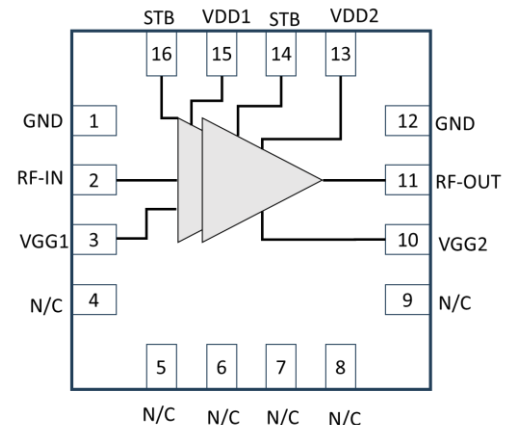


### Features:

- RF Frequency: 2 - 6 GHz
- Small signal gain: 28.2 dB
- Output P1dB : 26 dBm
- Saturated Output Power: 29 dBm
- DC drain bias voltage: 4 V
- DC gate bias voltage: - 0.5 V
- DC supply current: 355.5 mA
- 0.1um GaAs pHEMT Technology
- Die Size : 1.15 mm \* 1.45 mm

### Functional Block Diagram



### Description:

RFPA06S2 is Two-Stage Power Amplifier that operates from 2 - 6 GHz and it is used to drive the high-power amplifier. The amplifier provides 28.2 dB of small signal gain, and the input and output are matched to 50 ohms with an off-chip matching network.

The device is specifically designed for use in 2-6 GHz frequency in Bluetooth, Radar Systems, WiFi, IoT, and SATCOM Applications.

The Technology used to design PA is 0.1um GaAs pHEMT Process.

### Pin Configuration

Pin No.	Pin Name	Description
2	RF-IN	RF Input
11	RF-OUT	RF Output
1,12	GND	Ground
3	VGG1	Voltage Gate Bias-1
10	VGG2	Voltage Gate Bias-2
15	VDD2	Voltage Drain Bias-2
13	VDD1	Voltage Drain Bias-1
14,16	STB	Stability
4,5,6,7,8,9	N/C	Not Connected

### Applications:

- Bluetooth
- Radar Systems
- SATCOM
- IoT
- Wi-Fi

### Deliverables:

- Sample Ready Packaged Die
- Test Results
- Product Datasheet

### Electrical Specification:

Freq= 2 - 6 GHz, VDD= 4 V, VGG1=VGG2= - 0.5 V, ID= 355.5 mA, Zo=50 Ω

Parameters	Test Condition	Units	Typ
Gain	2 GHz	dB	26
	4 GHz		28.2
	6 GHz		26
Output P1 dB	2 GHz	dBm	-
	4 GHz		26
	6 GHz		-
OIP3 Pin= 1 dBm Δf = 50MHz	2 GHz	dBm	-
	4 GHz		38.8
	6 GHz		-
Input Return Loss	2 GHz	dB	10
	4 GHz		9
	6 GHz		4
Output Return Loss	2 GHz	dB	2
	4 GHz		20.8
	6 GHz		5.4
<b>Operating Bias Conditions</b>			
Drain Current (Id)	-	mA	355.5
Drain Voltage (VDD)	-	V	4
Gate Voltage (VGG)	-	V	-0.5

