AGLNA020150

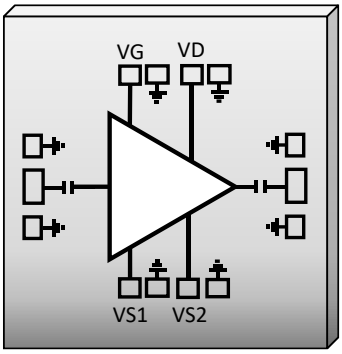
GaAs MMIC
2 – 15GHz Low Noise Amplifier

Typical Applications

- Military EW Systems
- SATCOM
- Telecom Infrastructure

Features

- Frequency Range: 2.0 – 15.0 GHz
- Noise Figure: 2.0dB
- Gain: 15dB
- P1dB: 7dBm
- Self-Biased: +3V @ 20mA Single Supply
- 50Ω Matched Input/Output DC blocked
- Chip Size: 2.50 x 1.50 x 0.100 mm





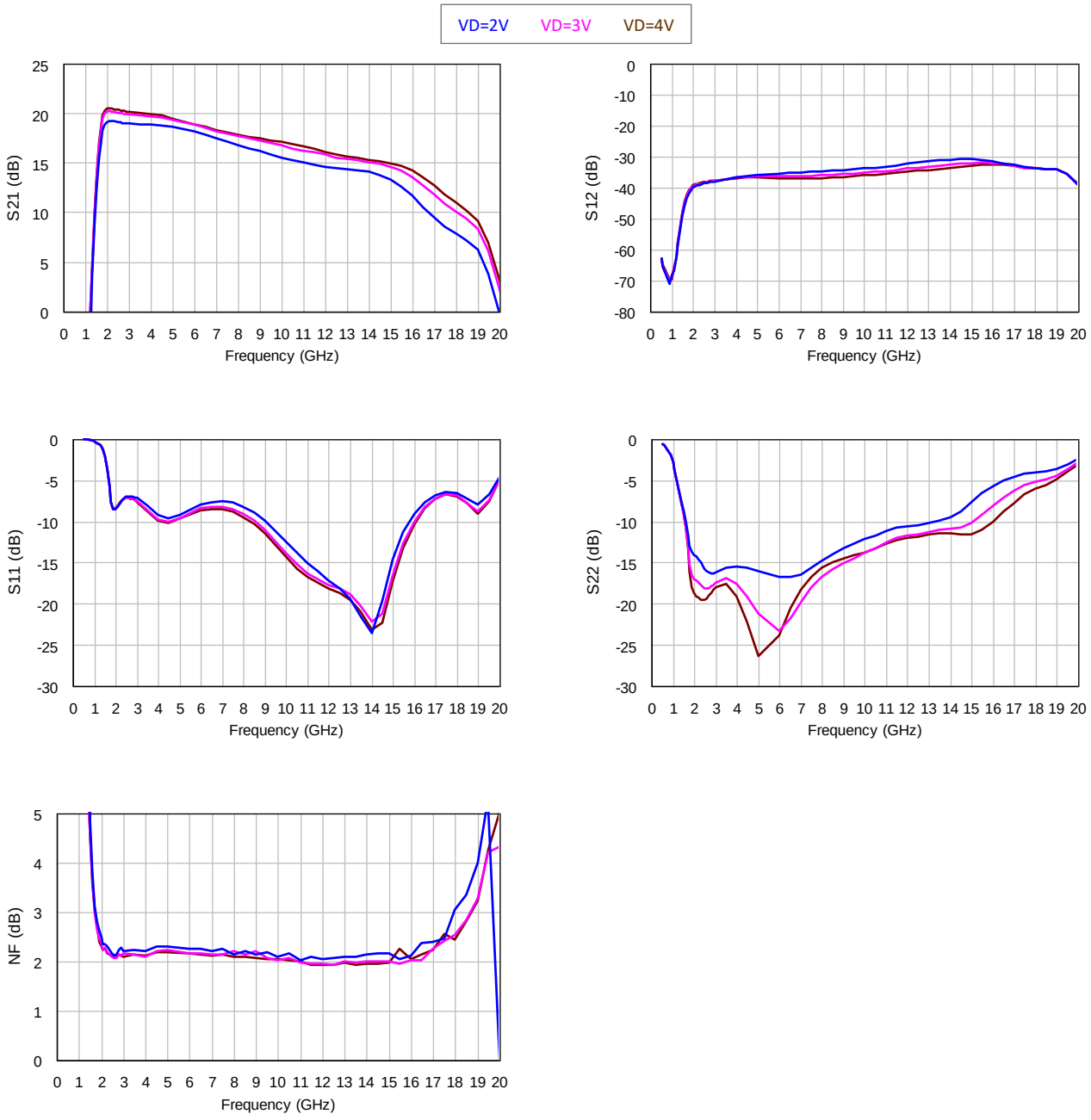
Electrical Specifications (TA = +25°C, VD = +3.0V, ID = 20mA)

