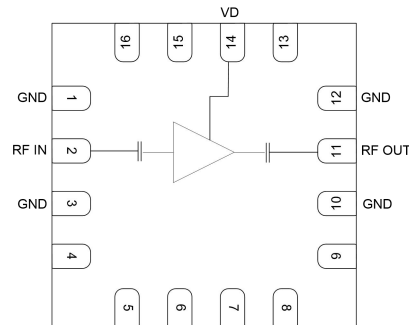


GaAs MMIC Low Noise Amplifier Chip, 6 - 18 GHz

Performance characteristics

- Frequency range: 6 - 18 GHz
- Small signal gain: 19.5dB
- Noise figure: 1.7dB Typ.
- P -1 dB: 17.5 dBm
- Power supply: +3.5V / 93mA
- 50Ohm input / output
- 100% on-wafer testing
- Chip size: QFN 3X3

Functional Block Diagram



Product Introduction

GLA-0618F-PQ3 is a broadband low noise amplifier chip with a frequency range of 6GHz~18GHz, a small signal gain of 19.5dB, and an in-band noise figure of 1.7dB. GLA-0618F-PQ3 is powered by a single +3.5V power supply. This chip is packaged in a 3 x 3 mm lead-free plastic surface mount package, and the pin pad surface is gold plating process, suitable for reflow soldering installation process.

Use limit parameters

Maximum drain voltage	+5V
Maximum input power	+20dBm
Operating temperature	-55 ~ +85°C
storage temperature	-65 ~ +150°C

Exceeding any of these maximum limits may cause permanent damage.

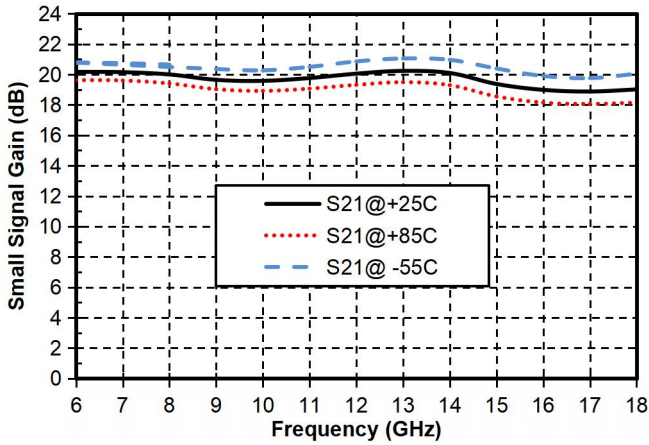
Electrical performance parameters (TA = +25°C, Vd=+3.5V)

Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	6-18			G Hz
Small Signal Gain	18.5	19.5	20	dB
Gain Flatness		± 0.75		dB
Noise Figure	-	1.7	2.2	dB
P -1dB	16.5	17.5	18	dBm
Psat	17.5	18.5	-	dBm
Input return loss	11	15	-	dB
Output return loss	12	19	-	dB
Quiescent Current		93		mA

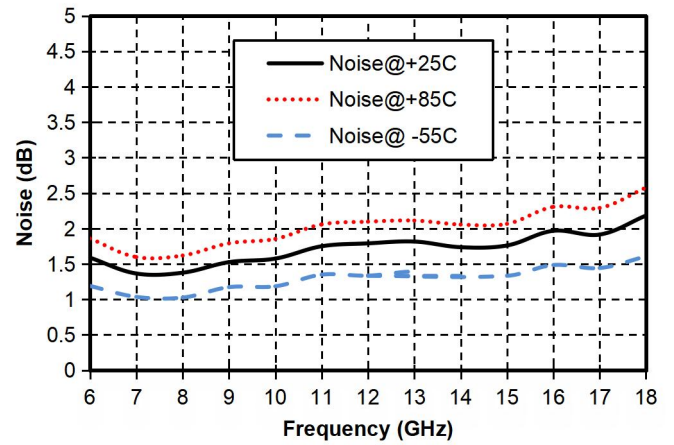
GaAs MMIC Low Noise Amplifier Chip, 6 - 18 GHz

