AGLNA008020

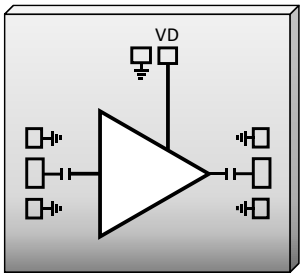
GaAs MMIC
0.8 – 2.0GHz Low Noise Amplifier

Typical Applications

- Telecom Infrastructure

Features

- Frequency Range: 0.8 – 2.0 GHz
- Noise Figure: 0.8dB
- Gain: 31.6dB
- P1dB: +9.5dBm
- Self-Biased: +5V @ 60mA Single Supply
- 50Ω Matched Input/Output DC blocked
- Chip Size: 2.50 x 2.50 x 0.100 mm





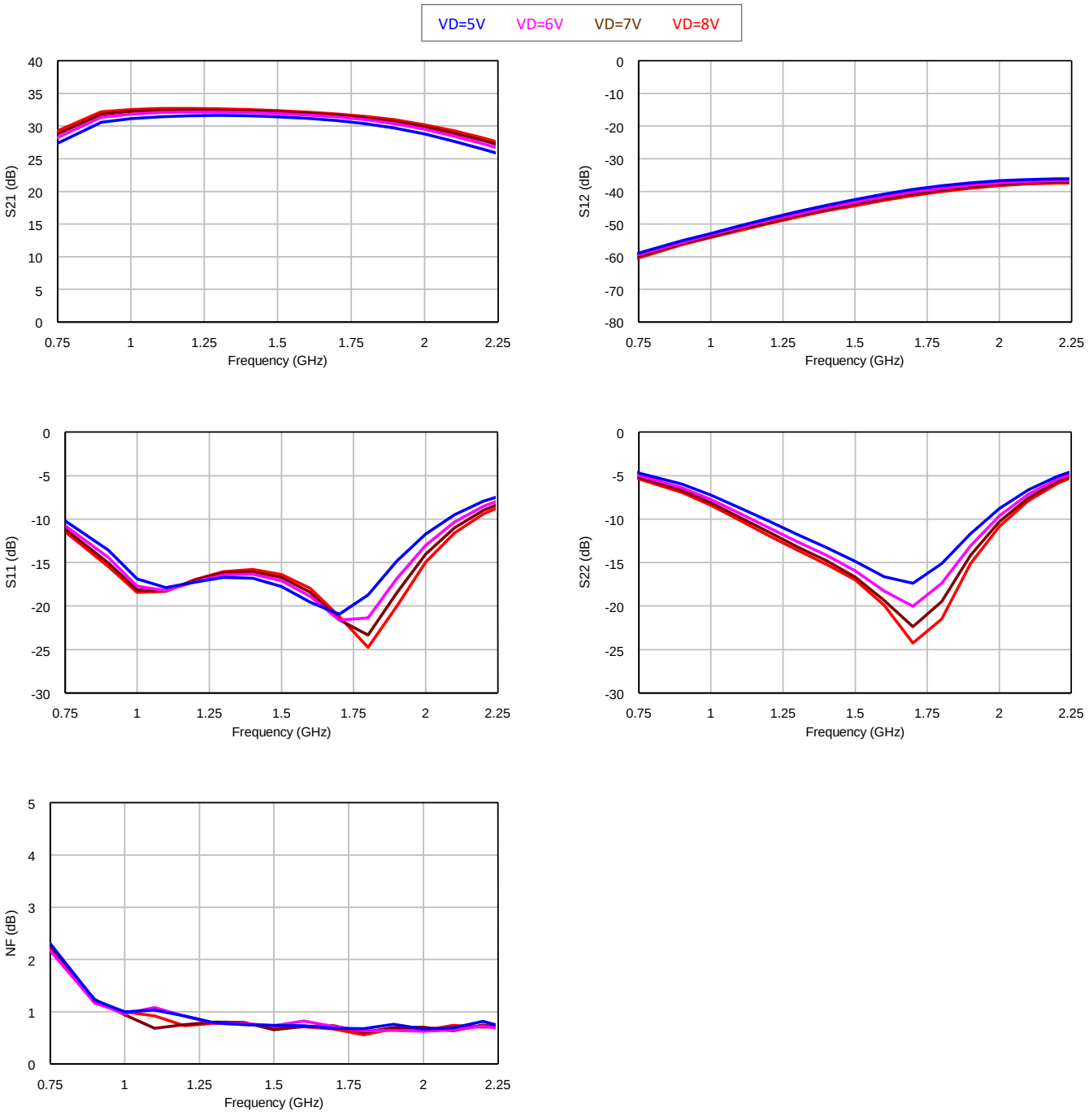
Electrical Specifications (TA = +25°C, VD = +5V, ID = 60mA)

