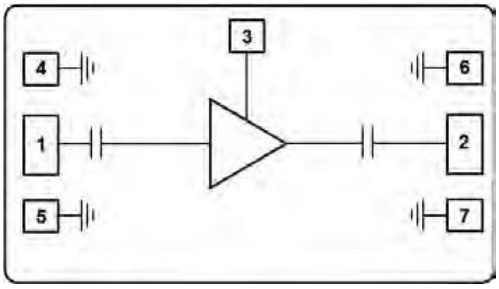
GaAs pHEMT MMIC
Driver Amplifier
2-20GHz

Features

- Operating Frequency: 2-20GHz
- Gain: 11dB
- P-1: +28dBm
- Psat: +30dBm
- PAE: 20%
- Static Operating Current: 310mA@ +10V
- Operating voltage range: +5V-+12V
- Die Size: 2.4 x 1.25 x 0.1 mm

Functional Block Diagram



Typical Applications

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

Electrical Specifications

TA = +25ºC, Vd = +10V, Idq = 310mA

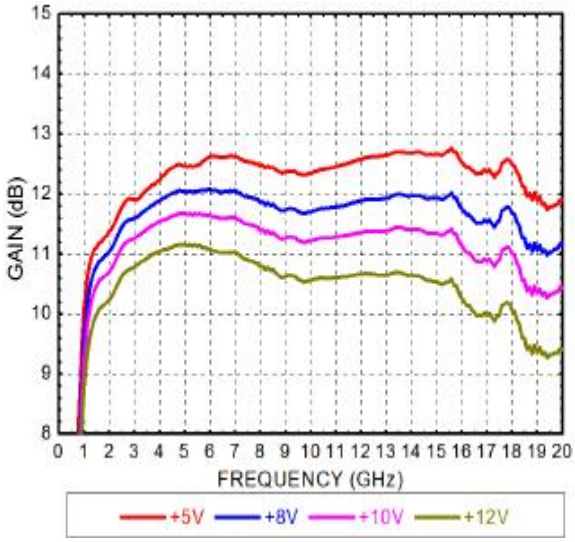
Parameters	Min.	Typ.	Max.	Units
Frequency		2-20		GHz
Gain		11		dB
Input Return Loss		15		dB
Output Return Loss		12		dB
Output 1dB Compression (P1dB)		27		dBm
Saturated Output Power (Psat)		29		dBm
PAE		20		%
Dynamic Operating Current		360		mA

Electrical Specifications

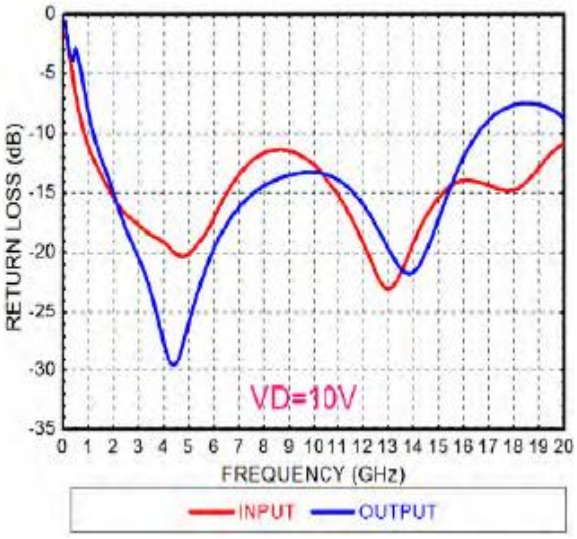
TA = +25ºC, Vd = +12V, Idq = 320mA

Parameters	Min.	Typ.	Max.	Units
Frequency		2-20		GHz
Gain		10		dB
Input Return Loss		15		dB
Output Return Loss		12		dB
Output 1dB Compression (P1dB)		28		dBm
Saturated Output Power (Psat)		30		dBm
PAE		18		%
Dynamic Operating Current		410		mA