Parameter	Units	Minimum	Typical	Maximum
Frequency	GHz	2.0		15.0
Gain	dB		17	
Gain Flatness	dB		± 2.5	
Noise Figure	dB		2	
Input Return Loss	dB	8	10	
Output Return Loss	dB	10	12	
P1dB	dBm		7	
Supply Voltage	V		+3	
Supply Current	mA		20	
DC Dissipated Power	mW		60	
Package Type			Die	

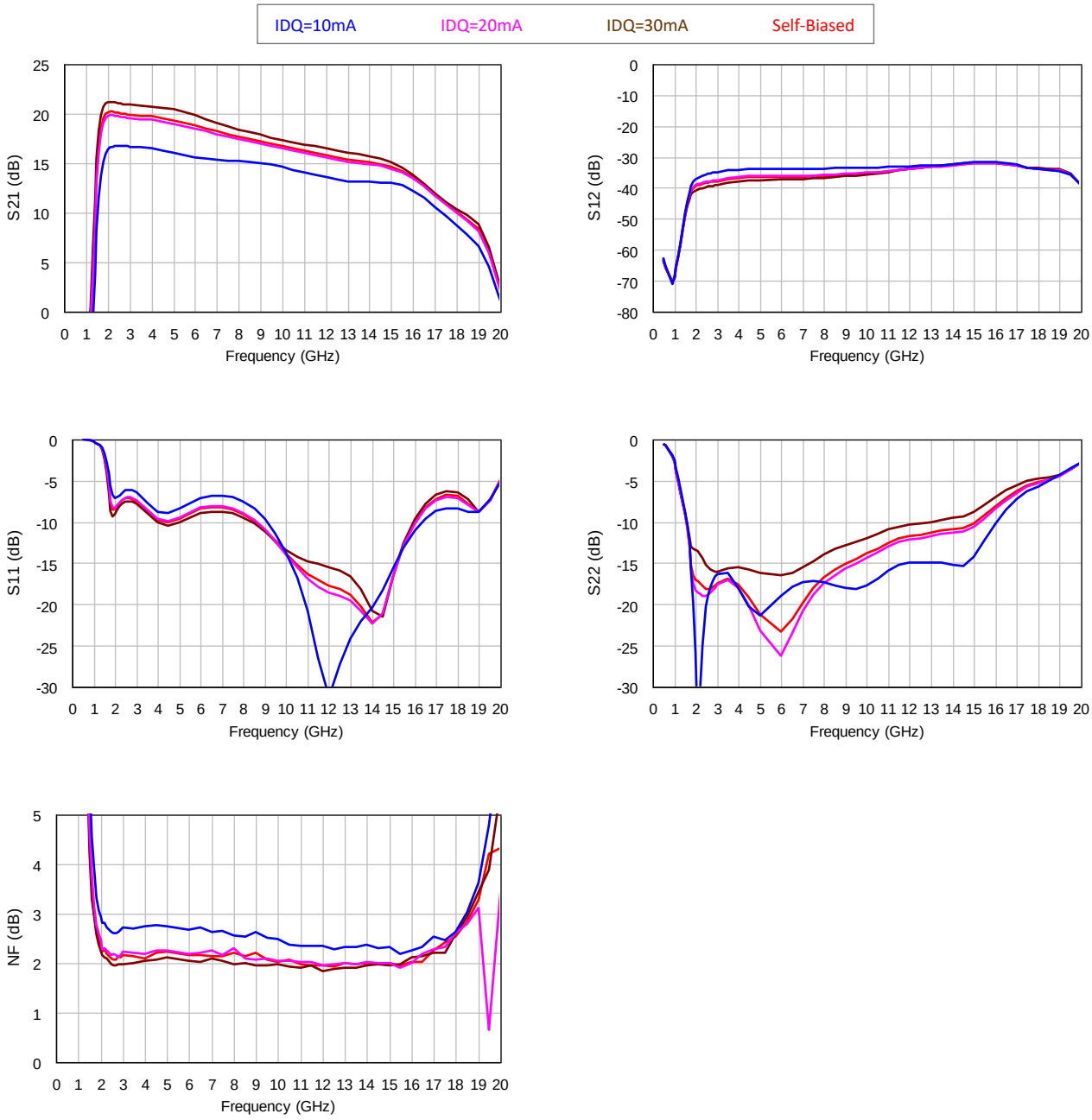
Low Noise Amplifiers - Die

Performance Graphs

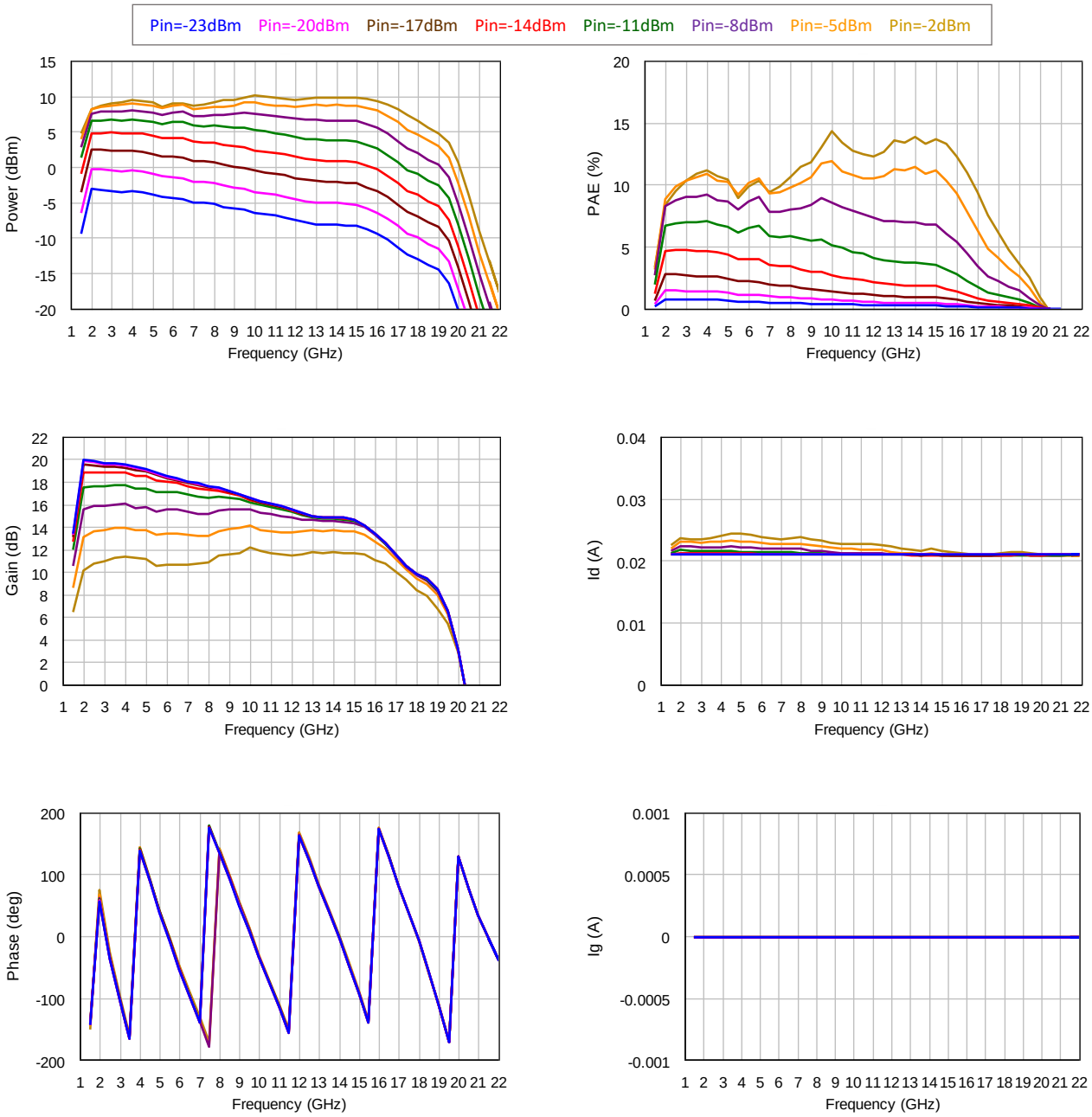
S-Parameters and Noise Figure vs. VD @ 25°C, Self-Biased



