MILLER MMIC

MM3081

V1.0.0

GaAs MMIC
Driver Amplifier
6-18GHz

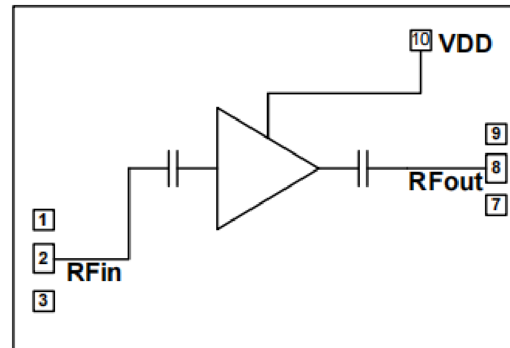
MM3081

DRIVER AMPLIFIER – MMIC 6-18GHz

Features

- Single Biasing Voltage(Self Biased)
- Frequency: 6-18GHz
- Gain: 27dB
- Gain Flatness: ±0.8dB
- Noise figure：2.8dB
- P1dB: 19.5dBm
- Power supply: +5V@140mA
- Die Size: 1520 x 860 μm

Functional Block Diagram



Typical Applications

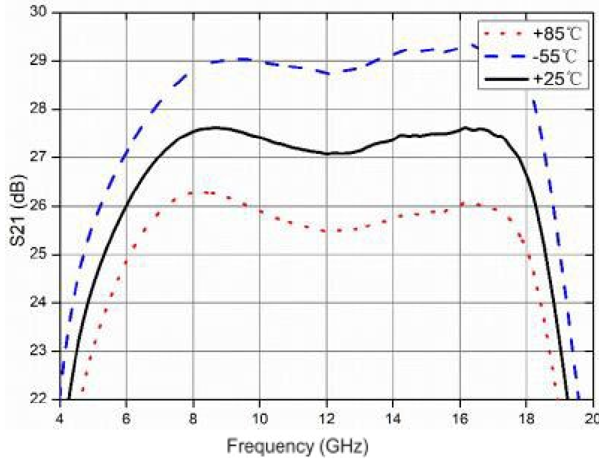
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

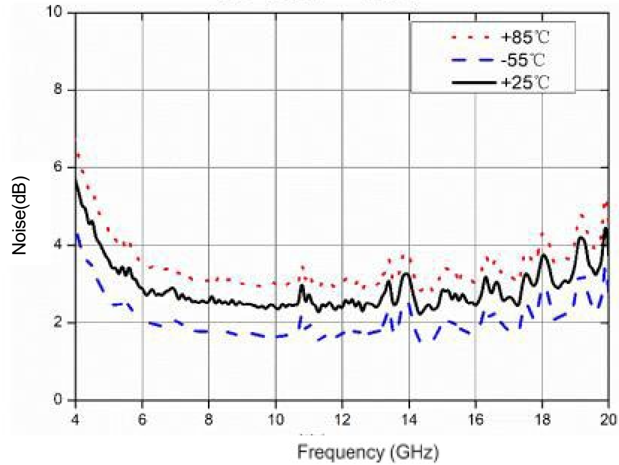
TA = +25ºC, Vdd = +5V

Parameters	Min.	Typ.	Max.	Units
Frequency		6-18		GHz
Small Signal Gain		27		dB
Noise figure		2.8		dB
P1dB		19.5		dBm
Input Return Loss		12		dB
Output Return Loss		10		dB
Operating Voltage		5		V
Quiescent Current		140		mA