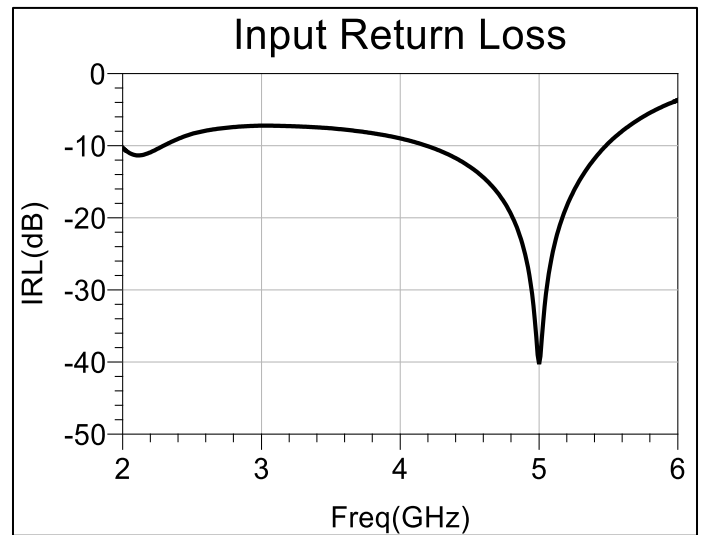
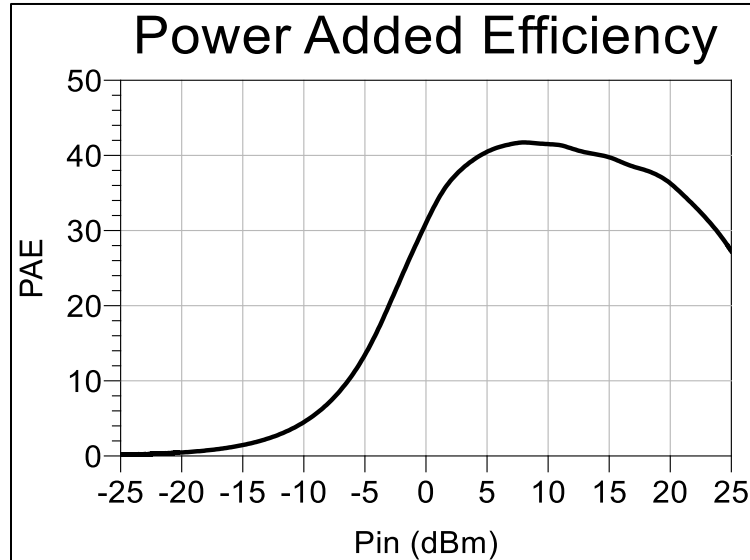
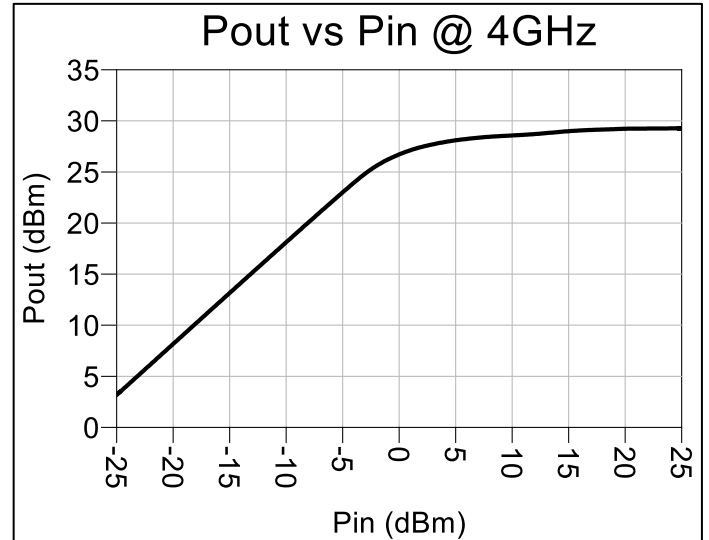
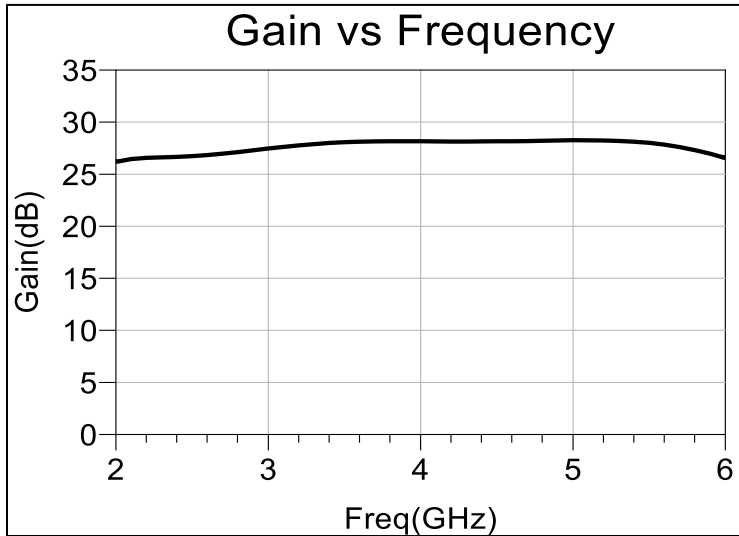
# Power Amplifier

