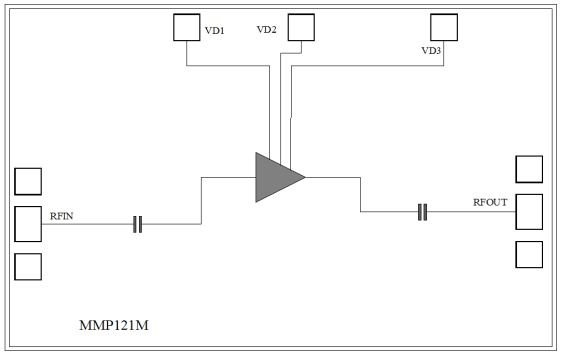
Features

- Frequency: 3-20GHz
- Small Signal Gain: 26dB Typical
- Gain Flatness: ±1.0dB Typical
- Psat: 22dBm Typical
- Supply Voltage: VD =+5V@154mA
- Input/Output: 50Ω
- Die Size: 1.95 x 1.22 x 0.1mm

Functional Block Diagram



Typical Applications

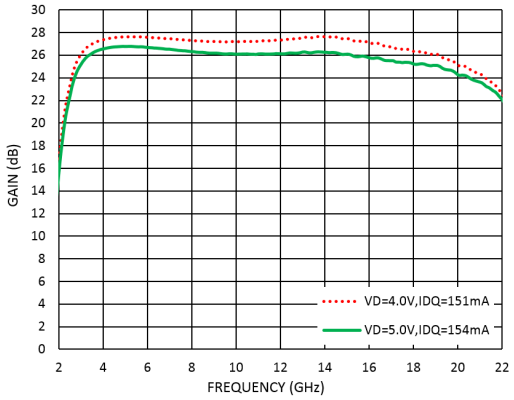
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

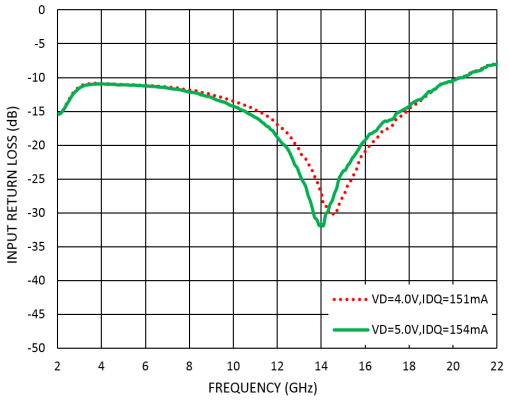
Electrical Specifications

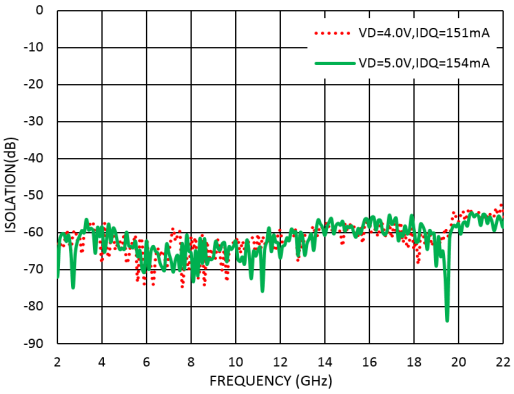
TA = +25°C, VD=+5V, IDD = 154mA Typical

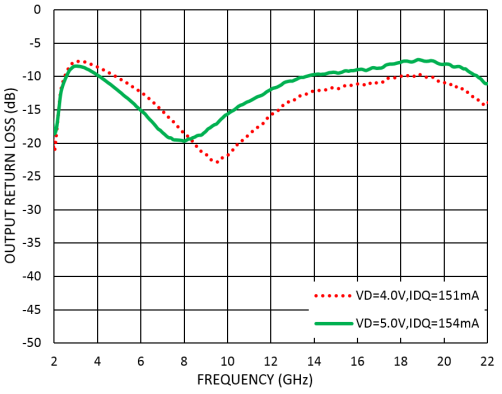
Parameters	Min.	Typ.	Max.	Units
Frequency	3		20	GHz
Small Signal Gain	23.5	26		dB
Gain Flatness		±1.0		dB
P1dB - Output 1dB Compression		21		dBm
Psat - Saturated Output Power	21	22		dBm
Input Return Loss		-12		dB
Output Return Loss		-10		dB

