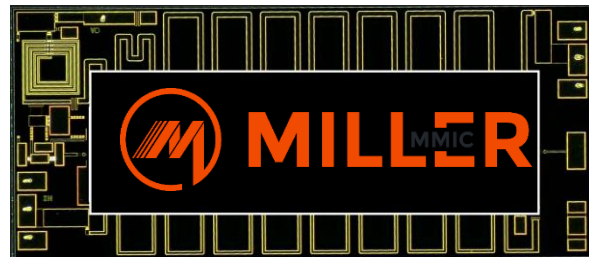


**Features**

- Frequency: DC~20GHz
- Small Signal Gain: 14dB
- P1dB:30.5dBm
- Psat: 31.5dBm
- Power Supply: +12V@350 mA
- Die Size: 2.04 x 1.78 x 0.1 mm

**Typical Applications**

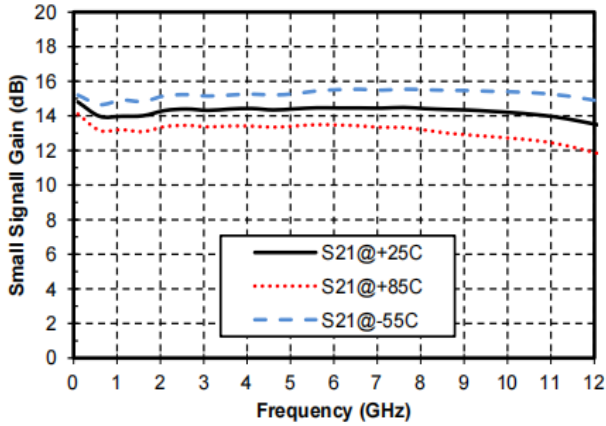
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics


**Electrical Specifications**

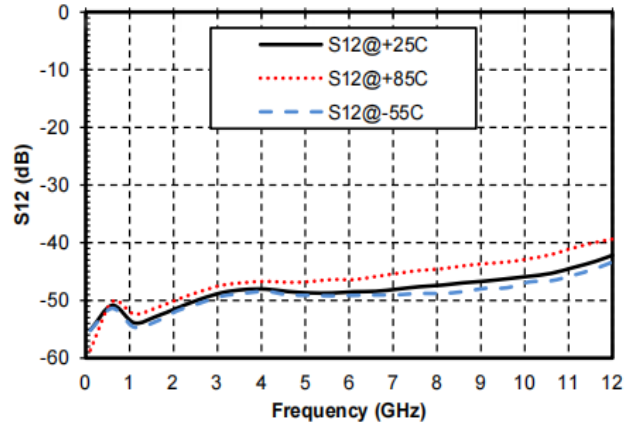
TA = +25°C, Vd = +12V, Ida=350mA

Parameters	Min.	Typ.	Max.	Units
Frequency	DC-12			GHz
Small Signal Gain	-	14	-	dB
Gain Flatness	±0.7			dB
P1dB	-	30.5	-	dBm
Psat	-	31.5	-	dBm
NF	-	3.5	-	dB
OIP3 with 20dBm output	-	40	-	dBm
IMD3 with 20dBm output	-	-40	-	dBc
Input Return Loss	-	16	-	dB
Output Return Loss	-	21	-	dB
*By tuning the Vg terminal voltage -2V~0V, the recommended gate voltage is -0.85V.				

