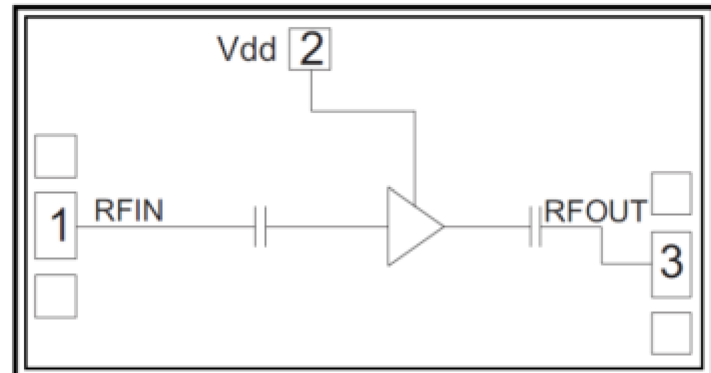
Features

- Single Biasing Voltage (Self Biased)
- Frequency: 1-20GHz
- Small Signal Gain: 15dB
- Gain Flatness: ≤±1.5dB
- Noise figure：4.5dB
- P1dB: 25dBm
- Psat: 26dBm
- Power Supply: +8V@260mA
- Input/Output: 50Ω
- Die Size: 3.12 x 1.65 x 0.1 mm

Functional Block Diagram



Typical Applications

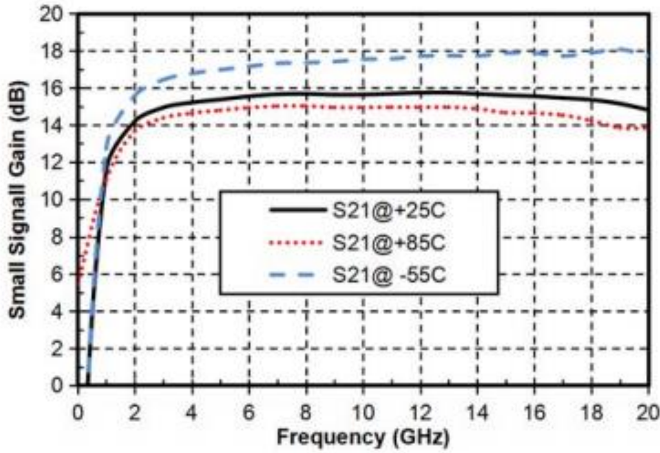
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

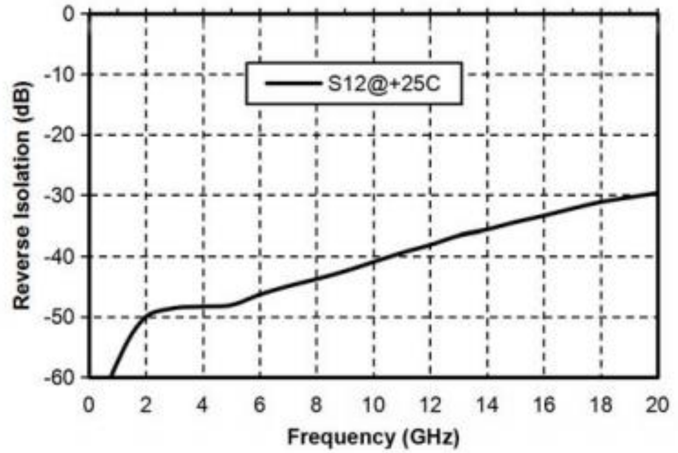
TA = +25ºC, Vd = +5V

Parameters	Min.	Typ.	Max.	Units
Frequency		1-20		GHz
Small Signal Gain	12	15	15.5	dB
Gain Flatness		±1.5		dB
Noise figure		4.5	5.5	dB
P1dB	22	25	26	dBm
Psat	23	26	27	dBm
Input Return Loss	11	19		dB
Output Return Loss	17	24		dB
Quiescent Current		260		mA