PRE-RELEASE DATASHEET



RFPA06S2

## Typical Performance Curves:



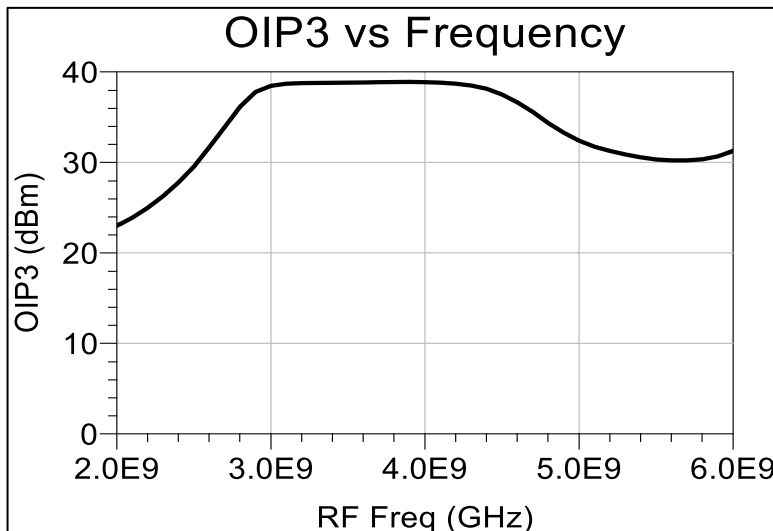
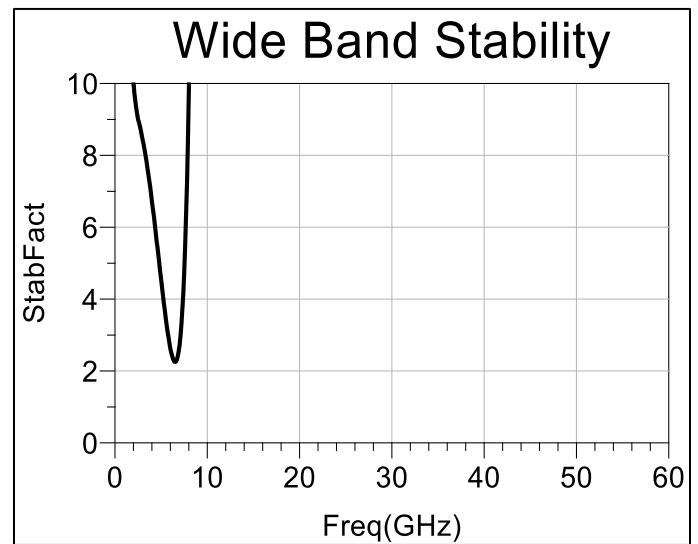
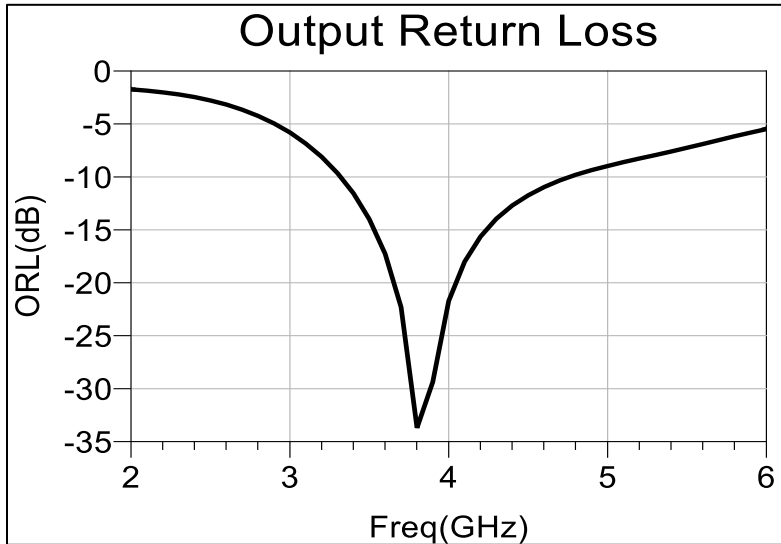
Signify RF confidential property not to be copied or disclosed without prior authorization.

# Power Amplifier



PRE-RELEASE DATASHEET

RFPA06S2



Signify RF confidential property not to be copied or disclosed without prior authorization.

[www.signifyrf.com](http://www.signifyrf.com)

JUNE 2026

### Disclaimer:

Information in this document is provided in connection with Signify RF products. These materials are provided by Signify RF as a service to its customers and may be used for informational purposes only. Except as provided in Signify RF Terms and Conditions of Sale for such products or in any separate agreement related to this document, RFIC Solutions Inc. assumes no liability whatsoever. Signify RF assumes no responsibility for errors or omissions in these materials. Signify RF may make changes to specifications and product descriptions at any time, without notice. Signify RF makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppels or otherwise, to any intellectual property rights is granted by this document.

### Contact information

For the latest specifications, additional product information:

Web: [www.signifyrf.com](http://www.signifyrf.com)

Email: [sales@signifyrf.com](mailto:sales@signifyrf.com)

Tel: (+91) 840 356 8957, (+91)9022078131, (+91)8485841789