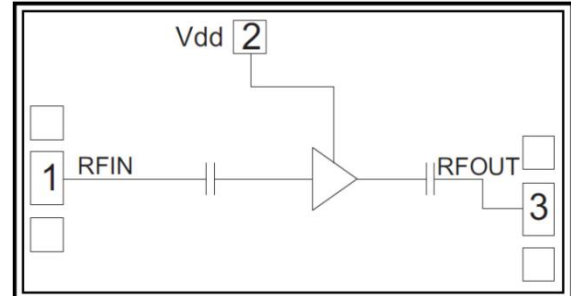


GaAs MMIC High Dynamic Amplifier, 6-18GHz

Features:

Freq. Range: 6-18GHz
 Gain: 9.5dB
 Gain Flatness: ± 0.25 dB
 NF: 3.5dB, typ.
 P-1dB: 19.5dBm
 Psat: 20.5dBm
 Supply: +5V/75mA
 50Ohm Input/Output
 100% On Wafer Test
 Size: 1.65 x 1.05 x 0.1mm

Functional Diagram:



Product Introduction:

IPA-0618B is a wideband, high dynamic, low noise Amplifier based on GaAs technology, with a frequency range of 6~18GHz, a gain of 9.5dB, and a P-1 output power of 19.5dBm. The chip uses +5V single power supply. The chip via metallization process ensures good grounding, and the back side is metallized, which is suitable for eutectic sintering or conductive adhesive bonding process.

Absolute Maximum Ratings¹

Maximum Vdd	+7V
Maximum Input Power	+20dBm
Working Temperature	-55 ~ +85°C
Storage Temperature	-65 ~ +150°C
【1】 Exceeding any of the above maximum limits may cause permanent damage.	

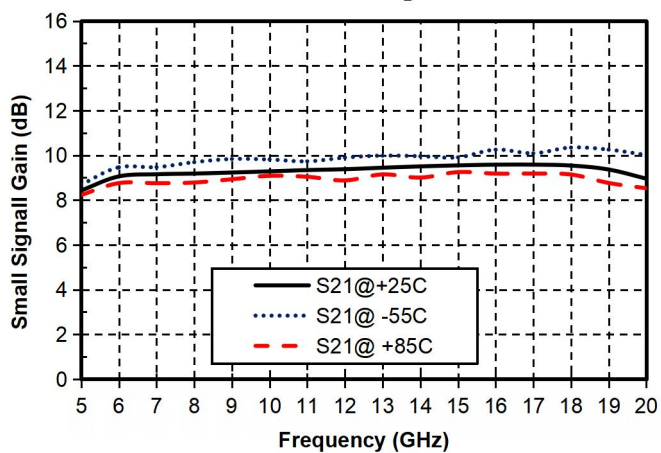
Electrical Specifications($T_A = +25^\circ\text{C}$, $V_d = +5\text{V}$)

Parameter	Min.	Typ.	Max.	Units
Freq. Range	6-18			GHz
Gain	-	9.5	-	dB
Gain Flatness	± 0.25			dB
NF	3.2	3.5	3.7	dB
P-1dB	19	19.5	-	dBm
Psat	20	20.5	-	dBm
Input Return Loss	13	18	-	dB
Output Return Loss	17	18	-	dB
Current	75			mA

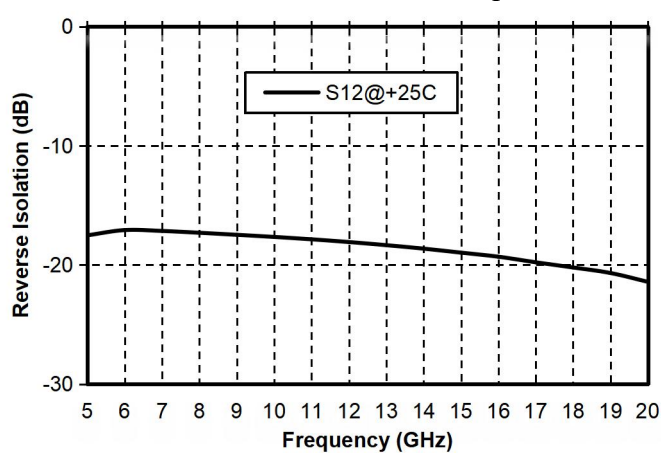
GaAs MMIC High Dynamic Amplifier, 6-18GHz

Test Curve

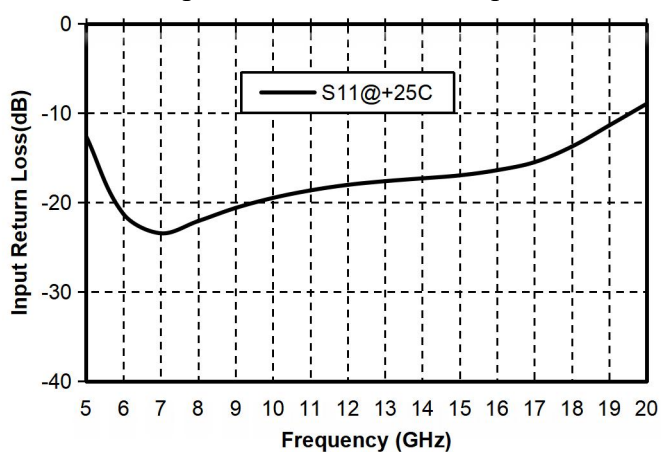
Gain vs. Freq.



