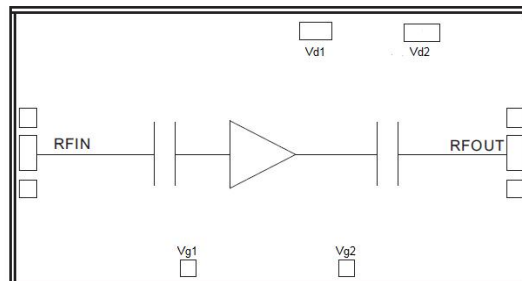


## GaAs MMIC Driver Amplifier Chip , 0.5-2.5GHz

### Performance characteristics

Frequency range: 0.5-2.5GHz  
 Small Signal Gain: 29dB  
 Gain flatness:  $\pm 1.25$ dB  
 P-1dB: 27.5dBm  
 Psat: 28 dBm  
 Power supply: +8 V/ 155 mA  
 50Ohm input/output  
 100% on-chip testing  
 Chip size : 2.02 x 1.57 x 0.1mm

### Block Diagram



### Product Introduction

GPA-005025C is a broadband, high dynamic range, low noise amplifier chip based on GaAs technology, with a frequency range of 0.5~2.5GHz, a small signal gain of 29dB, and a P-1 output power of 27.5dBm . 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 <sup>1</sup>

Maximum drain voltage	+10 V
Maximum input power	+2 5 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 = 155 mA)

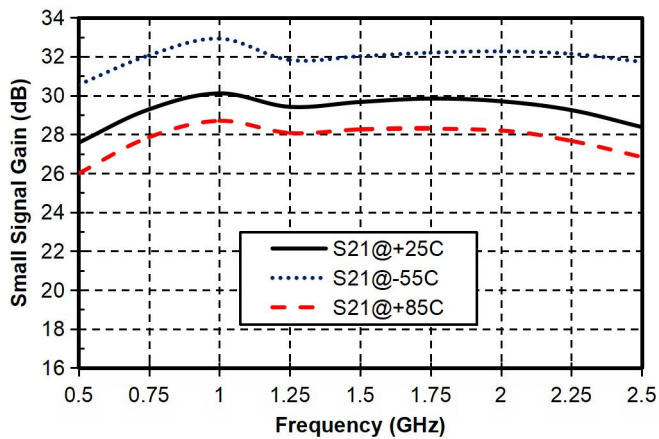
index	Minimum	Typical Value	Maximum	unit
Frequency Range	0.5-2.5			GHz
Small Signal Gain	-	29	-	dB
Gain Flatness		$\pm 1.25$		dB
P -1 dB	-	27.5	-	dBm
Psat	-	28	-	dBm
Input return loss		18		dB
Output return loss		9		dB
Quiescent Current		155		mA

\*By tuning the Vg terminal voltage from -2V to 0V, the recommended Vg terminal voltage is -0.65V .

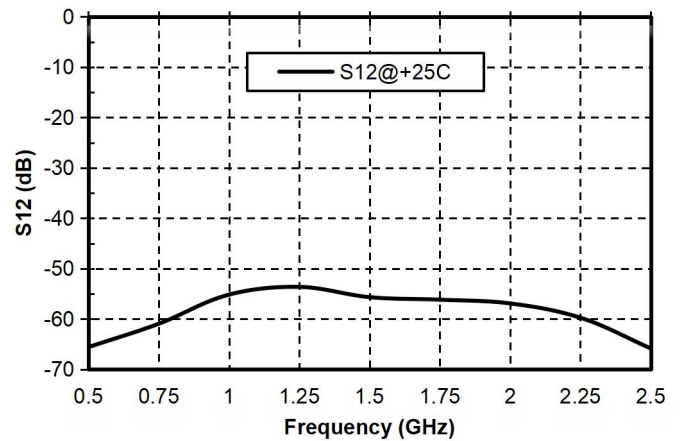
## GaAs MMIC Driver Amplifier Chip , 0.5-2.5GHz