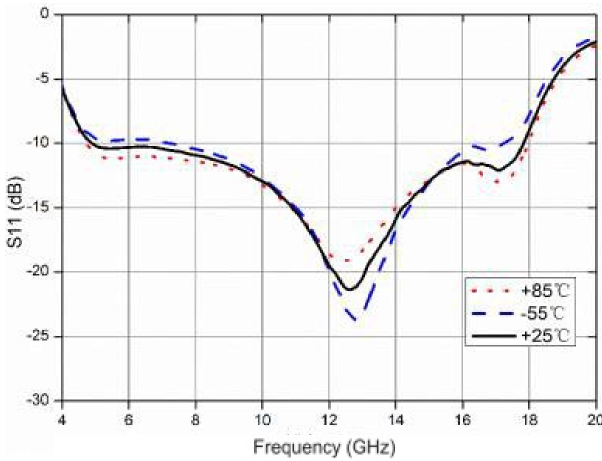
Gain vs. Frequency



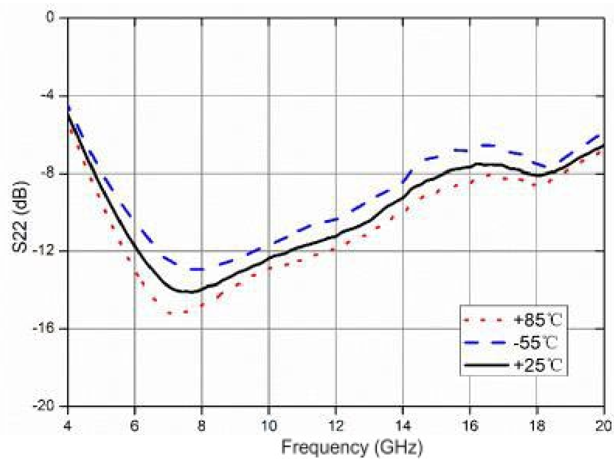
Noise Figure vs. Frequency



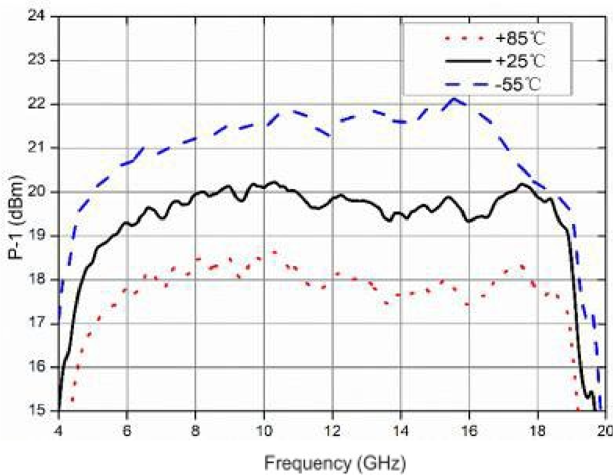
Input Return Loss vs. Frequency



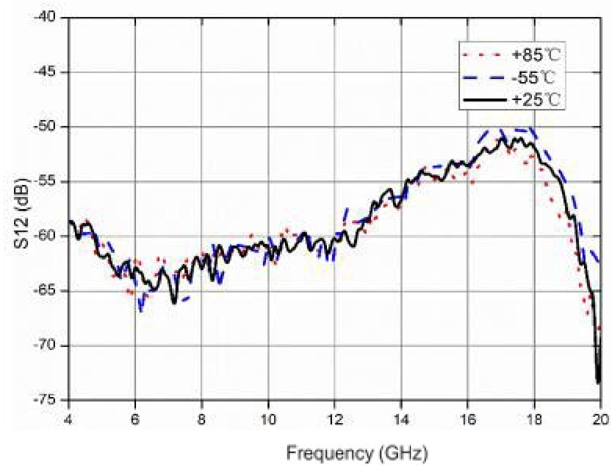
Output Return Loss vs. Frequency



P-1dB vs. Frequency

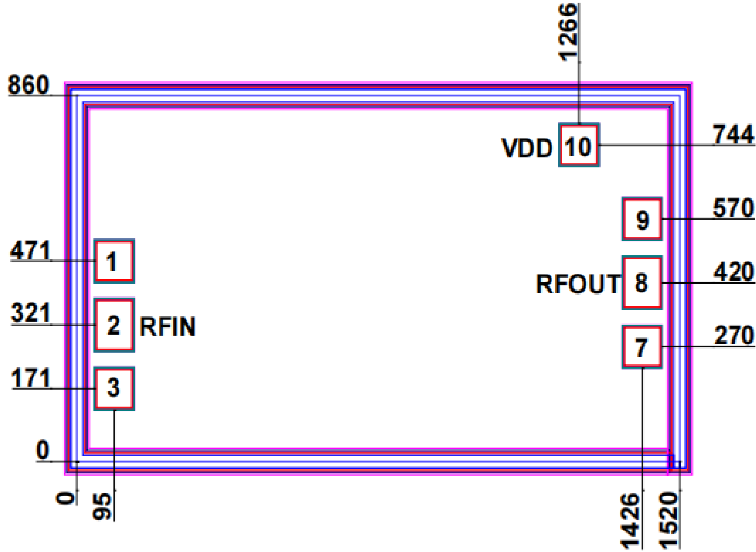


Reverse Isolation vs. Frequency



Outline Drawing:

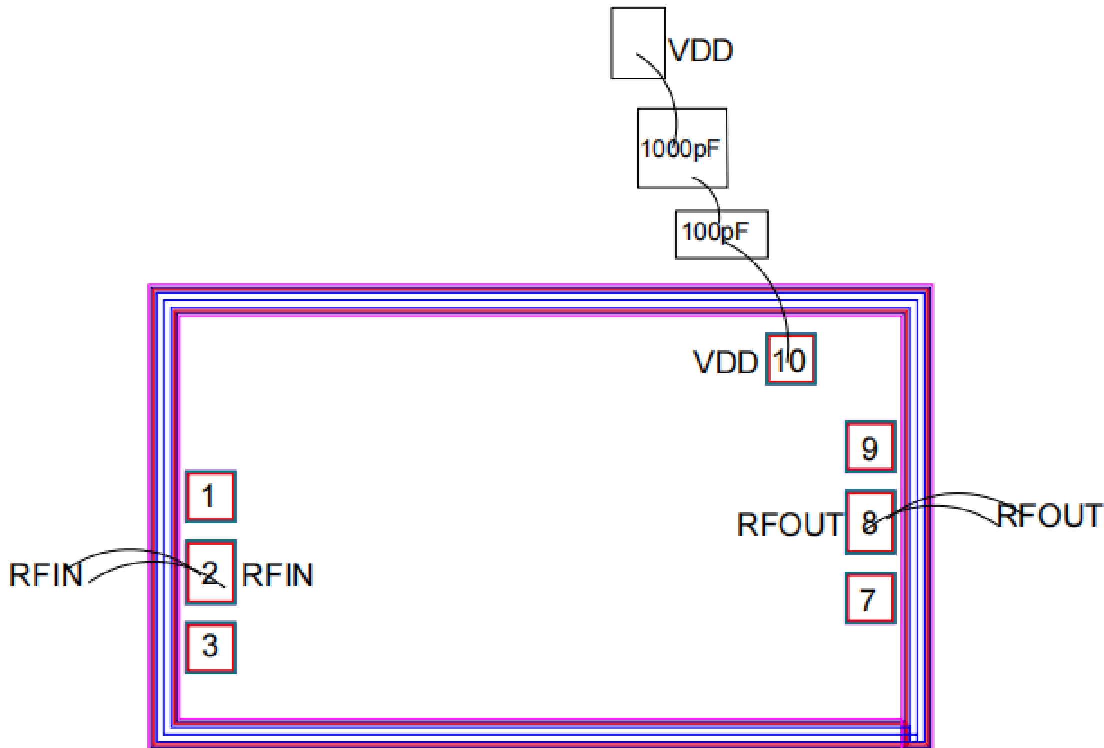
All Dimensions in um



Pad Description

PAD	Function	Description	Pad Size (µm)	Equivalent Circuit
1,3,7,9	GND	Die bottom must be connected to RF/DC ground	100 x 100	GND
2	RF IN	RF signal input terminal, blocking capacitor required, 50 ohm matched	120 x 100	RF in
8	RF OUT	RF signal output terminal, blocking capacitor required, 50 ohm matched	120 x 100	RF out
10	VDD	Amplifier drain power supply	100 x 100	VDD

Assembly Drawing



Notes:

1. Die thickness: 100um
2. Typical bond pad is 100*100 μm^2
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 supply voltage: +5.5V
2. Maximum input power: +15dBm
3. Operating temperature: -55℃ to +85℃
4. Storage temperature: -65℃ to +150℃