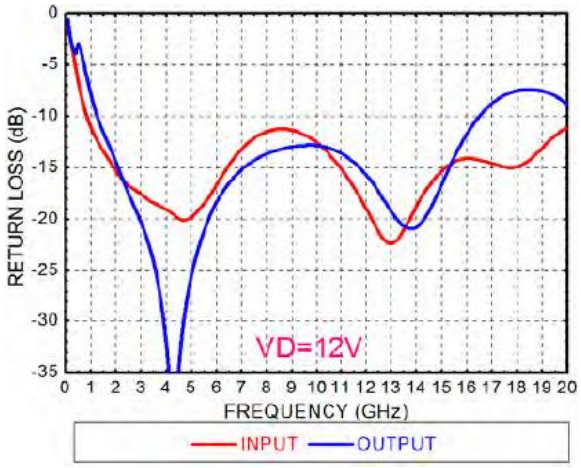
Gain vs. VD



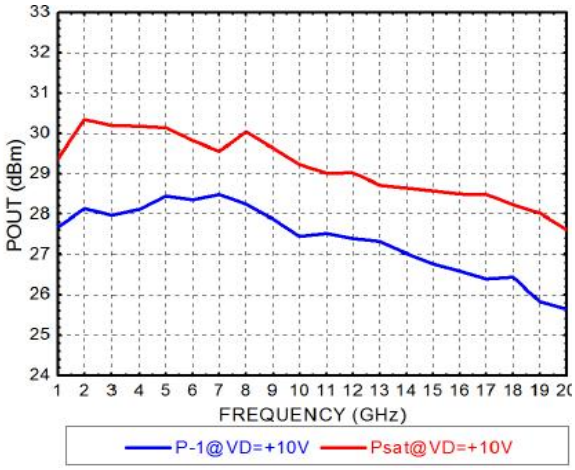
Return Loss



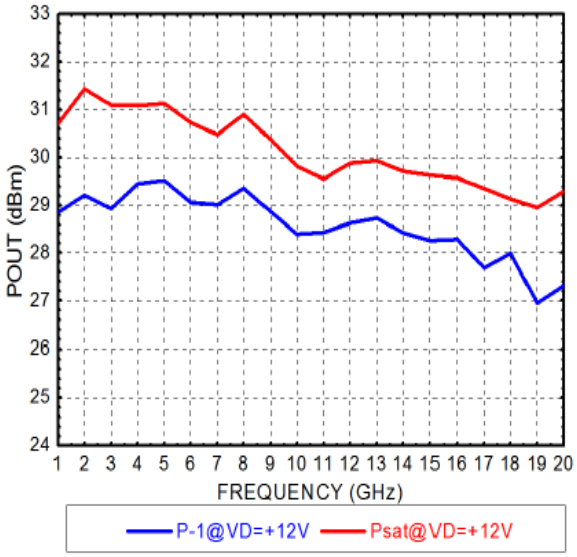
Return Loss



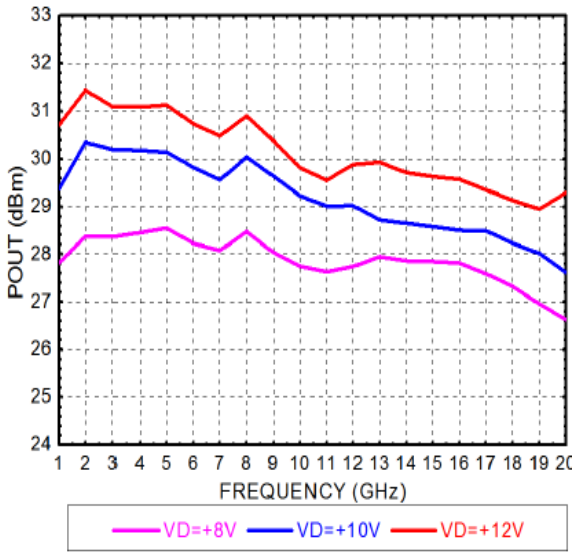
P-1 & Psat



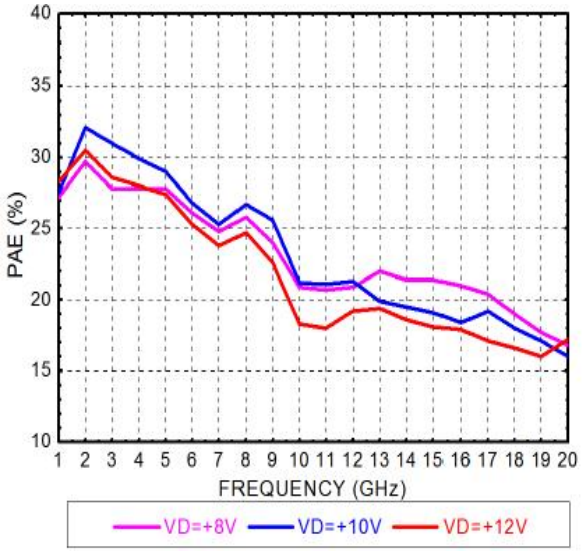
P-1 & Psat



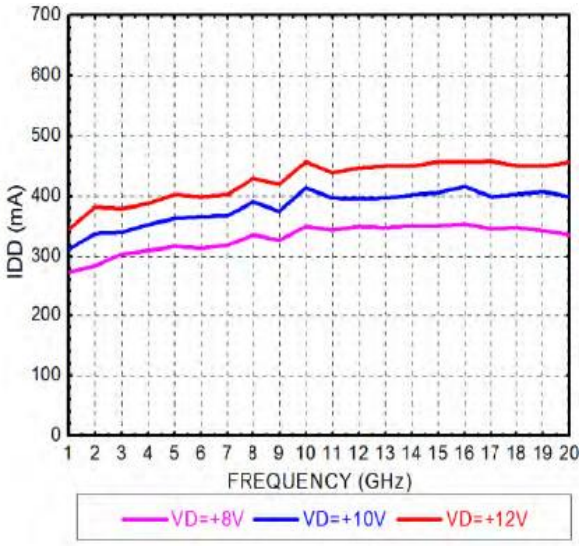
Psat vs. VD



