GPA-0206B-CQ5B

GaAs MMIC Power Amplifier Chip, 2-6 GHz

Performance characteristics

- Frequency Range: 2 - 6 GHz
- Small Signal Gain: 19.0dB
- Gain Flatness: ± 1.0dB
- P -1 dB : 31dBm
- Psat : 31dBm
- Power supply: +8 V /365mA
- 50Ohm input / output
- Chip size: QFN 5X5

Product Introduction

GPA-0206B-CQ5B is a broadband amplifier based on GaAs technology , with a frequency range of 2GHz~6GHz, a small signal gain of 19.0dB, and a P-1 output of 31dBm. GPA-0206B-CQ5B is powered by a +8V 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.

Using the Limit Parameter	
Maximum drain voltage	+10V
Maximum gate bias	-3V
Maximum input power	+25dBm
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 =+8V)				
Index	Minimum	Typical Value	Maximum	Unit
Frequency Range		2-6		G Hz
Small Signal Gain	-	19.0	-	dB
Gain Flatness		± 1.0		dB
P -1dB	-	31	-	dBm
Psat	-	31	-	dBm
Input return loss	-	22	-	dB
Output return loss	-	9.0	-	dB
Quiescent Current		365		mA
* By tuning the Vg terminal voltage from -2V to 0V , the recommended Vg terminal voltage is -0.6V .				

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Standard Circuit

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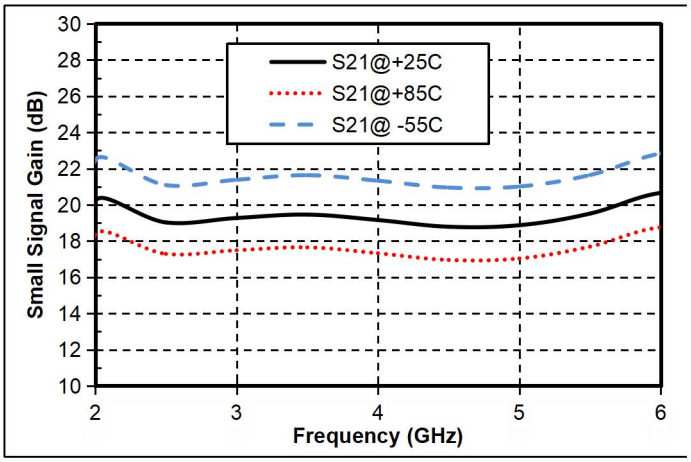
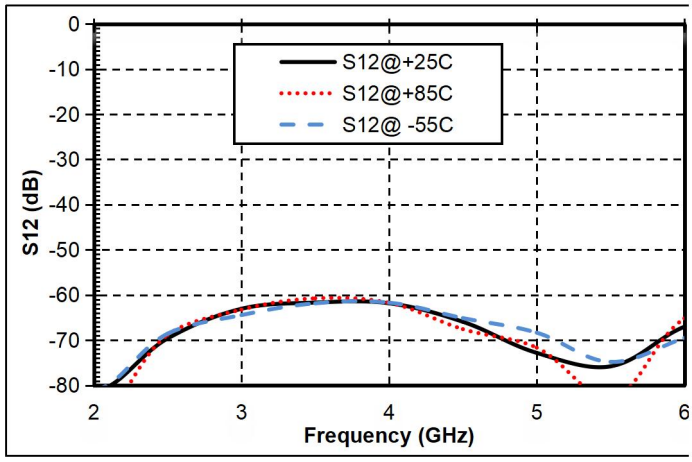
Main index test curve