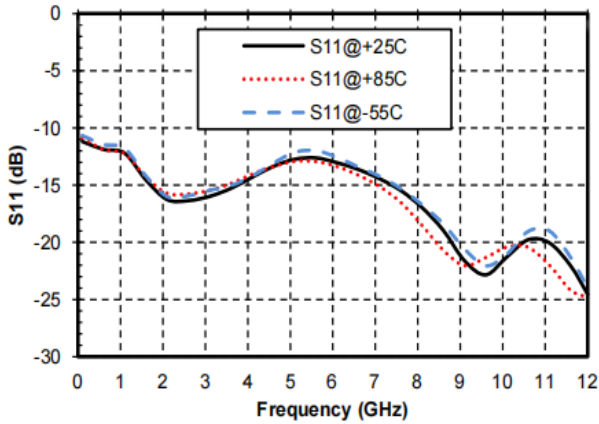
### Gain vs. Frequency



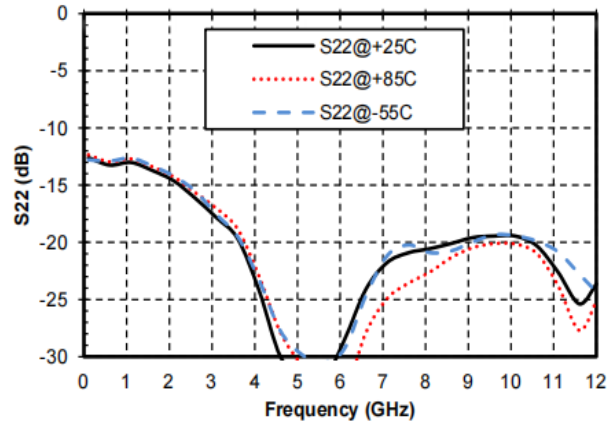
### Reverse Isolation vs. Frequency



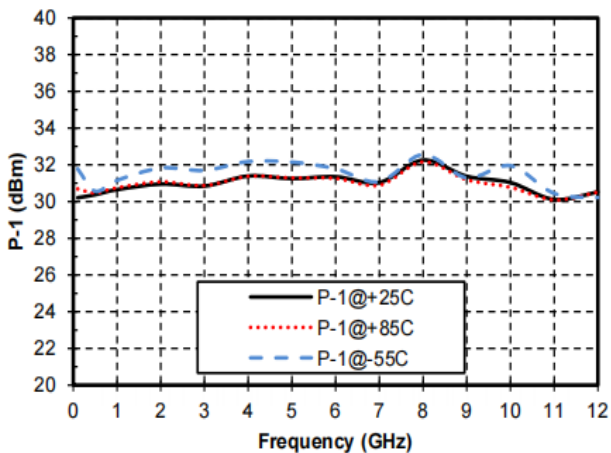
### Input Return Loss vs. Frequency



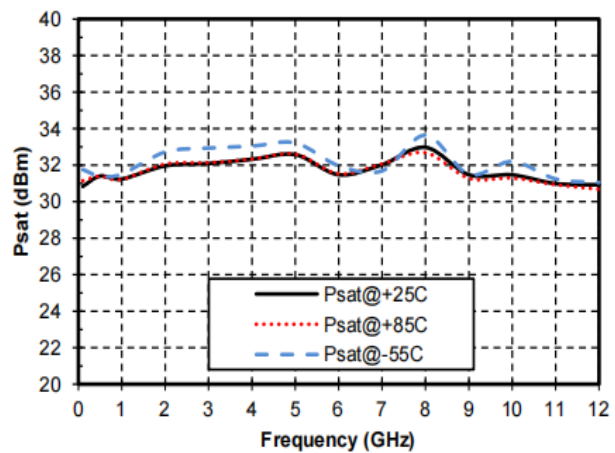
### Output Return Loss vs. Frequency



### P1dB vs. Frequency

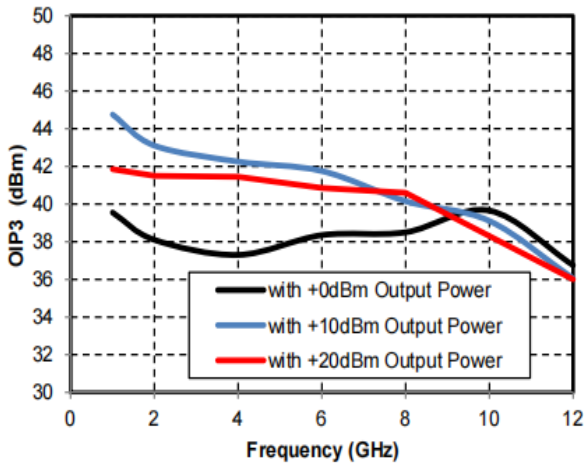


### Psat vs. Frequency

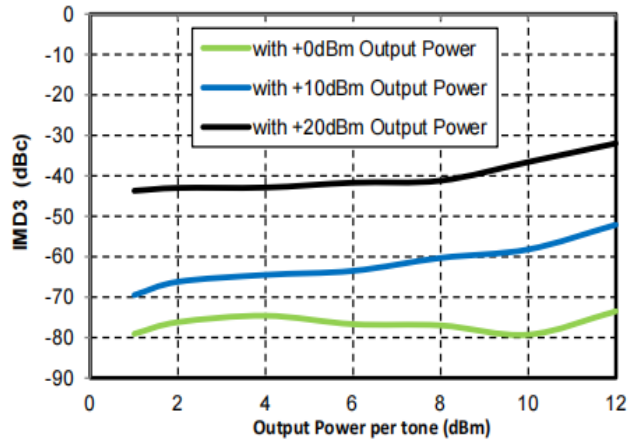




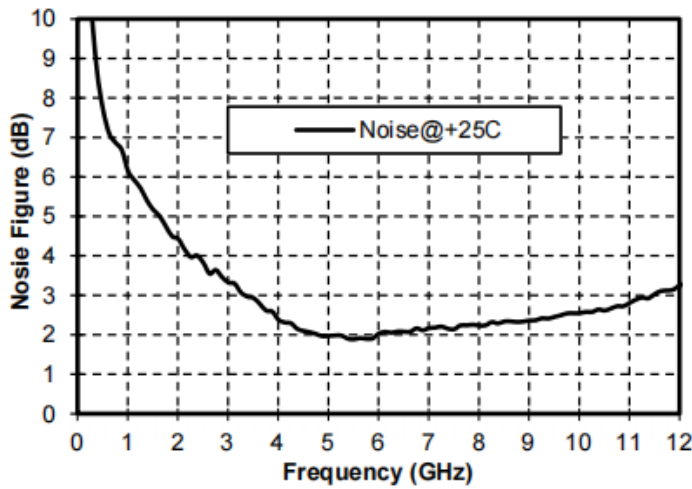
### OIP3 vs. Frequency



### IMD3 vs. Frequency

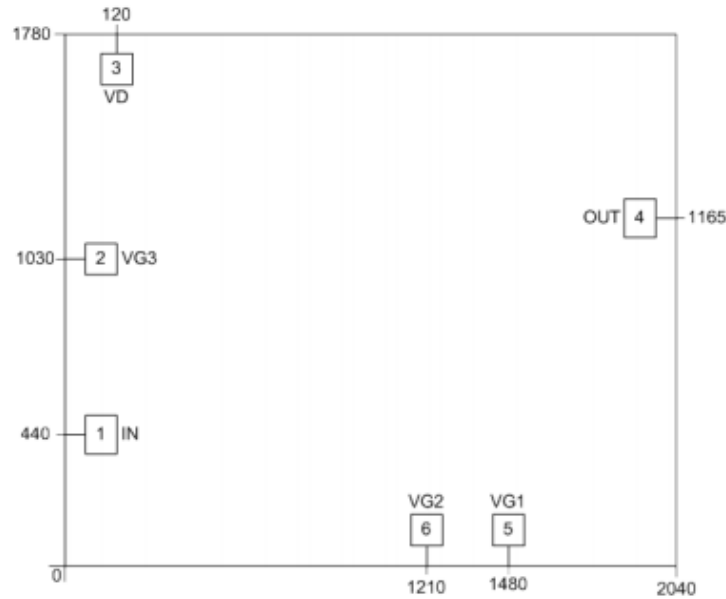


