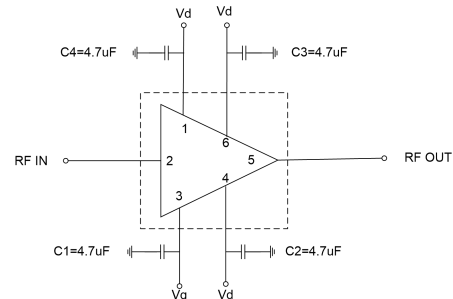


GaAs MMIC power amplifier chip, 13.5-14.5 GHz

Performance characteristics

- Frequency range: 13.5 - 14.5 GHz
- Small signal gain: 18.5dB
- Gain flatness: ± 1.4 dB
- P -1 dB : 31dBm
- Psat : 32dBm
- Power supply: +7 V 480mA
- 50Ohm input / output
- Chip size: CFP6

Block Diagram



Product Introduction

GPA-1314-1B-CFP6 is a broadband amplifier based on GaAs technology , with a frequency range of 13.5GHz~14.5GHz, a small signal gain of 18.5dB, and a Psat output of 32dBm. GPA-1314-1B-CFP6 is powered by a +7V power supply. This chip adopts CFP6 ceramic surface mount package, and the surface of the pin pad is gold-plated, which is suitable for surface mount installation process.

Using the Limit Parameter

Maximum drain voltage	+8V
Maximum gate bias	-3V
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 = +7V)

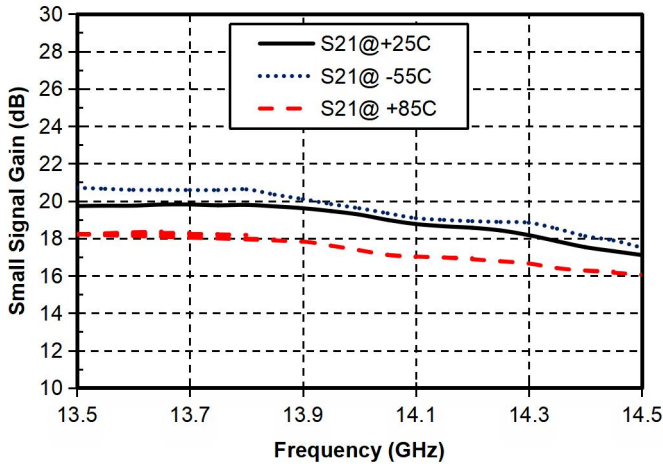
Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	13.5-14.5			G Hz
Small Signal Gain	-	18.5	-	dB
Gain Flatness		± 1.4		dB
P -1dB	-	31	-	dBm
Psat	-	32	-	dBm
Input return loss	-	8	-	dB
Output return loss	-	22	-	dB
Quiescent Current		480		mA

* By tuning the Vg terminal voltage from -2V to 0V , the recommended Vg terminal voltage is -0.9V .

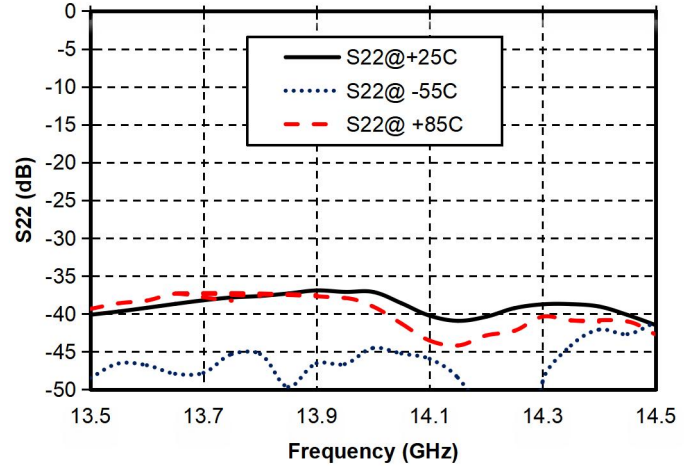
GaAs MMIC power amplifier chip, 13.5-14.5 GHz