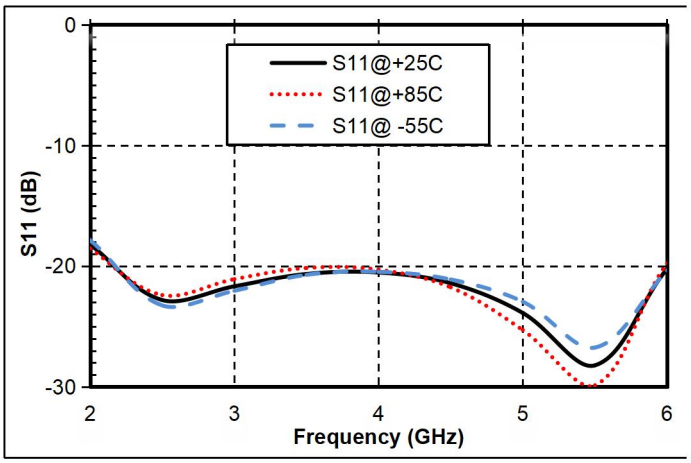
Gain vs. Frequency



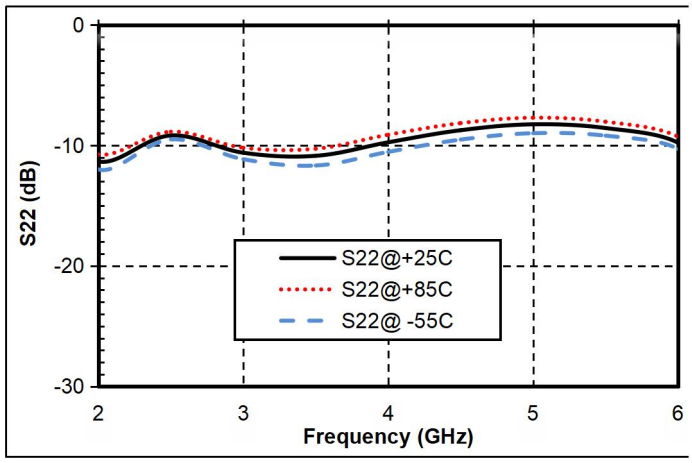
Reverse Isolation vs. Frequency



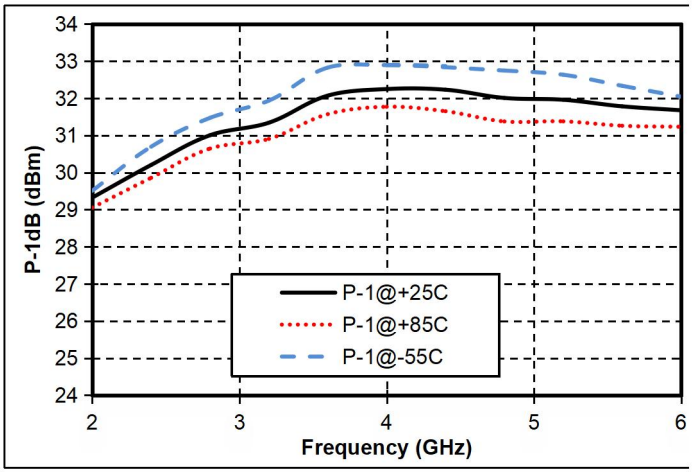
Input Return Loss vs. Frequency



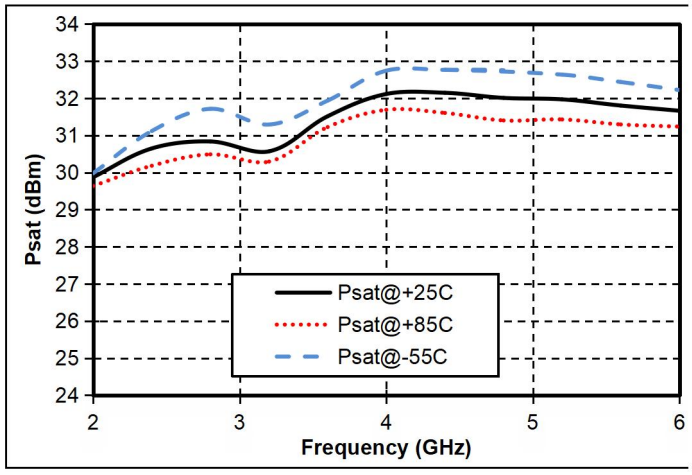
Output Return Loss vs. Frequency



P-1dB vs. Frequency



P sat vs. frequency



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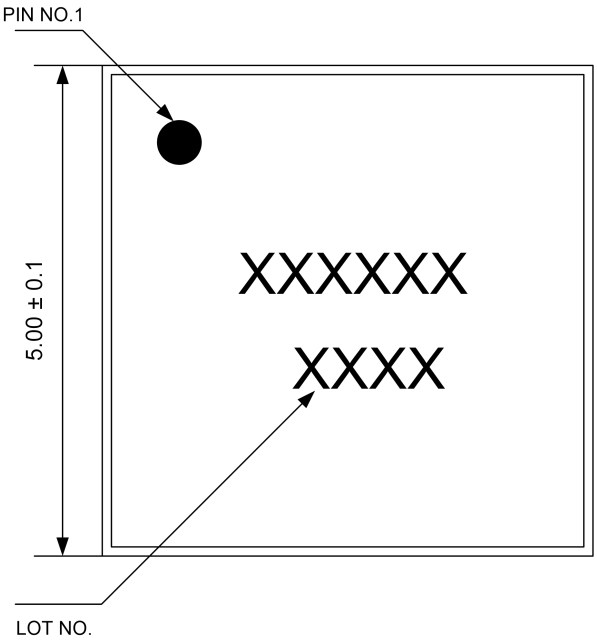
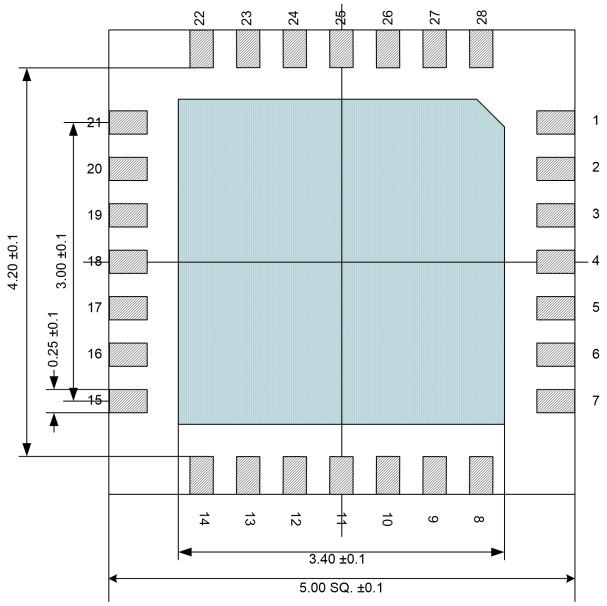
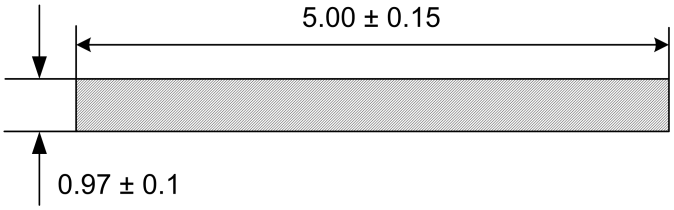
Appearance structure



Top view



Bottom view



