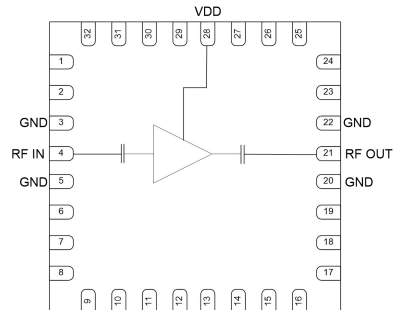


GaAs MMIC Power Amplifier Chip, 2-6 GHz

Performance characteristics

- Frequency range: 2 - 6 GHz
- Small signal gain: 23dB
- Gain Flatness: ± 1.0 dB
- P -1 dB : 23.5dBm
- Psat : 24.5dBm
- Power supply: +5 V /200mA
- 50Ohm input / output
- Chip size: QFN 5X5

Functional Block Diagram



Product Introduction

GPA-0206A-CQ5 M is a broadband amplifier based on GaAs technology , with a frequency range of 2GHz~6GHz, a small signal gain of 23dB, and a P-1 output of 23.5dBm. GPA-0206A-CQ5M is powered by a single +5V power supply. This chip uses a 5 x 5 mm ceramic surface mount package, 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.

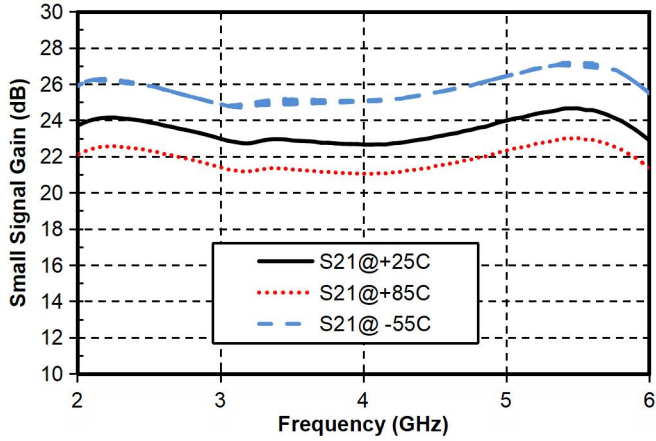
Electrical performance parameters (TA = +25°C , Vd = +5V)

Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	2-6			GHz
Small Signal Gain	-	23	-	dB
Gain Flatness	-	± 1.0	-	dB
P -1dB	-	23.5	-	dBm
Psat	-	24.5	-	dBm
Input return loss	-	13	-	dB
Output return loss	-	16	-	dB
Quiescent Current		200		mA

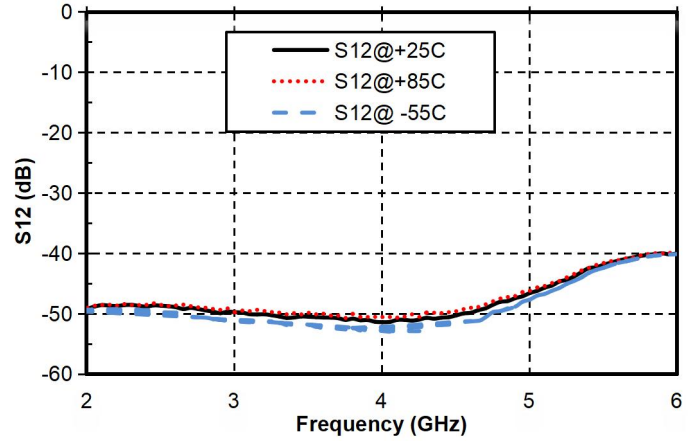
GaAs MMIC Power Amplifier Chip, 2 - 6 GHz