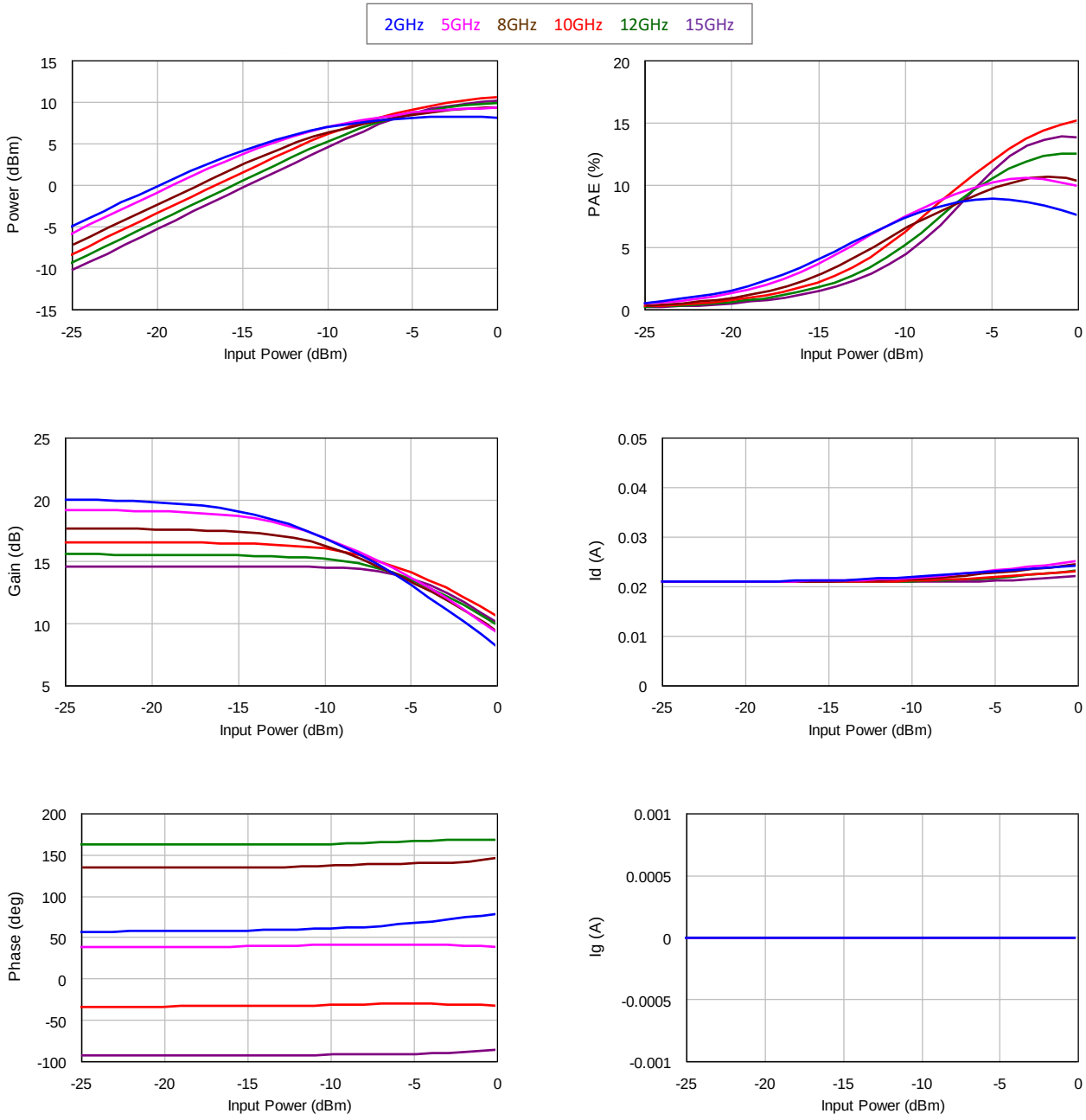
S-Parameters and Noise Figure vs. IDQ @ 25°C, VD=3V