Side View

All units in the figures are millimeters .

Pin Definition		
Pin number	Function Symbol	Functional Description
4	RFIN	RF signal input terminal, no DC blocking capacitor required
18	RFOUT	RF signal output terminal, no DC blocking capacitor required
24	VDD	Amplifier drain bias
10	V G	Amplifier Gate Bias
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

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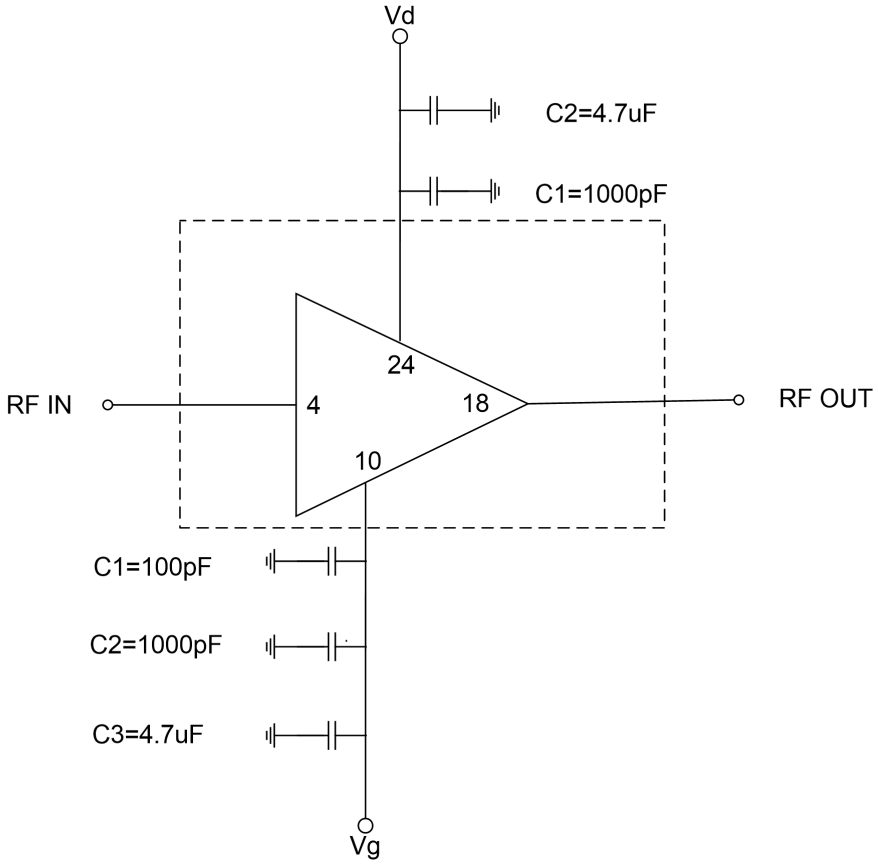
Recommended Circuit



Precautions for use

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