Main index test curve

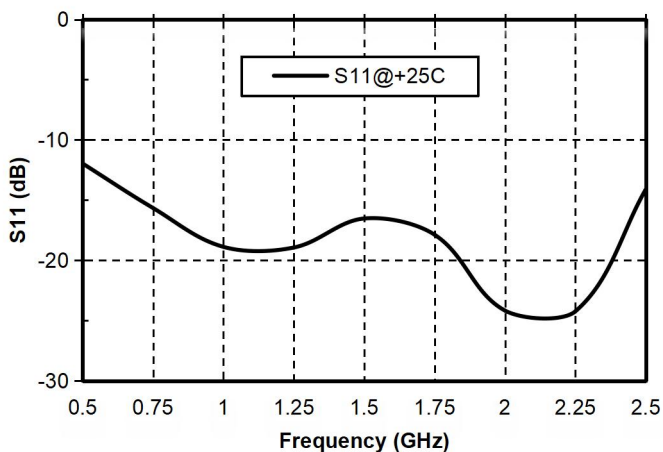
Gain vs. Frequency



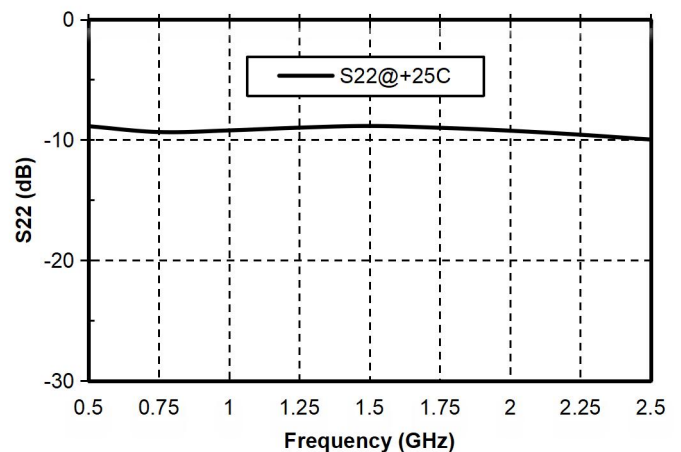
Reverse Isolation vs. Frequency



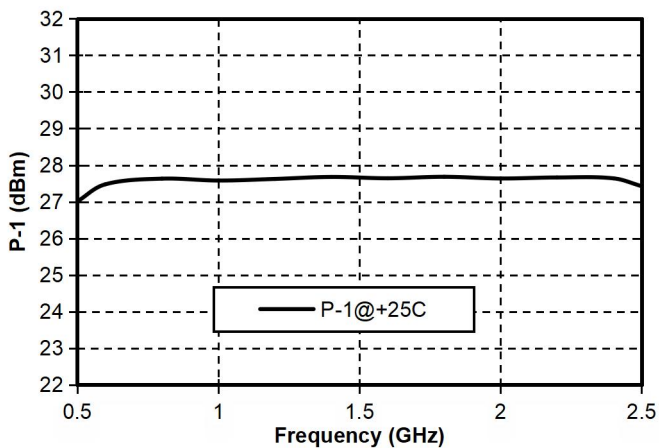
Input Return Loss vs. Frequency



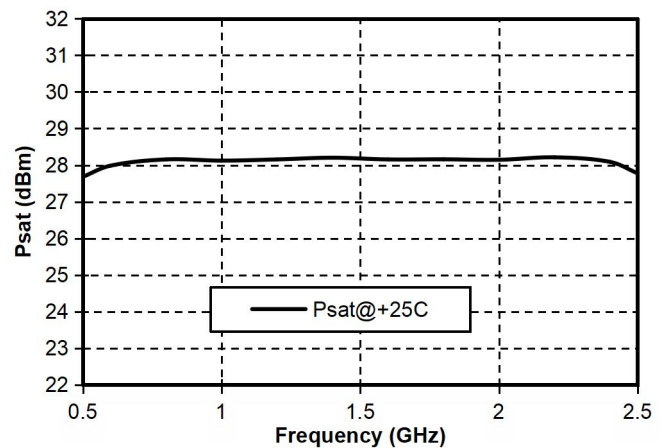
Output Return Loss vs. Frequency



P-1dB vs. Frequency

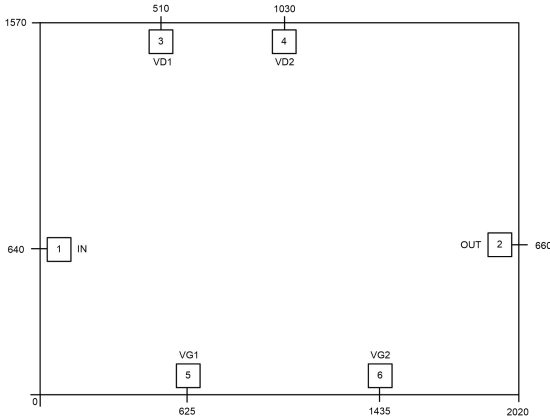


P sat vs. frequency



## GaAs MMIC Driver Amplifier Chip , 0.5-2.5GHz

### Appearance structure <sup>2</sup>



【 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