Parameter	Units	Minimum	Typical	Maximum
Frequency	GHz	0.8		2.0
Gain	dB		31.6	
Gain Flatness	dB		± 3	
Noise Figure	dB		0.8	
Input Return Loss	dB		16	
Output Return Loss	dB		11	
P1dB	dBm		+9.5	
Supply Voltage	V		+5	
Supply Current	mA		60	
DC Dissipated Power	mW		300	
Package Type			Die	

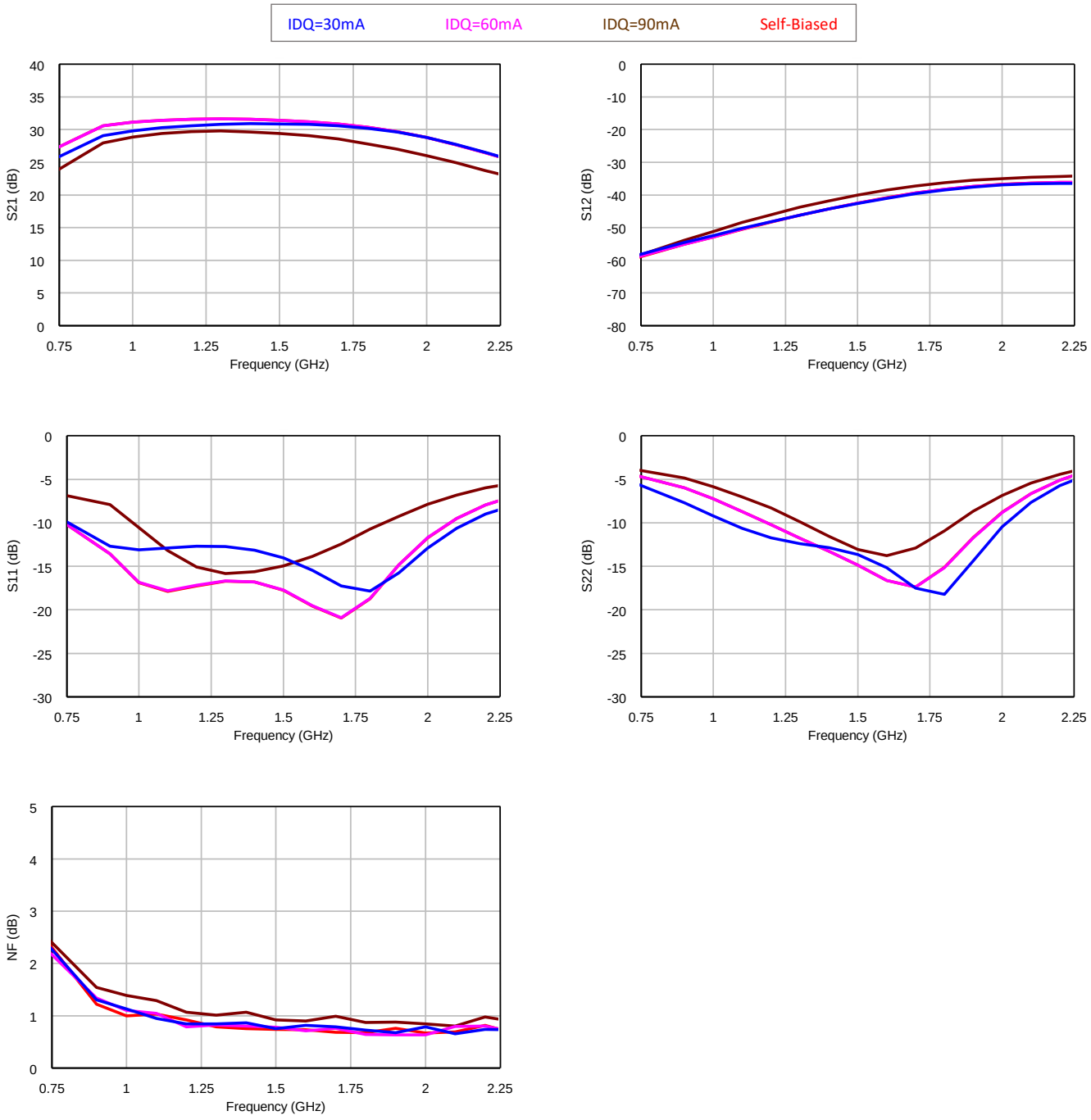
Low Noise Amplifiers - Die

Performance Graphs

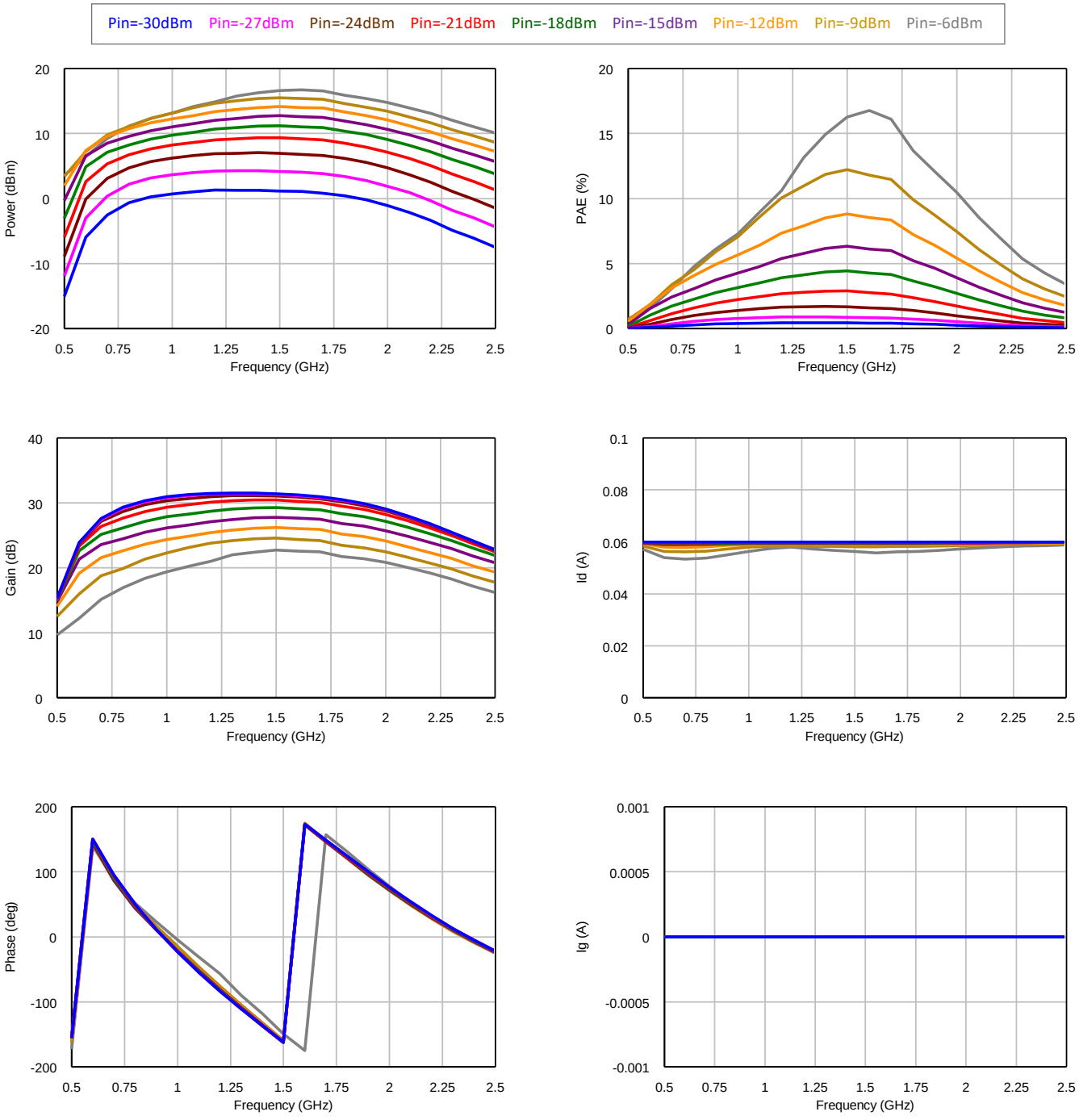
S-Parameters and Noise Figure vs. VD @ 25°C, Self-Biased