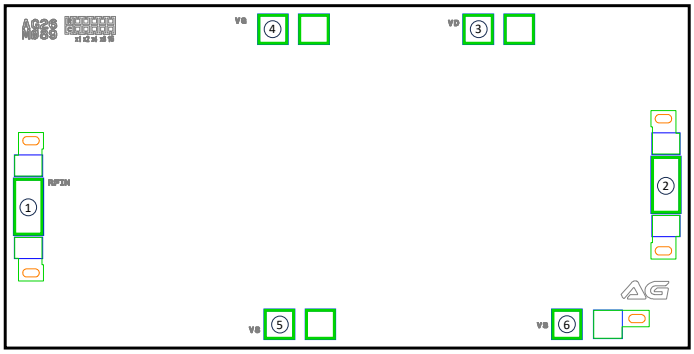
Frequency Response vs. Input Power (25°C, VD=3V, Self-Biased)



Power Sweep vs. FREQ (25°C, VD=3V, 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	102x102µm	Drain Power Supply voltage, bypass capacitors needed*
4	VG	102x102µm	No connect, Optional Bias Configuration
5	VS1	102x102um	No connect, Optional Bias Configuration
6	VS2	102x102um	No connect, Optional Bias Configuration
Die Bottom	GND	Backside	Epoxy/Solder to Baseplate

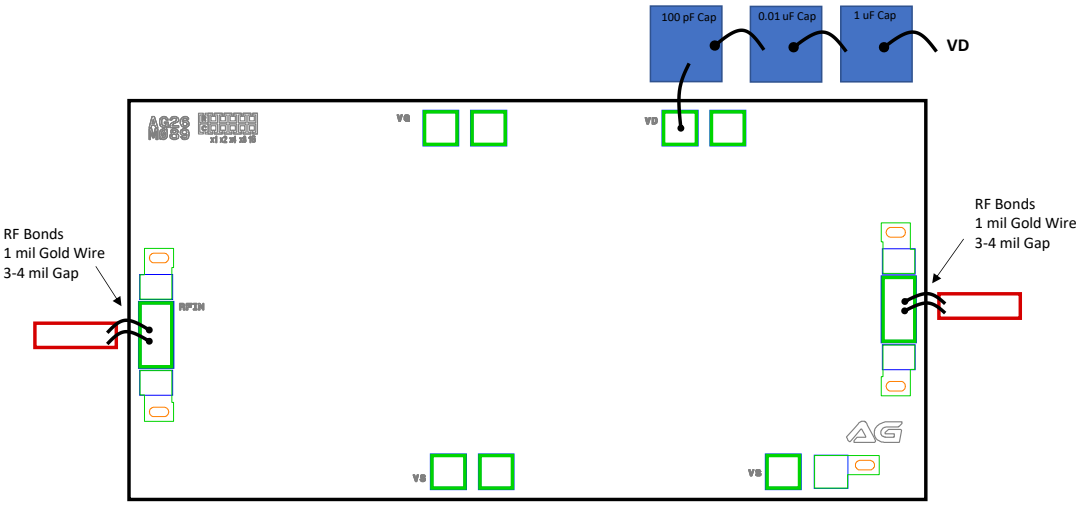
*See Assembly Diagram

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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