Measurement Plots: S-parameters

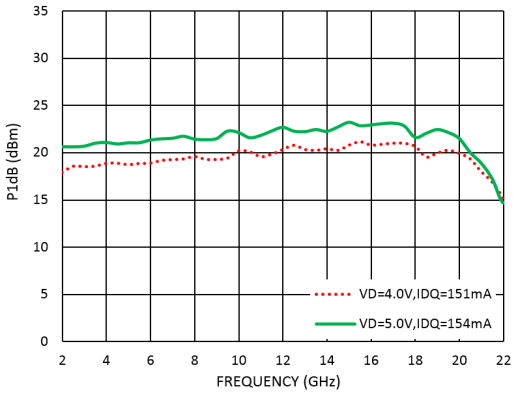




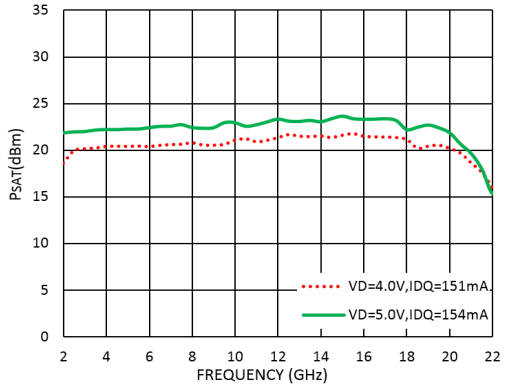




Measurement Plots: P1dB



Measurement Plots: PSAT



Absolute Maximum Ratings

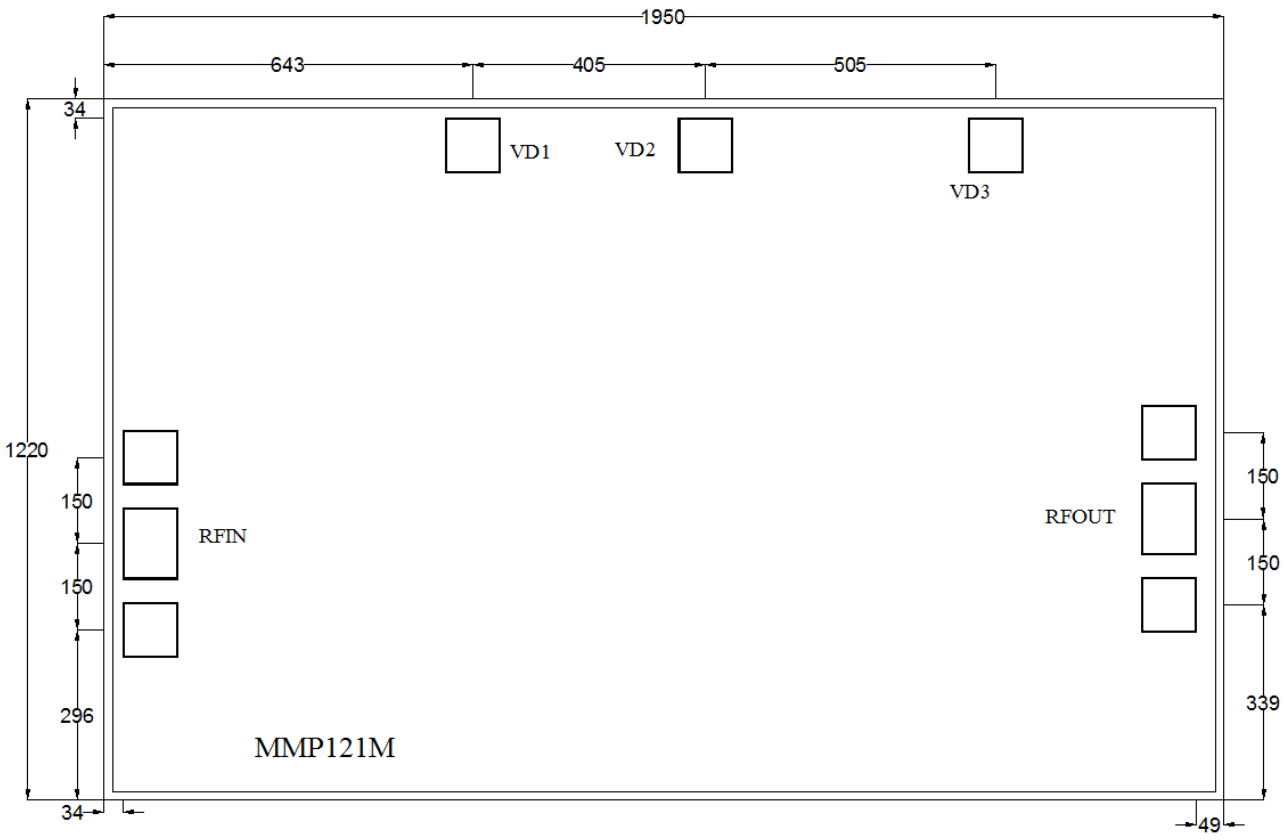
Drain Bias Voltage (VD)	+6V
RF Input Power (RFIN)@(+5V)	+10dBm
Channel Temperature	175 °C
Continuous Pdiss (T = 85 °C) (derate 10.6mW/°C above 85 °C)	8W
Thermal Resistance (channel to die bottom)	50°C/W
Operating Temperature	-55°C to +85 °C
Storage Temperature	-65°C to +125 °C