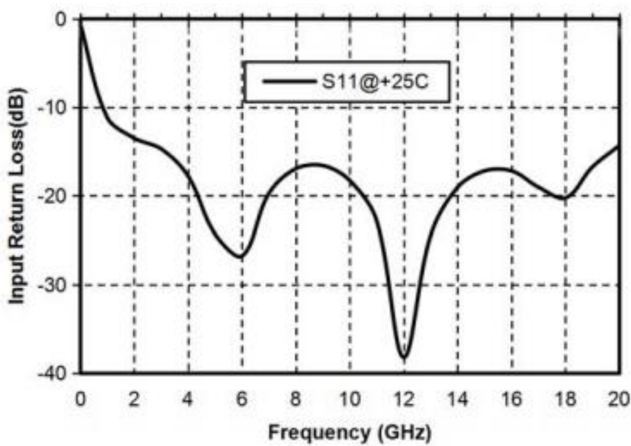
Gain vs. Frequency



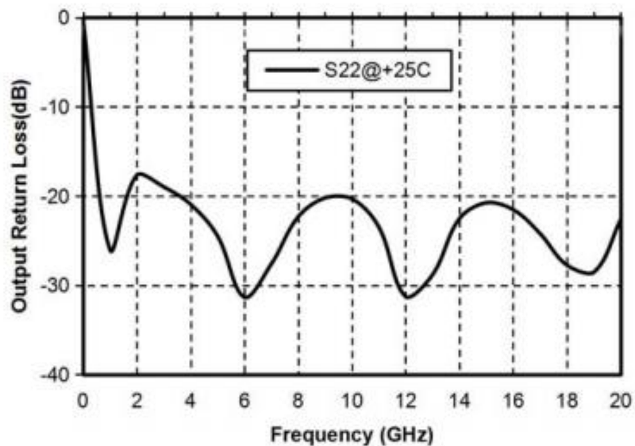
Reverse Isolation vs. Frequency



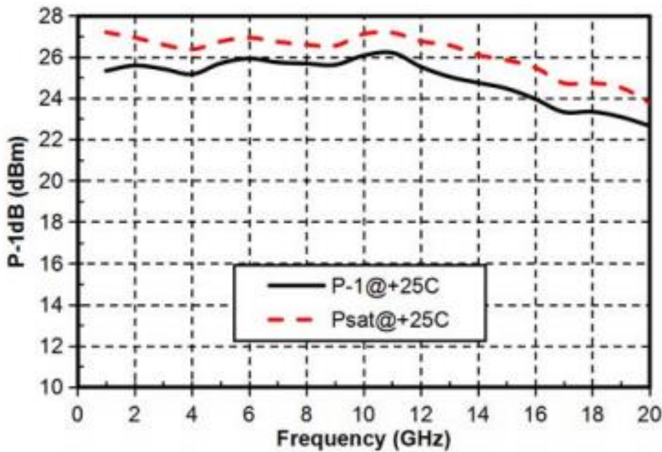
Input Return Loss vs. Frequency



Output Return Loss vs. Frequency



P-1dB vs. Frequency



Outline Drawing:

All Dimensions in um

Pad Description

PAD	Function	Description	Equivalent Circuit
1	RF IN	RF signal input terminal, no blocking capacitor required	
2	RF OUT	RF signal output terminal, no blocking capacitor required	
3	Vd	Amplifier drain bias, connected to external 100pF bypass capacitor.	
Die Bottom	GND	Die bottom must be connected to RF/DC ground	

MM3060

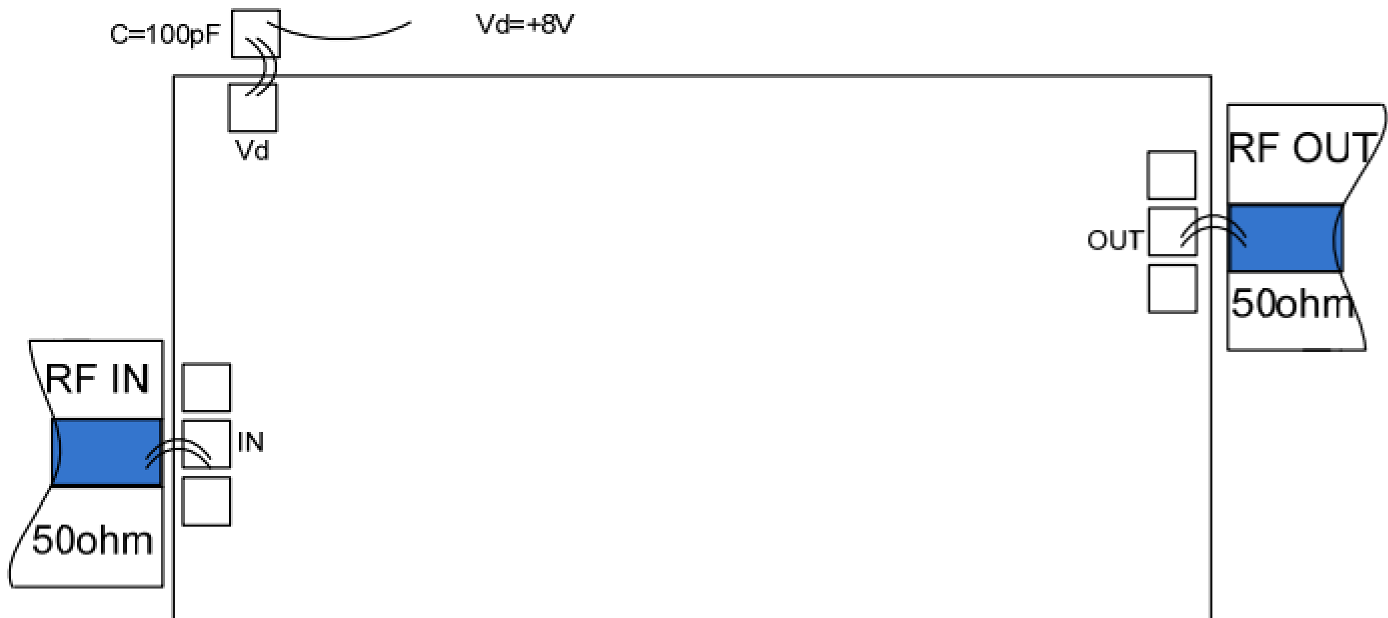
MILLER MMIC

MM3060

V1.0.0

GaAs pHEMT MMIC
Power Amplifier
1-20GHz

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: +10V**
2. **Maximum input power: +20dBm**
3. **Operating temperature: -55℃ to +85℃**
4. **Storage temperature: -65℃ to +150℃**

MM3060

POWER AMPLIFIER – MMIC 1-20GHz