### Noise Figure vs. Frequency





### Outline Drawing: All Dimensions in $\mu\text{m}$

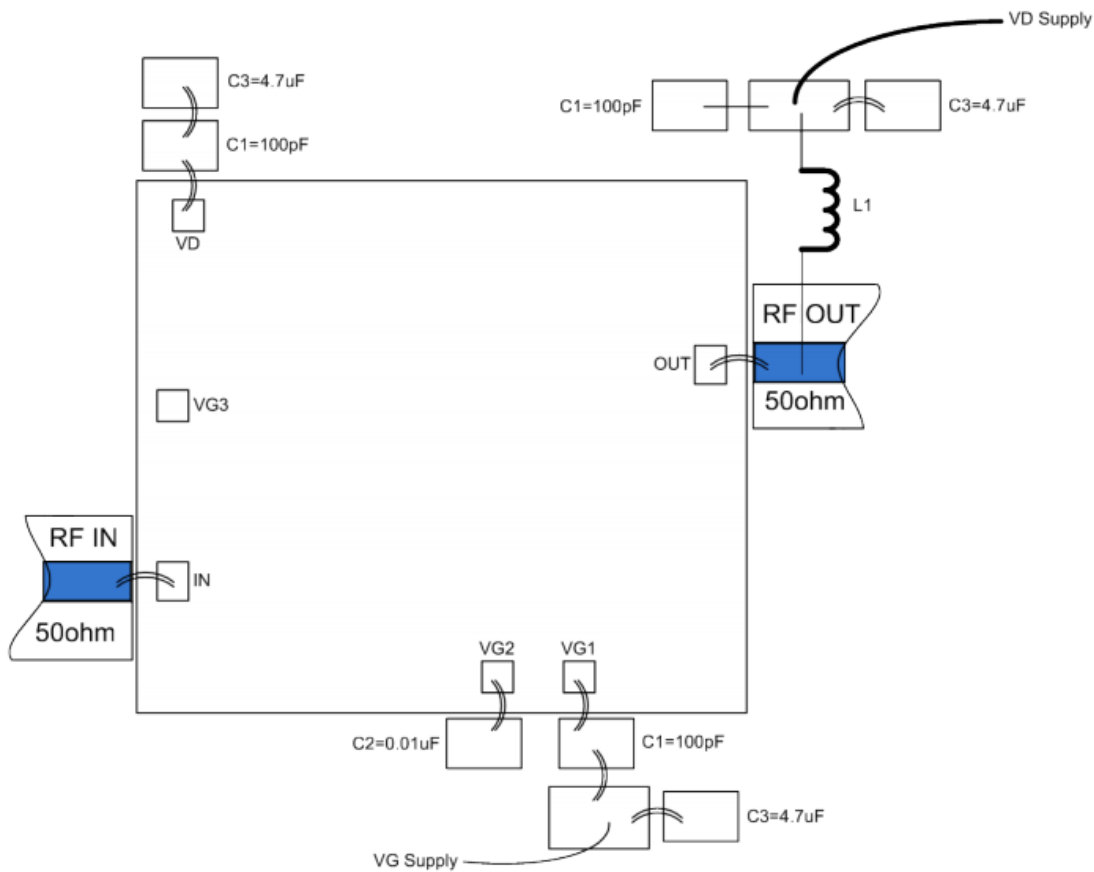


### Pad Description

Pad	Function	Description
1	RF IN	Signal input terminal, connected to 50 $\Omega$ circuit ; blocking capacitor required.
4	RF OUT, VD	A 50-ohm circuit is connected to the signal output, and a blocking capacitor needs to be added, and a DC bias network is connected to provide drain current
5	VG1	Amplifier drain bias; external 100pF, 4.7uF bypass capacitor required.
6	VG2	Amplifier gate bias; external 0.01uF bypass capacitor required.
3	VD	An external 100pF, 4.7uF bypass capacitor is required and to ground
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  $\mu\text{m}^2$
3. Bond pad metalization: Gold
4. Backside metalization: Gold
5. Backside of the die (GND)
6. No connection required for unlabeled bond pads
7. No DC Block
8. Input/Output use two 25um gold wire, length less than 250um is recommended.

#### Maximum Ratings:

1. Maximum drain voltage: +15V
2. Maximum Input power: +25dBm
3. Operating temperature: -55°C to +125°C
4. Storage temperature: -65°C to +150°C