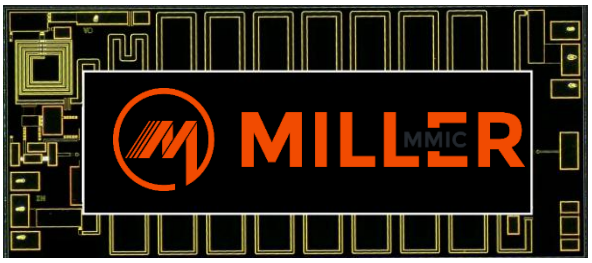
V1.0.0

GaAs MMIC
Driver Amplifier
2-18GHz



## Features

- **Single Biasing Voltage(Self Biased)**
- **Frequency: 2-18GHz**
- **Small Signal Gain: 10.5dB**
- **Gain Flatness: ±0.5dB**
- **Noise figure：3.7dB**
- **P1dB: 19dBm**
- **Psat: 20.5dBm**
- **Power supply: +5V/90mA**
- **Input/Output: 50Ω**
- **Die Size: 1.26 x 1.00 x 0.1 mm**



## Typical Applications

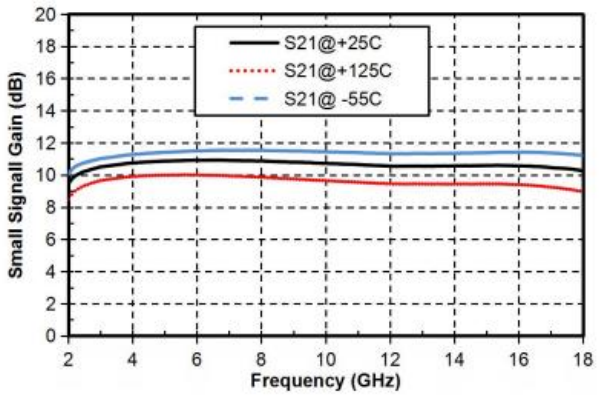
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

## Electrical Specifications

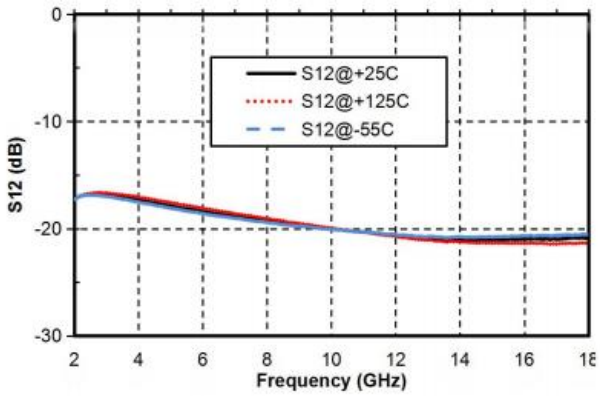
**TA = +25ºC, Vd = +5V**

| Parameters | Min. | Typ. | Max. | Units |
|---|---|---|---|---|
| Frequency | | 2-18 | | GHz |
| Small Signal Gain | | 10.5 | | dB |
| Gain Flatness | | ±0.5 | | dB |
| Noise figure | | 3.7 | | dB |
| P1dB | | 19 | | dBm |
| Psat | | 20.5 | | dBm |
| Input Return Loss | | 13 | | dB |
| Output Return Loss | | 18 | | dB |
| Quiescent Current | | 90 | | mA |

