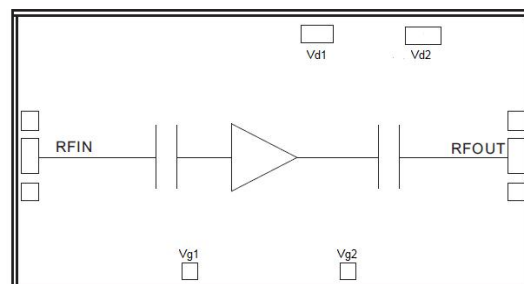


GaAs MMIC Driver Amplifier Chip , 4-8GHz

Performance characteristics

Frequency range: 4-8GHz
 Small Signal Gain: 21 dB
 Gain flatness: ± 1.6 dB
 P-1dB: 28.5 dBm
 Psat: 29 dBm
 Power supply: +8 V/ 190 mA
 50Ohm input/output
 100% on-chip testing
 Chip size : 2.32 x 1.17 x 0.1mm

Block Diagram



Product Introduction

GPA- 0408A is a broadband, high dynamic range, low noise amplifier chip based on GaAs technology, with a frequency range of 4~8GHz, a small signal gain of 21dB, and a P-1 output power of 28.5dBm . The chip is powered by a +8V power supply. The chip through-hole metallization process ensures good grounding, and the back side is metallized, which is suitable for eutectic sintering or conductive adhesive bonding process.

Use restriction parameter ¹

Maximum drain voltage	+10 V
Maximum input power	+2 0 dBm
Operating temperature	-55 ~ + 85 °C
Storage temperature	-65 ~ +150°C

【1】 Exceeding any of these maximum limits may cause permanent damage.

Electrical parameters (TA = +25° C , Vd = +8V, * Ids = 190 mA)

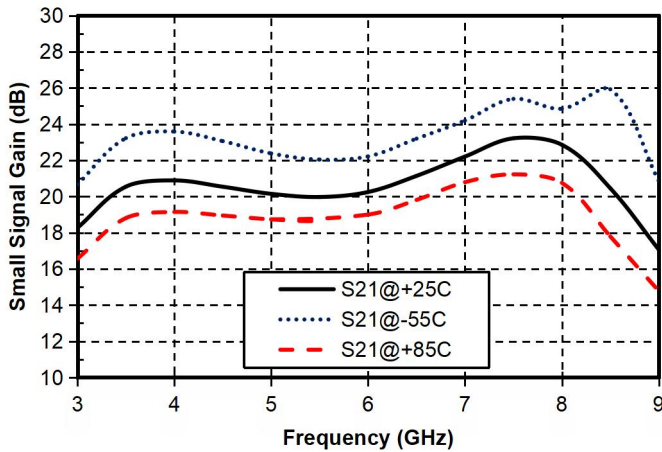
Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	4-8			GHz
Small Signal Gain	-	21	-	dB
Gain Flatness		± 1.6		dB
P -1 dB	-	28.5	-	dBm
Psat	-	29	-	dBm
Input return loss		18		dB
Output return loss		9		dB
Quiescent Current		190		mA

*By tuning the Vg terminal voltage from -2V to 0V, the recommended Vg terminal voltage is -0.7V .

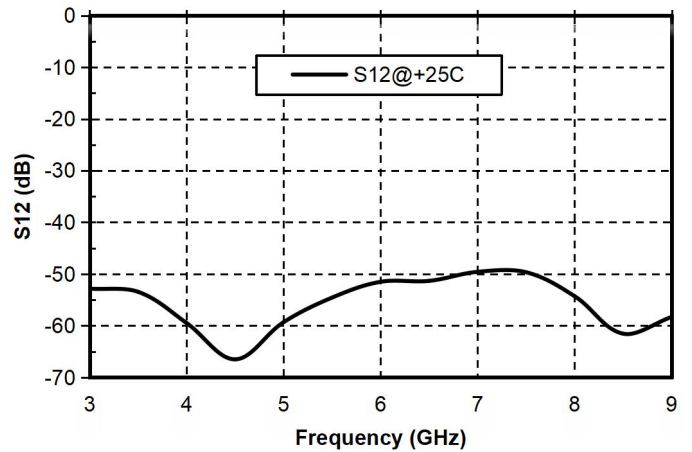
GaAs MMIC Driver Amplifier Chip , 4-8GHz