Main index test curve

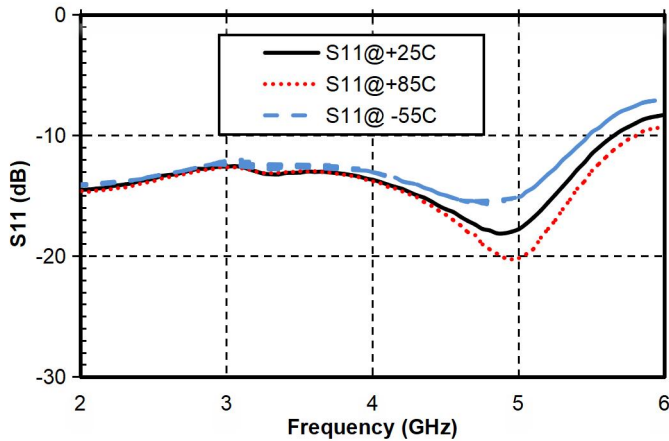
Gain vs. Frequency



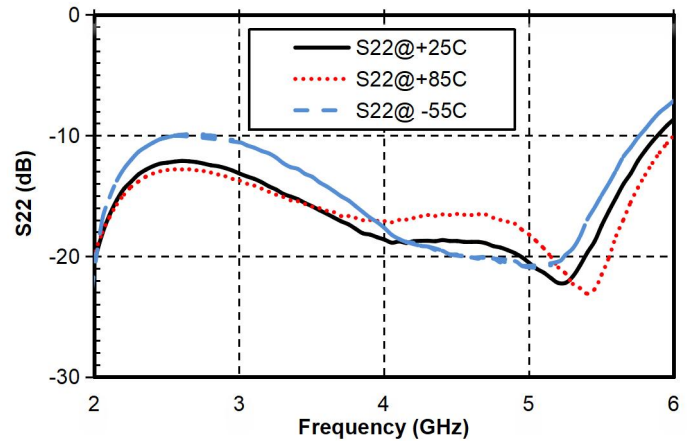
Reverse Isolation vs. Frequency



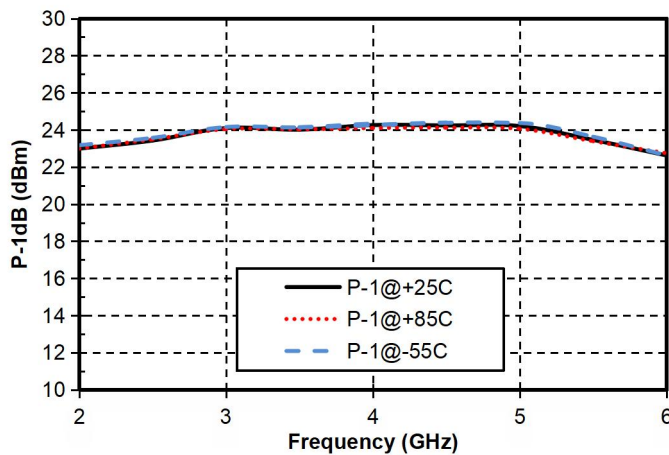
Input Return Loss vs. Frequency



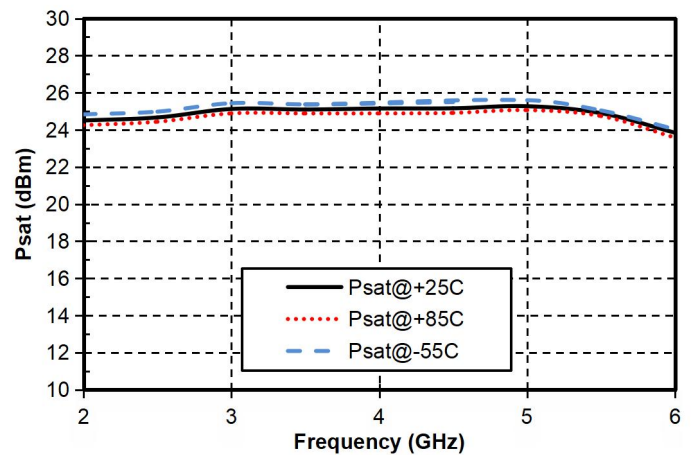
Output Return Loss vs. Frequency



P-1dB vs. Frequency

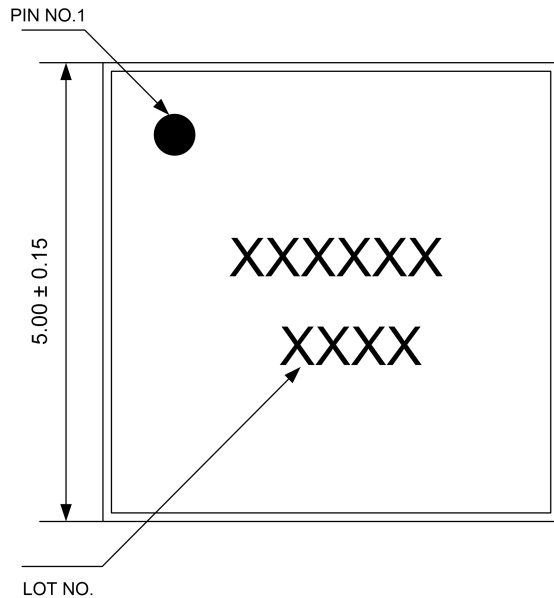


P sat vs. frequency

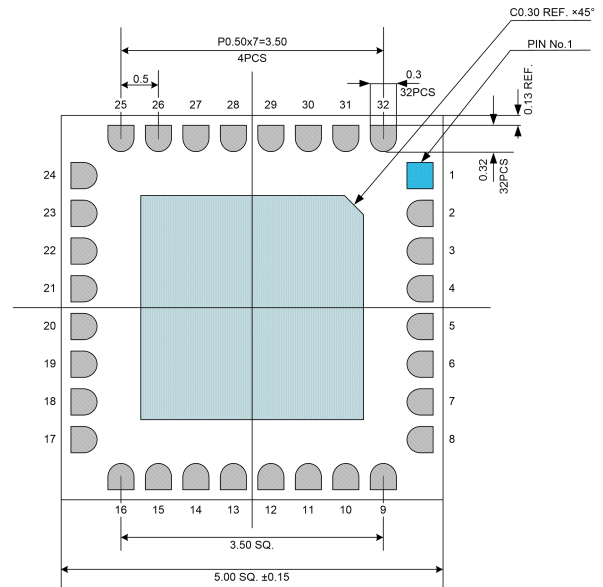


GaAs MMIC Power Amplifier Chip, 2 - 6 GHz

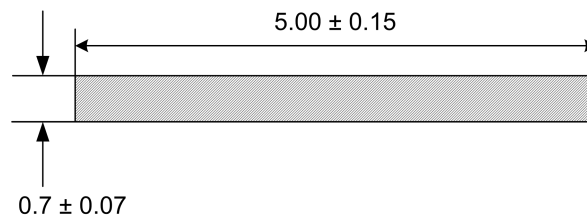
Appearance structure



Top view



Bottom view