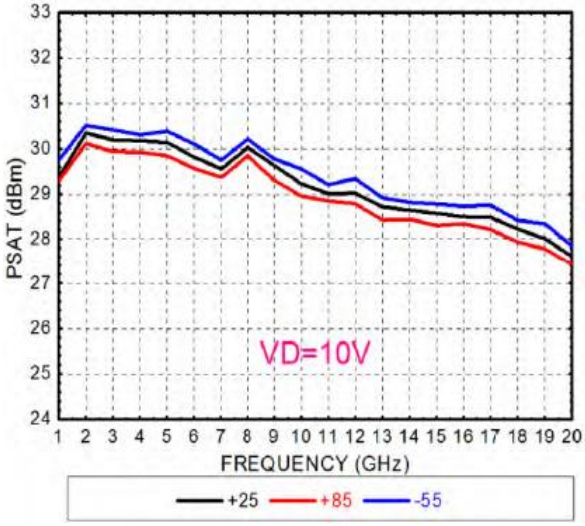
PAE vs. VD



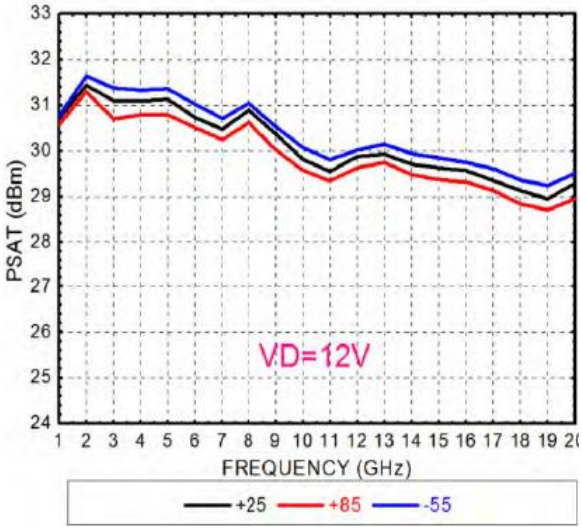
IDD vs. VD



Psat vs. Temperature

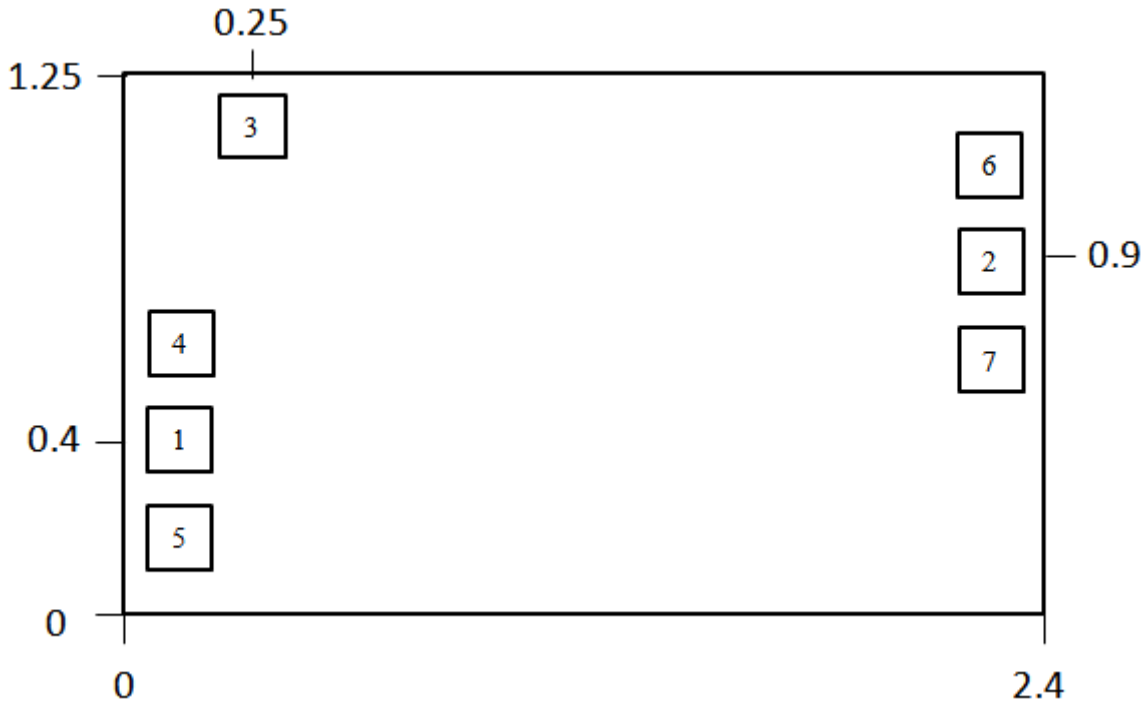


Psat vs. Temperature



Outline Drawing:

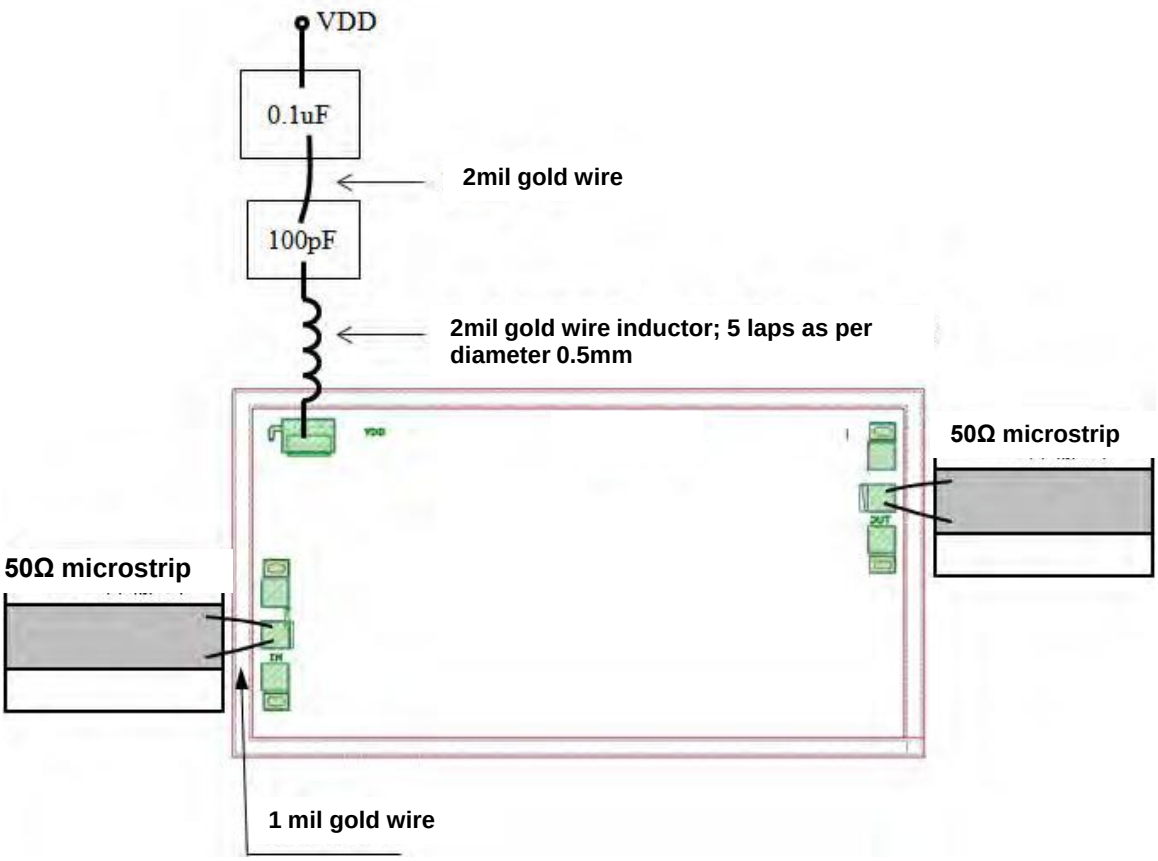
All Dimensions in mm



Pad Description

PAD	Function	Description
1	IN	RF coupling 50Ω Impedance
2	OUT	RF coupling 50Ω Impedance
3	VDD	Positive power supply voltage
4-7	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
   VDD pad is 190*120 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. RF input power: +27dBm
2. Power supply voltage: +4V to +13V
3. Operating temperature: -55℃ to +85℃
4. Storage temperature: -65℃ to +150℃