Main index test curve

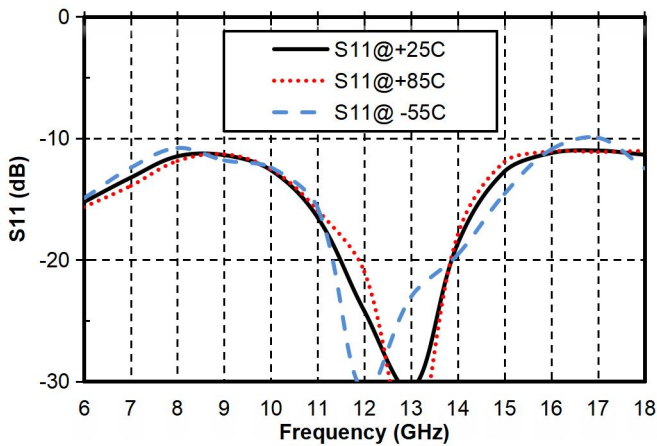
Gain vs. Frequency



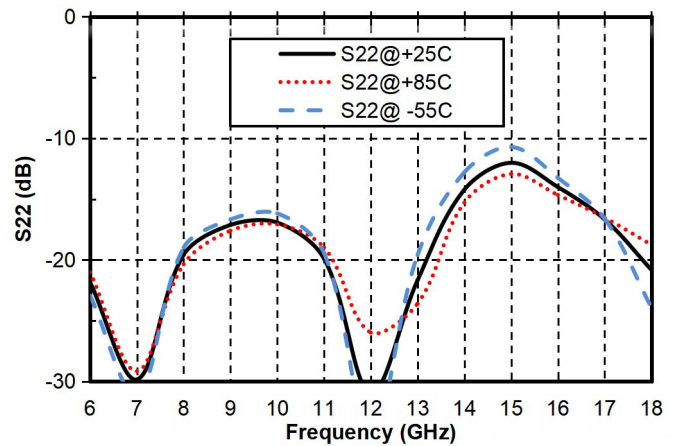
Noise Figure vs. Frequency



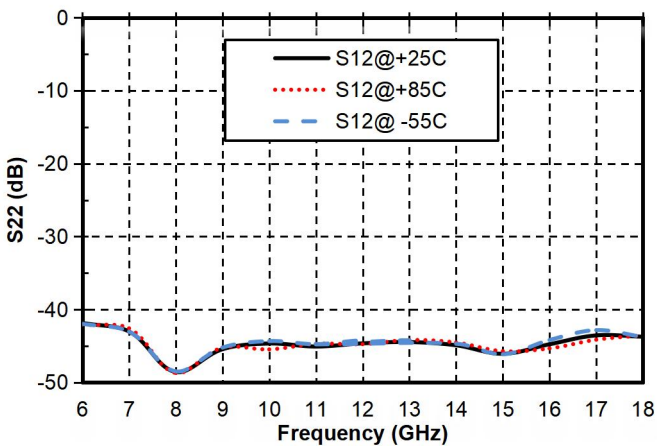
Input Return Loss vs. Frequency



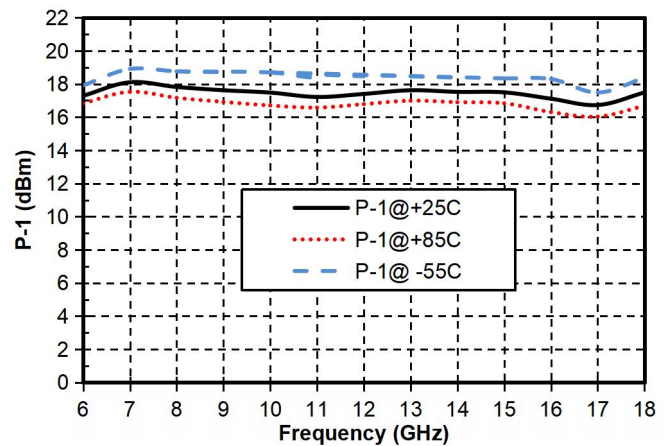
Output Return Loss vs. Frequency



Reverse Isolation vs. Frequency

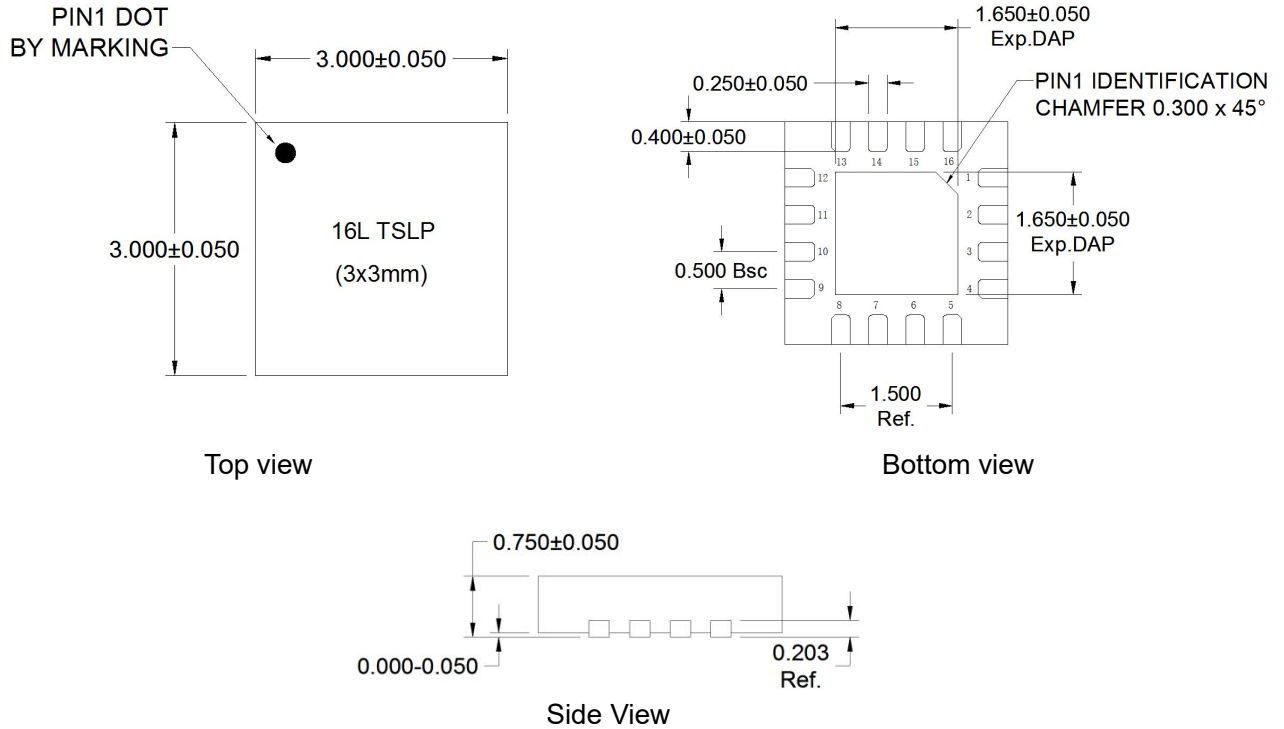


P-1dB vs. Frequency



GaAs MMIC Low Noise Amplifier Chip, 6 - 18 GHz

Appearance structure

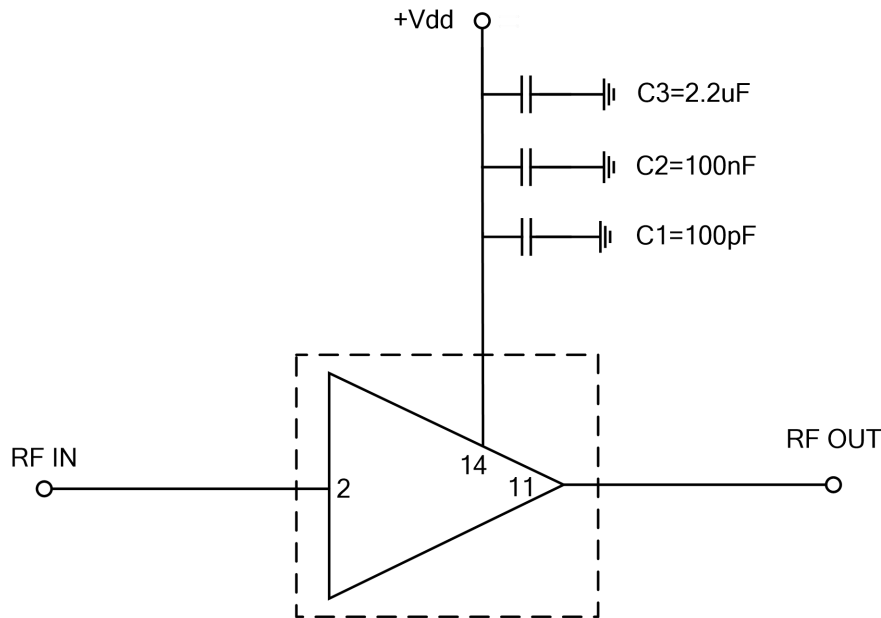


The units in the figure are all millimeters, with a tolerance of ± 0.05 mm.

Pin Definition		
Bonding point number	Function Symbol	Functional Description
2	RFIN	RF signal input terminal, no DC blocking capacitor required
11	RFOUT	RF signal output terminal, no DC blocking capacitor required
14	VDD	Amplifier Drain Bias
1, 3, 10, 12	GND	The bottom of the chip needs to be well grounded to RF and DC
4~9, 13, 15, 16	NC	No welding required

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: Low-pressure injection molding plastic that meets ROHS specifications
- Lead frame material: copper alloy
- Lead surface plating: 100% matte tin
- Maximum reflow peak temperature: 260 °C