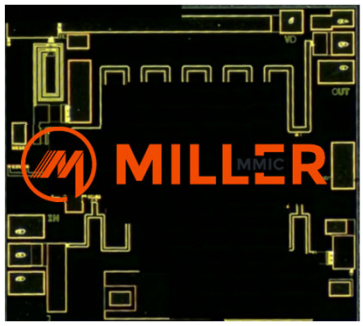
V1.0.0

GaAs MMIC
Low Noise Amplifier
5-50GHz

Features

- Single Biasing Voltage (Self Biased)
- Frequency: 5-50GHz
- Gain: 11dB
- Noise Figure: 2.7~4.3dB
- Input /Output Return Loss:>14dB/>14dB
- P1dB: 9~12dBm
- IP3：22dBm
- Power Supply: +5 V@43 mA
- Die Size: 1.54 x 1.38 x 0.1 mm



Typical Applications

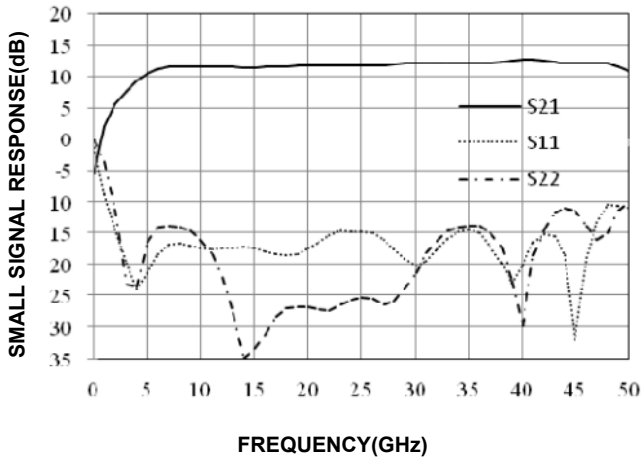
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

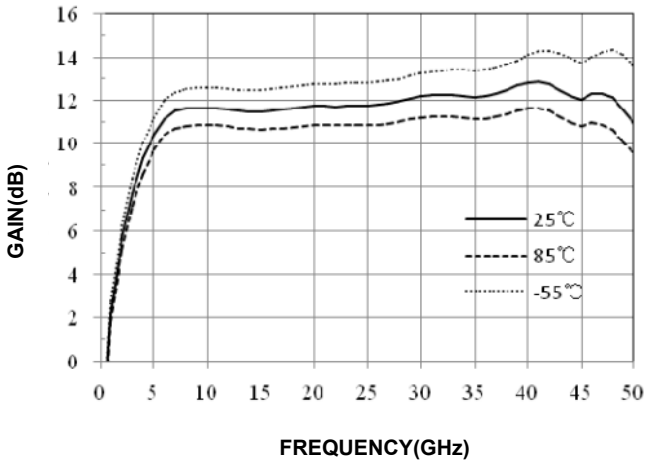
TA = +25ºC, Vd = +5V

Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency		5-20			20-40			40-50		GHz
Gain	10.0	11.0	12.0	11.5	12.0	12.5	11.5	12.0	12.5	dB
Noise Figure	2.8	3.0	3.5	2.8	3.5	4.5	4.0	5.0	6.0	dB
P1dB	12.0	12.5	13.0	9.0	11.0	12.0	6.0	8.0	9.0	dBm
Input RL		20.0			15.0			16.0		dB
Output RL		15.0			16.0			7.0		dB

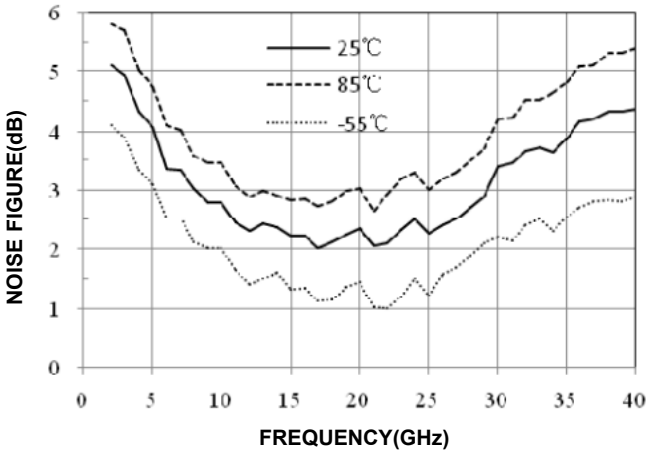
Small Signal Response (25℃)