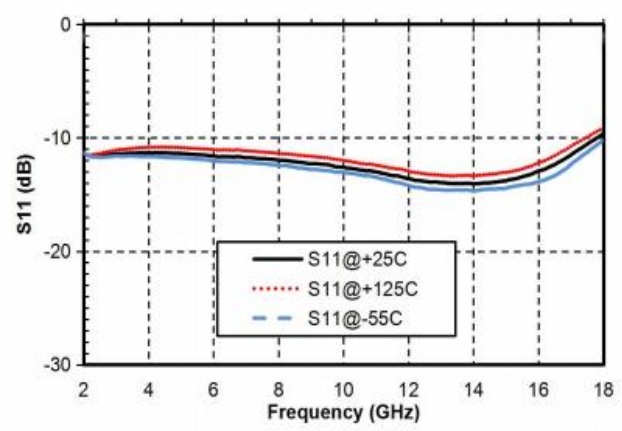
## Gain vs. Frequency



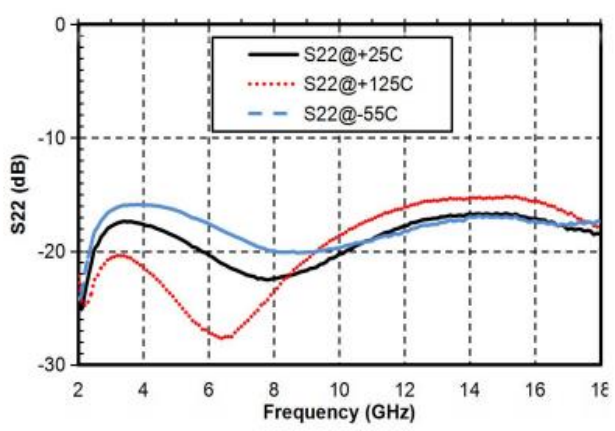

## Reverse Isolation vs. Frequency



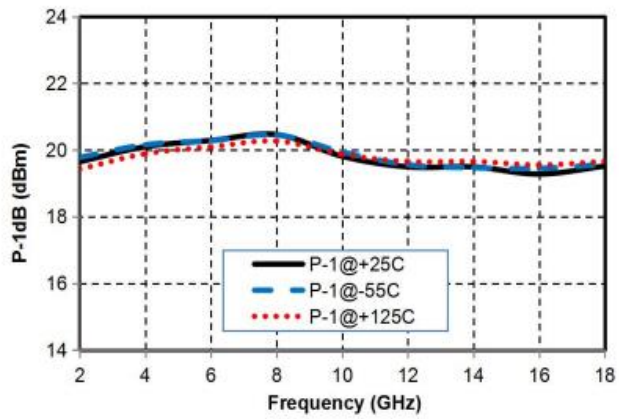

## Input Return Loss vs. Frequency



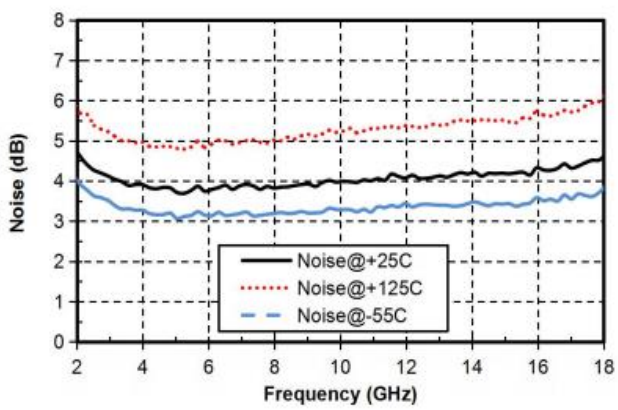

## Output Return Loss vs. Frequency




## P-1dB vs. Frequency

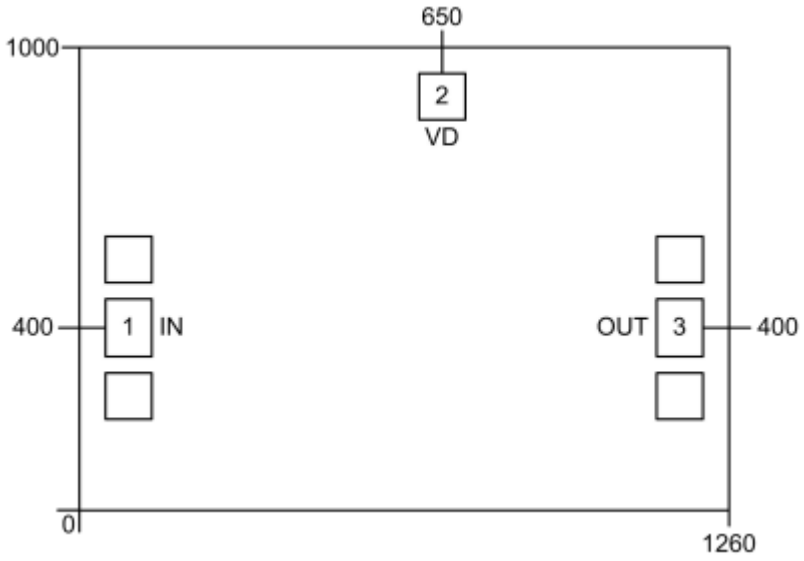



## Noise vs. Frequency



## Outline Drawing:

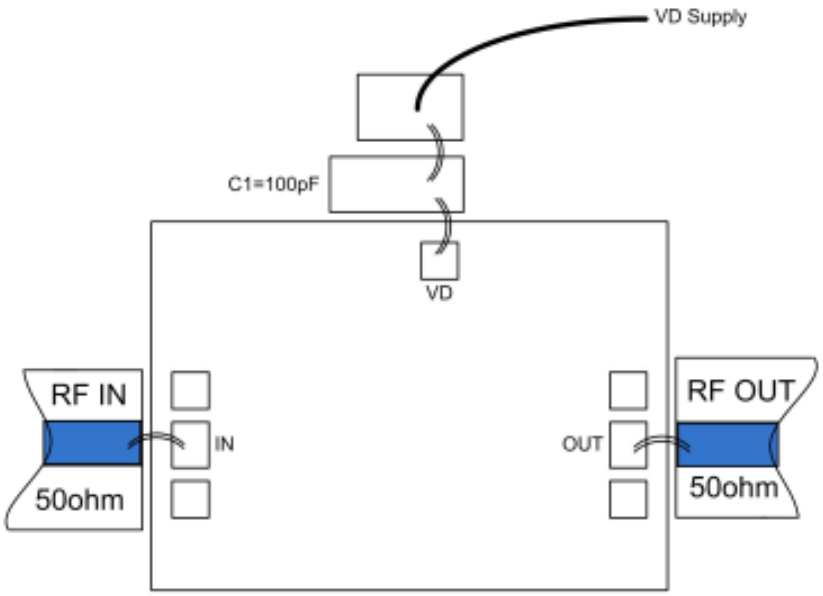
All Dimensions in um




## Pad Description

| PAD | Function | Description |
|---|---|---|
| 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 |

## Assembly Drawing




**Notes:**

1. Die thickness: 100um
2. Typical bond pad is 100*100 $\mu m^2$
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 drain voltage: +7V
2. Maximum input power: +20dBm
3. Operating temperature: -55℃ to +125℃
4. Storage temperature: -65℃ to +150℃