Main index test curve

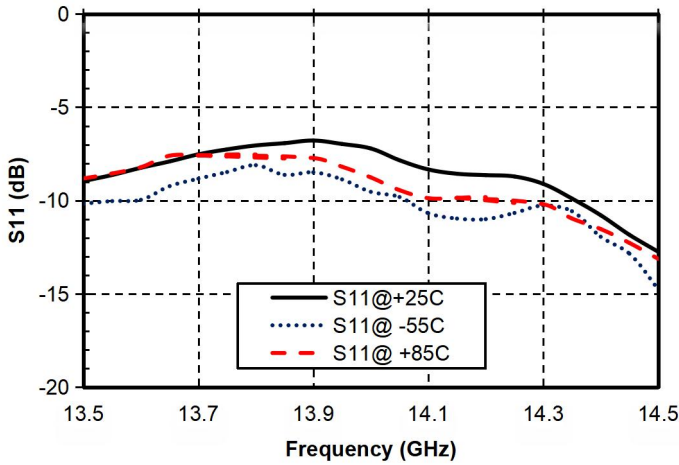
Gain vs. Frequency



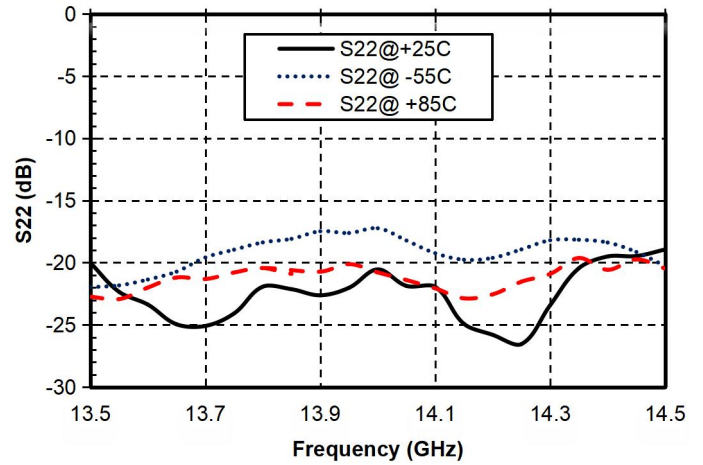
Reverse Isolation vs. Frequency



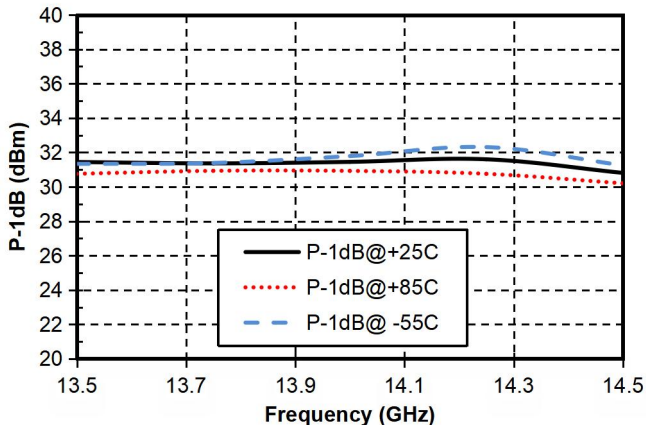
Input Return Loss vs. Frequency



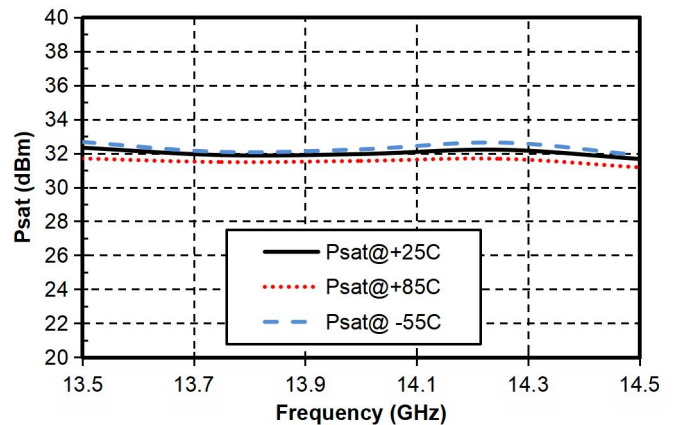
Output Return Loss vs. Frequency



P-1dB vs. Frequency

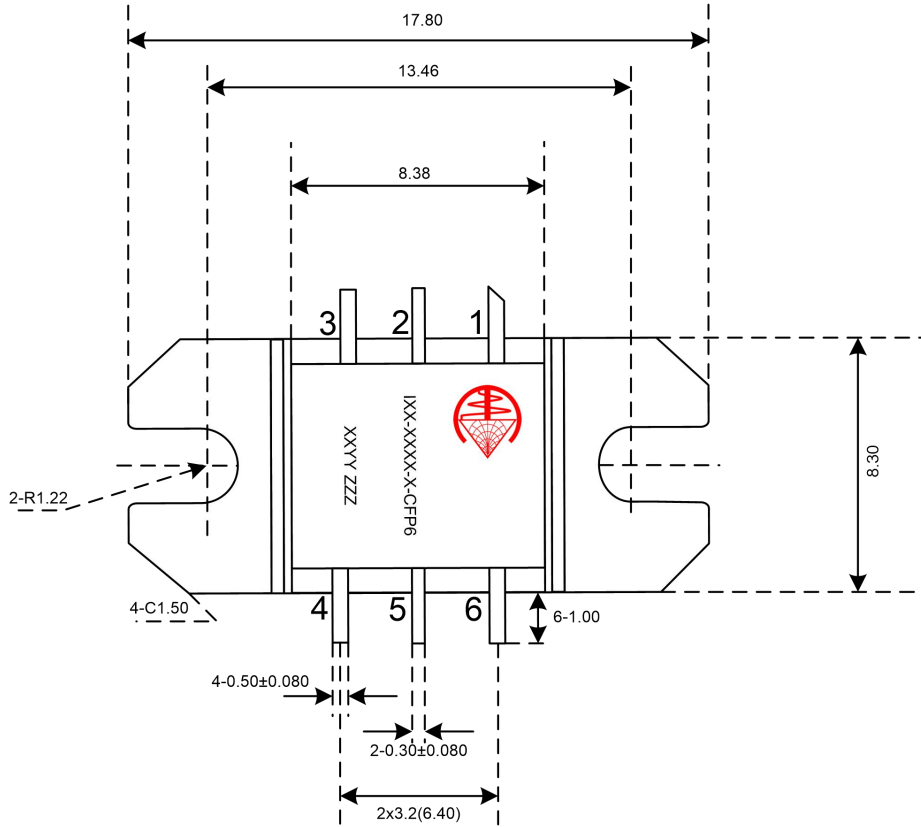


P sat vs. frequency

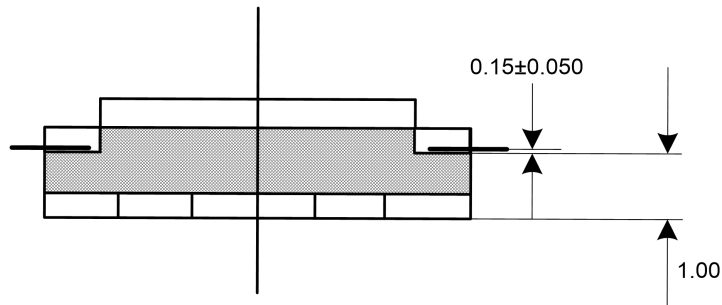


GaAs MMIC power amplifier chip, 13.5-14.5 GHz

Appearance structure



Top view



Side View



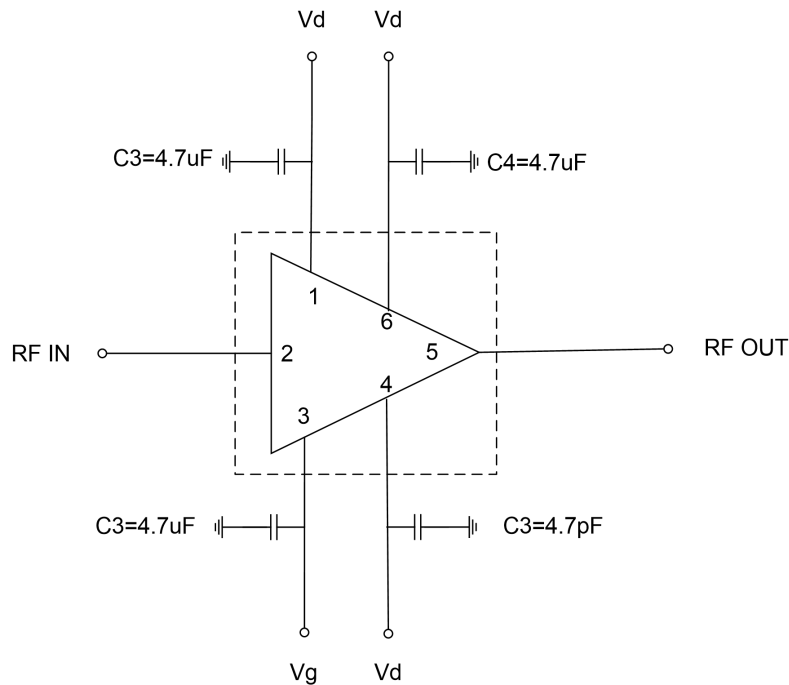
Side View

All units in the figures are millimeters .

GaAs MMIC power amplifier chip, 13.5-14.5 GHz

Pin Definition		
Pin number	Function Symbol	Functional Description
2	RF I N	RF signal input terminal, no DC blocking capacitor required
5	RF OUT	RF signal output terminal, no DC blocking capacitor required
3	V G	Amplifier Gate Bias
1 , 4, 6	VD	Amplifier Drain Bias
Chip bottom	GND	The bottom of the chip needs to be well grounded to RF and DC

Recommended Circuit



Precautions for use

- Sealing material : Ceramic material that meets ROHS standards
- Lead frame material: copper alloy
- Lead surface plating: gold, gold layer thickness 0.3um MIN
- Maximum reflow peak temperature: 260 °C