Typical Supply Current vs. VD

VD (V)	IDD (mA)
+4	151
+5	154

ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

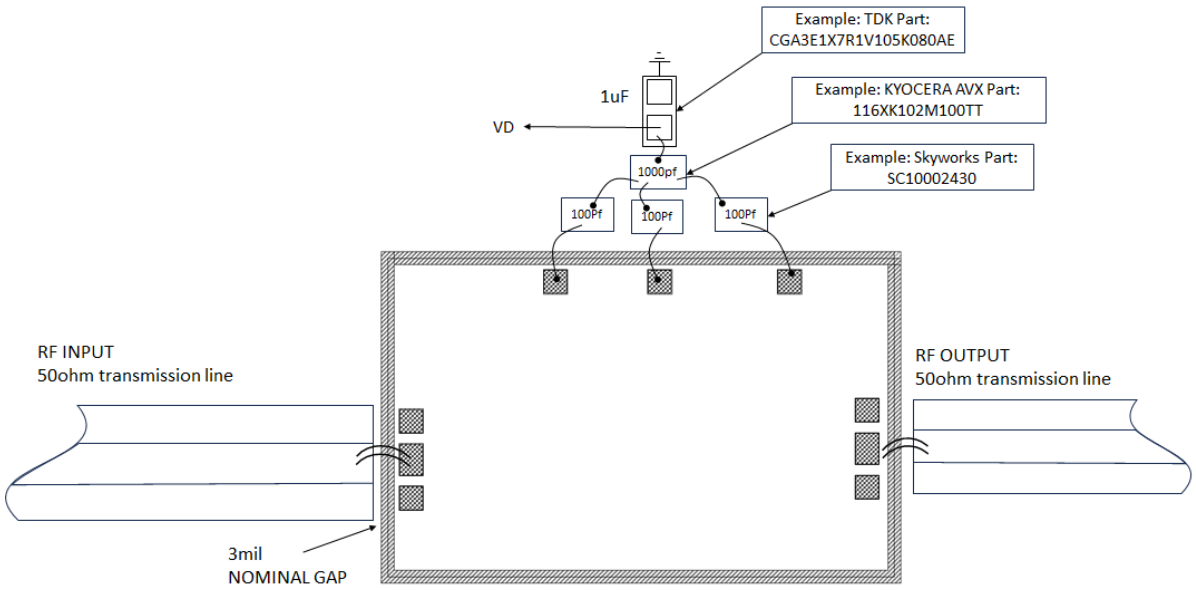
Outline Drawing:
All Dimensions in µm



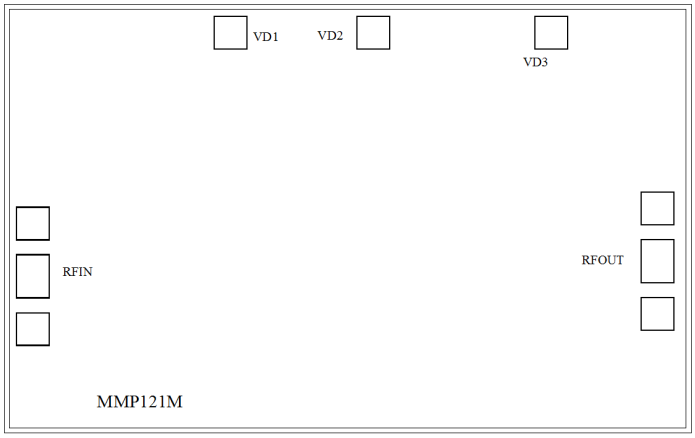
Notes:

1. **Die thickness: 100µm**
2. **DC bond pad is 100*100µm^2**
3. **RF IN/OUT bond pad is 100*100µm^2**
4. **Bond pad metalization: Gold**
5. **Backside metalization: Gold**

Assembly Drawing



No	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	Drain Biases for the Amplifier. External bypass capacitors of 1µf ,100pf and 1000pf are required for these pads.
4	Die Bottom	Die bottom must be connected to RF and dc ground.



Biasing and Operation

Turn ON procedure:

1. Connect GND to RF and dc ground.
2. Apply positive drain voltage VD and set to +5V .
3. Apply RF signal.

Turn OFF procedure:

1. Turn off the RF signal.
2. Turn off the positive drain voltage VD.