Main index test curve

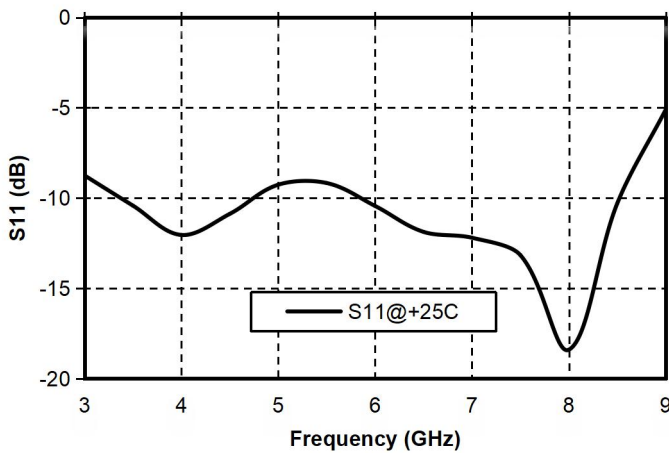
Gain vs. Frequency



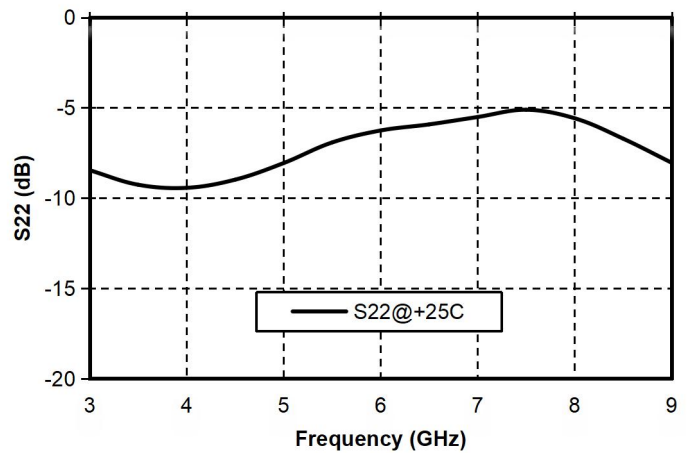
Reverse Isolation vs. Frequency



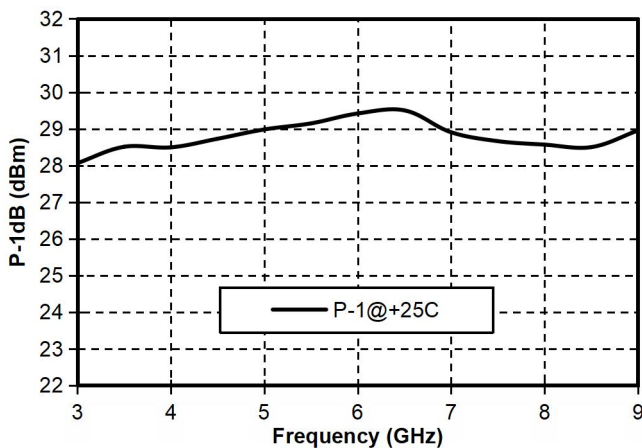
Input Return Loss vs. Frequency



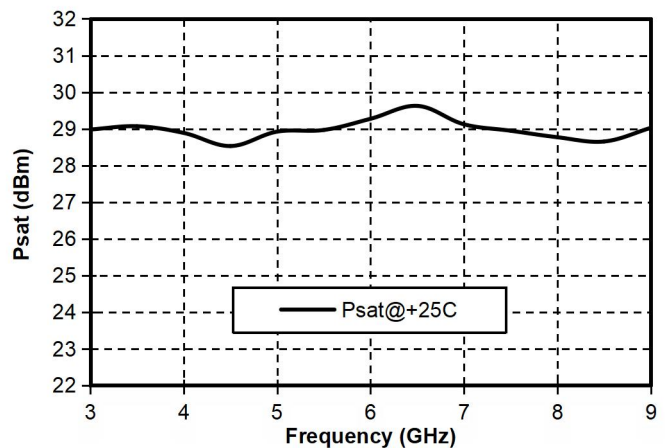
Output Return Loss vs. Frequency



P-1dB vs. Frequency

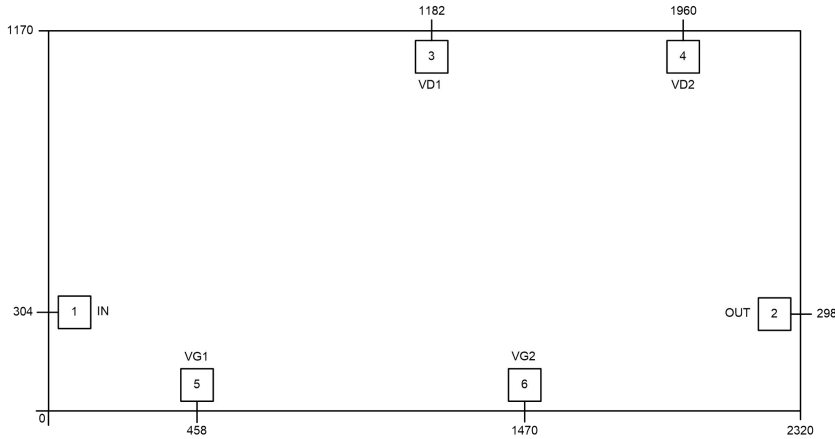


P sat vs. frequency



GaAs MMIC Driver Amplifier Chip , 4-8GHz

Appearance structure ²



【 2 】 The units in the figure are all micrometers (dimensional tolerance: $\pm 100\mu\text{m}$.)

Bonding point definition

Bonding point number	Function Symbol	Functional Description
1	RF IN	RF signal input terminal, no DC blocking capacitor required.
2	RF OUT	RF signal output terminal, no DC blocking capacitor required.
3,4	Vd 1, Vd 2	Amplifier drain bias, external 10 pF, 1000 pF, 3.3 uF bypass capacitors are required.
5, 6	Vg1, Vg2	Amplifier gate bias, external 10 pF, 1000 pF, 3.3 uF bypass capacitors are required.
Chip bottom	GND	needs to be in good contact with the RF and DC grounds.

Recommended assembly diagram