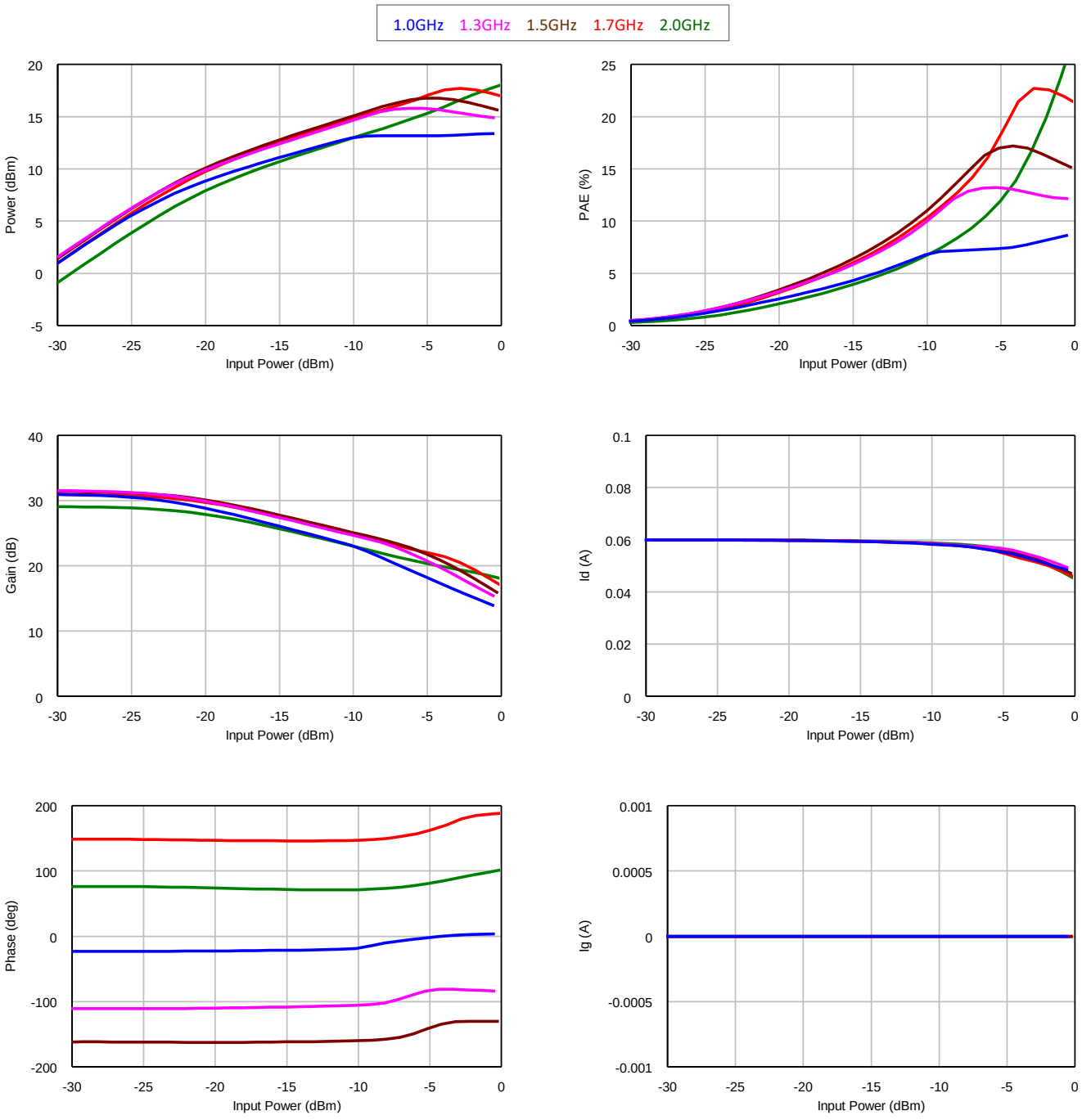
S-Parameters and Noise Figure vs. IDQ @ 25°C, VD=5V



