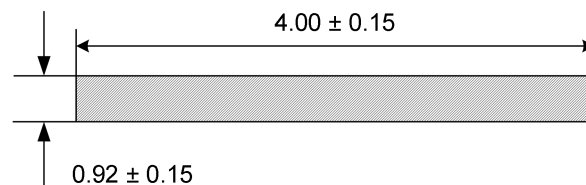
## GaAs MMIC Low Noise Amplifier Chip, 6-18 GHz

### Appearance structure



Top view

Bottom view



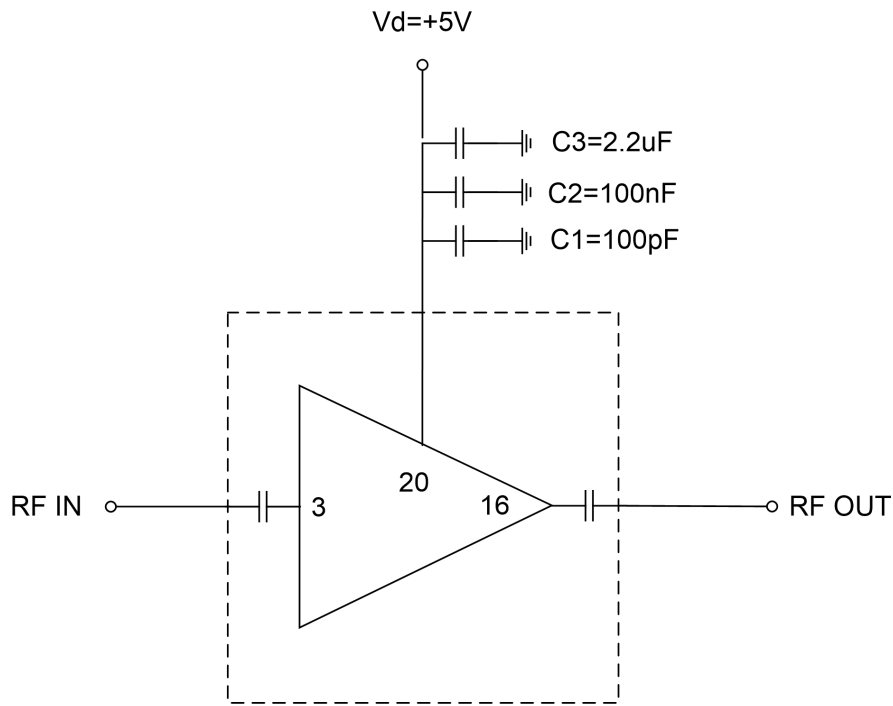
Side View

The units in the figures are all in millimeters , and the tolerance is  $\pm 0.15$  mm.

Pin Definition		
Pin Definition	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
2 , 4 , 15 , 17	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	No welding required, can be grounded

## GaAs MMIC Low Noise Amplifier Chip, 6-18 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 ROSH standards
- Lead surface plating: gold, gold layer thickness 0.30um MIN
- Maximum reflow peak temperature: 260 °C