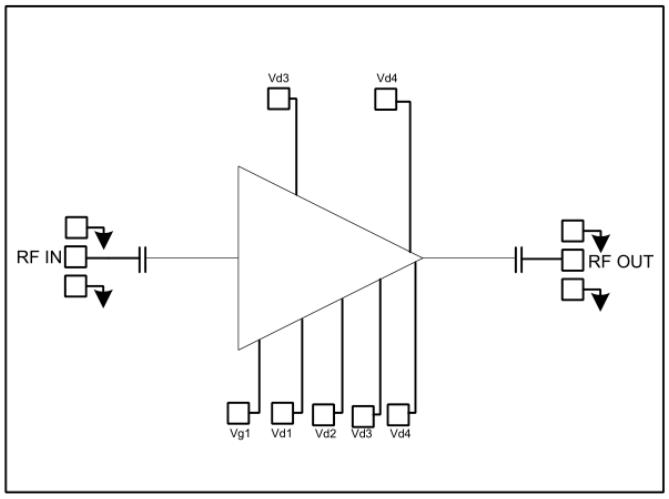
V1.0.0

GaAs MMIC
Power Amplifier
15-17GHz

Features

- Frequency: 15-17GHz
- Small Signal Gain: 37dB
- Power Gain: 34dB
- P1dB: 34dBm
- Psat: 35dBm
- PAE: 38%-40%
- Power supply: 7V/660mA
- Input/Output: 50Ω
- Die Size: 3.3 x 1.6 x 0.1 mm

Functional Block Diagram



Typical Applications

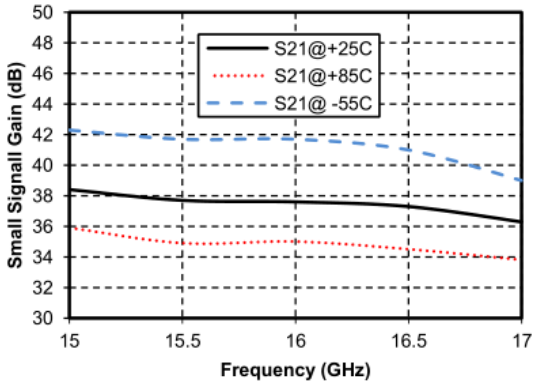
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

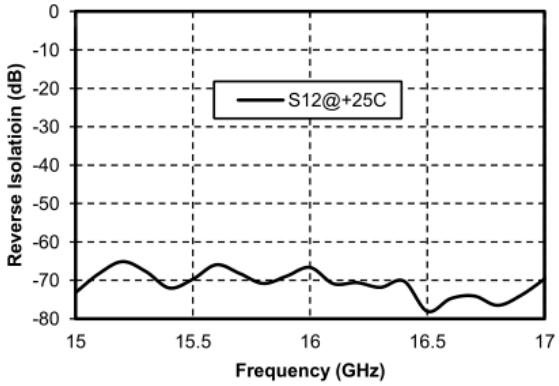
TA = +25°C, Vd = +7V, Ids=660mA

Parameters	Min.	Typ.	Max.	Units
Frequency		15-17		GHz
Small Signal Gain	36.5	37	37.5	dB
Gain Flatness		±0.5		dB
Output 1dB Compression (P1dB)	-	34	34.5	dBm
Saturated Output Power (Psat)	-	35	-	dBm
Input Return Loss	-	15	-	dB
Output Return Loss	-	13	-	dB
* Adjust VG (-2V-0V) to obtain device current of 660mA. (Recommended gate voltage -0.9V).				