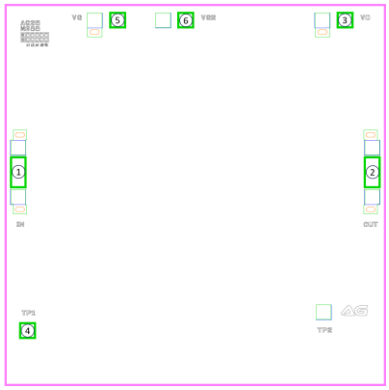
Frequency Response vs. Input Power (25°C, VD=5V, Self-Biased)



Power Sweep vs. FREQ (25°C, VD=5V, Self-Biased)



Outline Drawing



Pad Descriptions

Pad	Function	Pad Size	Description
1	RFIN	100x200µm	AC coupled 50Ω Matched
2	RFOUT	100x200µm	AC coupled 50Ω Matched
3	VD	100x100µm	Drain Power Supply voltage, bypass capacitors needed*
4	TP1	100x100um	No Connect, Optional Bias Configuration
5	VG	100x100µm	No Connect, Optional Bias Configuration
6	VG2	100x100um	No Connect, Optional Bias Configuration
Die Bottom	GND	Backside	Epoxy/Solder to Baseplate

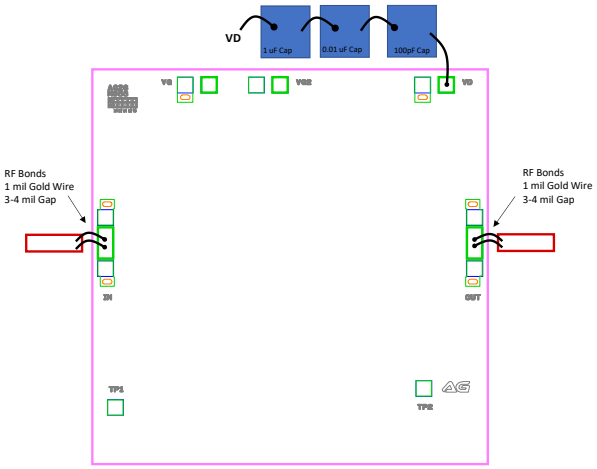
*See Assembly Diagram

Absolute Maximum Ratings

Parameter	Rating
Drain Bias Voltage (VDD)	+8V DC
RF Input Power (RFIN)	0dBm*
Channel Temperature	150°C
Storage Temperature	-65 to 150°C
Operating Temperature	-55 to 85°C

*To be tested

Assembly Diagram



Assembly Notes:

1. Die Thickness is 100µm
2. Bondpad metallization: 4µm gold
3. Backside metallization: 4µm gold
4. Silver Epoxy or AuSn Eutectic attach MMIC



Die Packaging Information

- GP-4 (Gel-Pak)

Important Notice

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