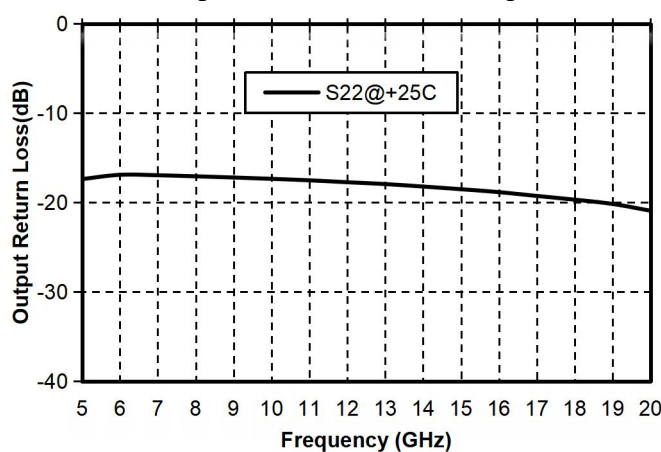
Reverse Isolation vs. Freq.



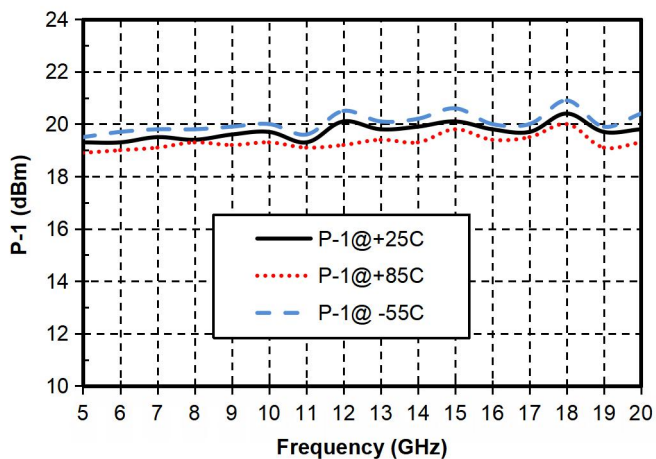
Input Return Loss vs. Freq.



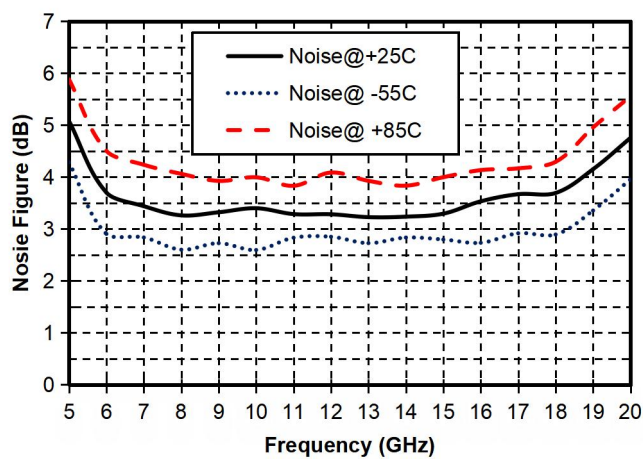
Output Return Loss vs. Freq.



P-1dB vs. Freq.

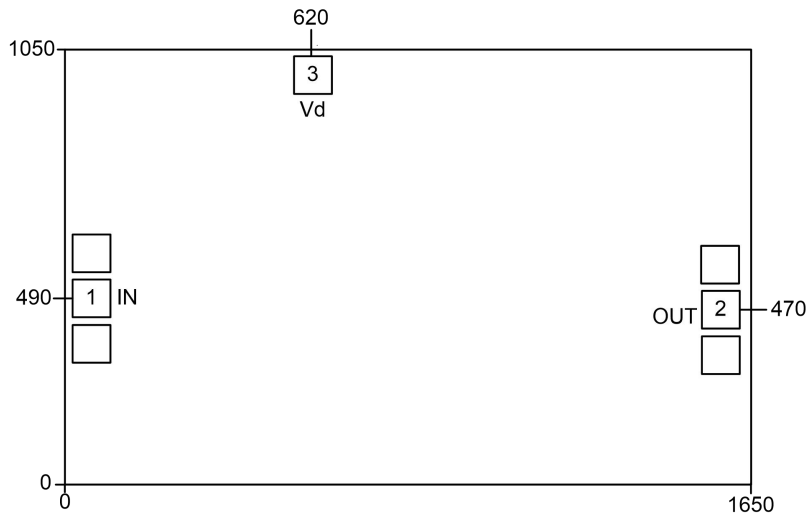


NF vs. Freq.







GaAs MMIC High Dynamic Amplifier, 6-18GHz

Outline Drawing²



【2】 The units in the figure are all microns.

Pad Descriptions			
Pad Number	Function Symbol	Description	Equivalent Circuit
1	RF IN	RF signal input terminal, no DC blocking capacitor is required	
2	RF OUT	RF signal output terminal, no DC blocking capacitor is required	
3	Vd	Amplifier drain bias, an external bypass capacitor of 100pF is required	
Bottom of the chip	GND	Bottom of the chip needs to be well grounded with RF and DC	

GaAs MMIC High Dynamic Amplifier, 6-18GHz

Recommended assembly drawing