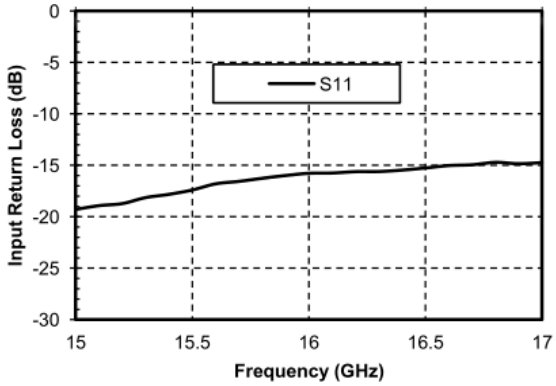
Gain vs. Frequency



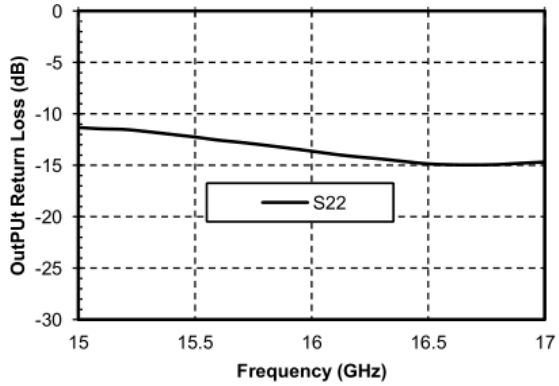
Reverse Isolation vs. Frequency



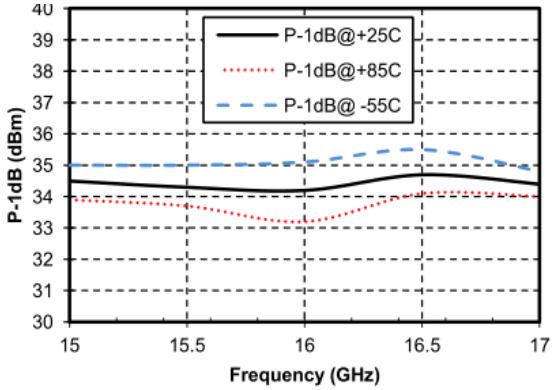
Input Return Loss vs. Frequency



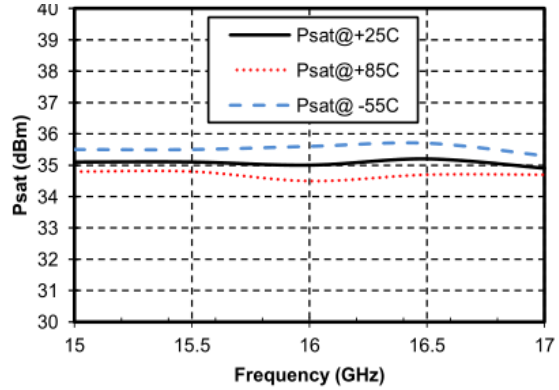
Output Return Loss vs. Frequency



P1dB vs. Frequency



Psat vs. Frequency

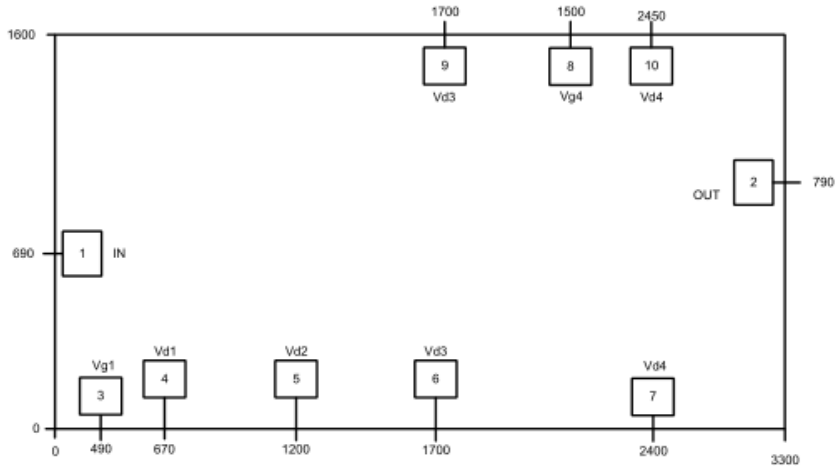


V1.0.0

GaAs MMIC
Power Amplifier
15-17GHz

Outline Drawing:

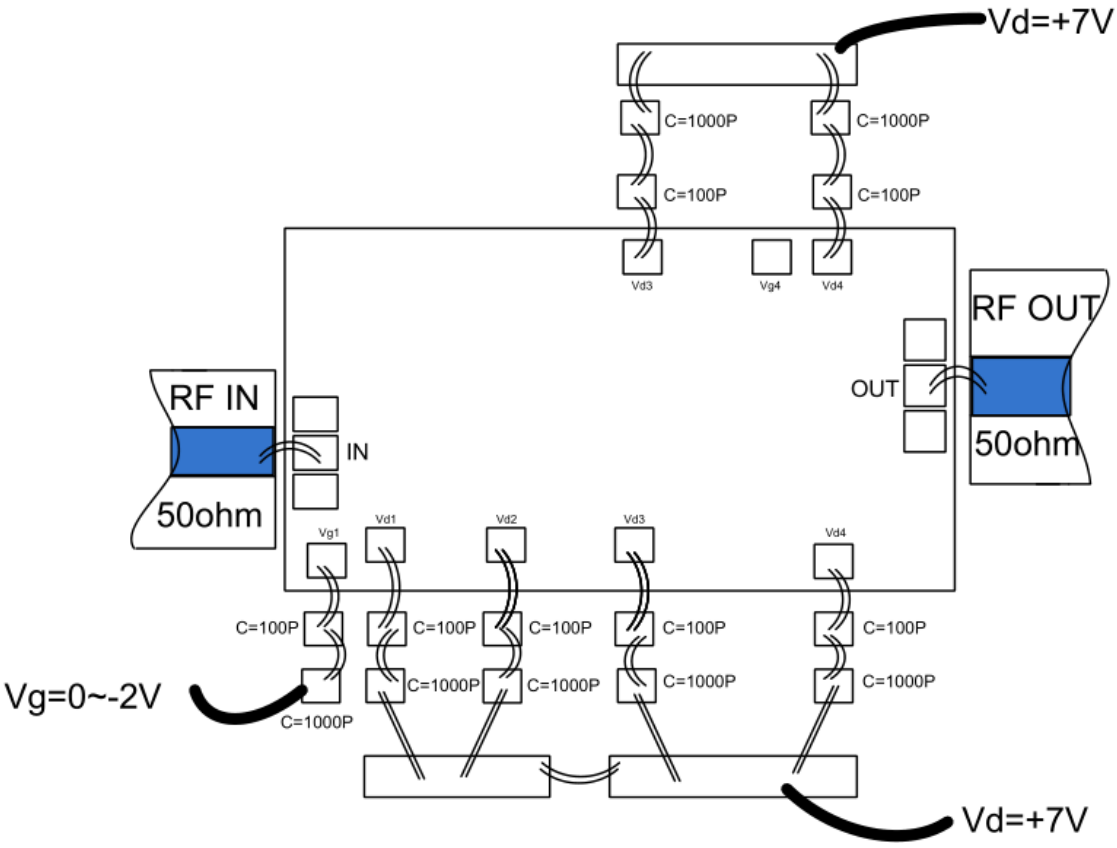
All Dimensions in µm



Pad Description

Pad	Function	Description	Equivalent Circuit
1	RF IN	Signal input terminal, connected to 50Ω circuit; no blocking capacitor required.	
2	RF OUT	Signal output terminal, connected to 50Ω circuit; no blocking capacitor required.	
4, 5, 6, 7, 9, 10	Vd1-4	Amplifier drain bias; external 1000pF bypass capacitor required.	
3, 8	Vg1-2	Amplifier gate bias; external 1000pF bypass capacitor required.	
Die bottom	GND	Die bottom must be connected to RF/DC ground.	

Assembly Drawing



Notes:

1. Die thickness: 100um
2. Typical bond pad is 100*100 μm²
3. Bond pad metalization: Gold
4. Backside metalization: Gold
5. Backside of the die (GND)
6. No connection required for unlabeled bond pads

Maximum Ratings:

1. Maximum drain voltage: +8V
2. Maximum gate bias: -5V
3. Maximum input power: +10dBm
4. Operating temperature: -55℃ to +85℃
5. Storage temperature: -65℃ to +150℃