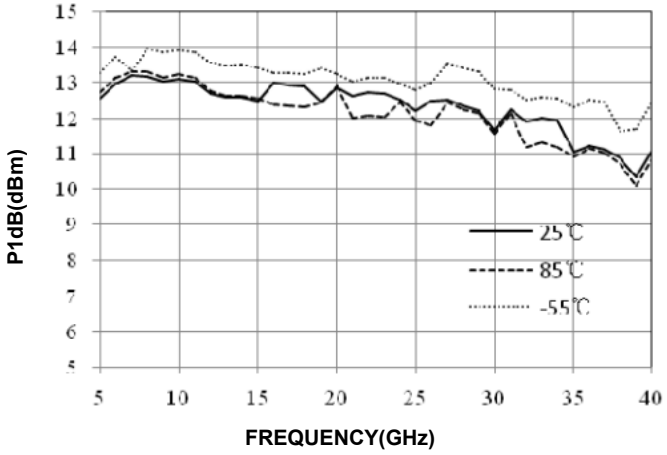
Gain vs. Temperature



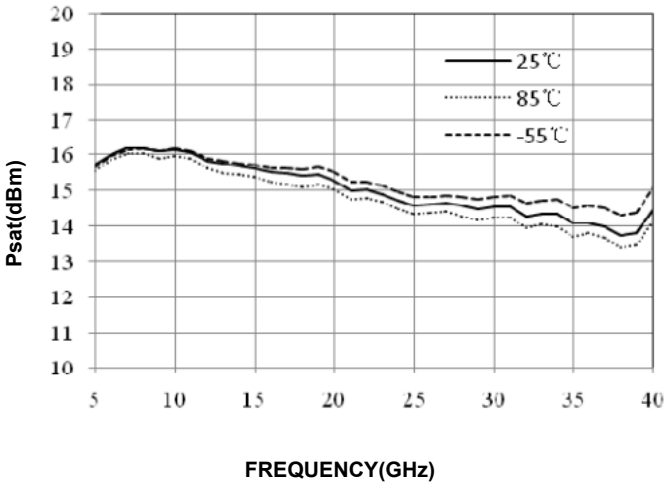
Noise Figure vs. Temperature



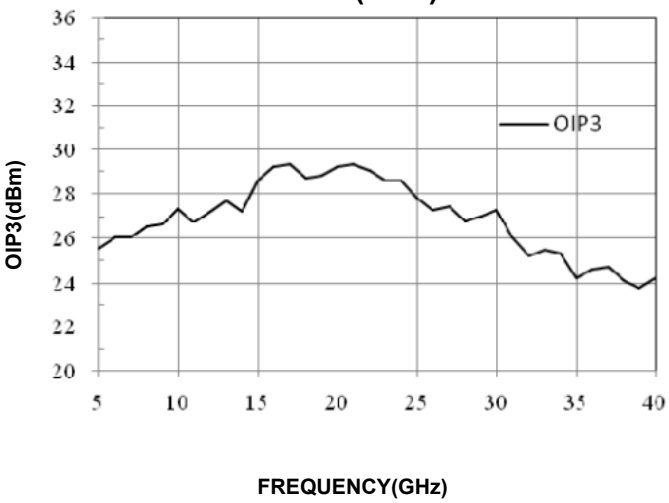
P1dB vs. Temperature



Psat vs. Temperature

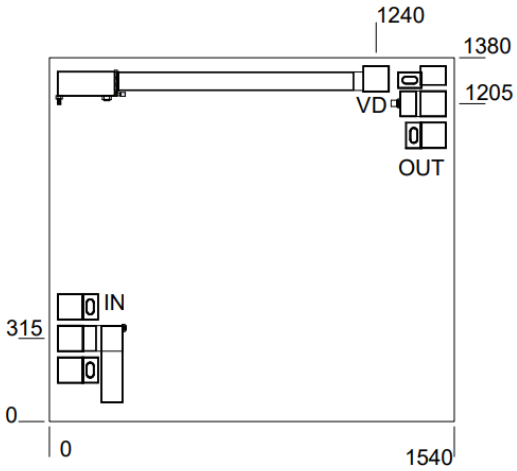


OIP3 (25℃)

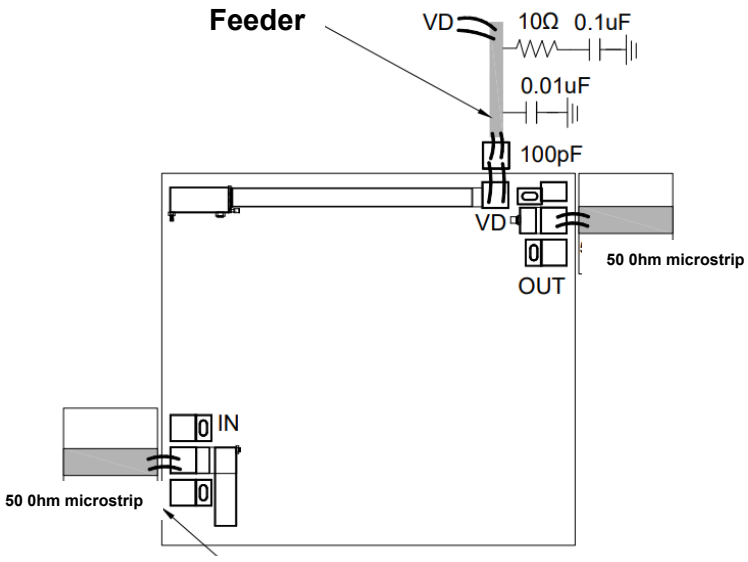


Outline Drawing:

All Dimensions in µm



Assembly Drawing



3mil typical gap

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
7. Input and output has DC Block.
8. Input/Output use two 25um gold wire, length less than 250um is recommended.

Maximum Ratings:

1. Control voltage: +9V
2. Input power: +23dBm
3. Operating temperature: -55℃ to +125℃
4. Storage temperature: -65℃ to +150℃