Side View

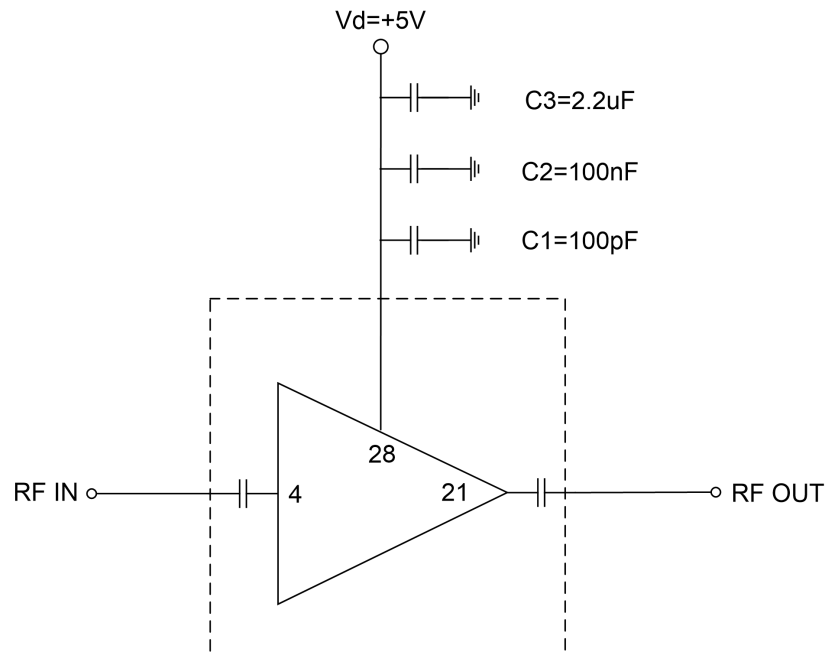
All units in the figures are millimeters .

Pin Definition		
Pin Definition	Function Symbol	Functional Description
4	RFIN	RF signal input terminal, no DC blocking capacitor required
21	RFOUT	RF signal output terminal, no DC blocking capacitor required
28	VDD	Amplifier drain bias , external bypass capacitor required
3 , 5 , 20 , 22	GND	Need to be in good contact with 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

GaAs MMIC Power Amplifier Chip, 2 - 6 GHz

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