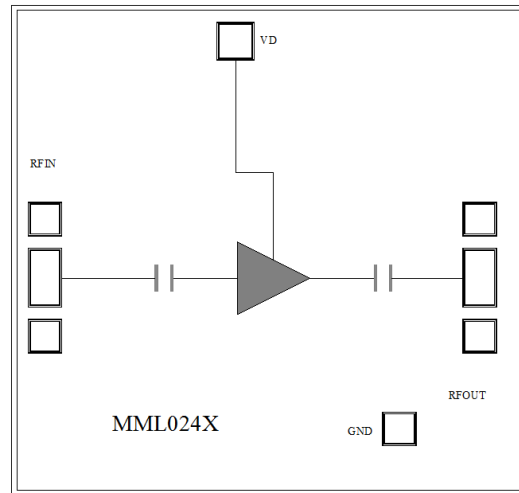


Features

- Single Biasing Voltage (Self Biased)
- Frequency: 1-9GHz
- Small Signal Gain: 28dB Typical
- Gain Flatness: ± 0.75 dB Typical
- Noise Figure: 0.7dB Typical
- P1dB: 17dBm Typical
- Power Supply: +5V/50mA
- Input/Output: 50 Ω
- Chip Size: 1.33 x 1.25 x 0.1mm

Typical Applications

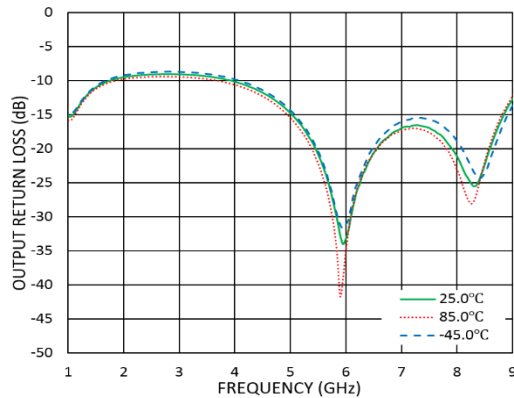
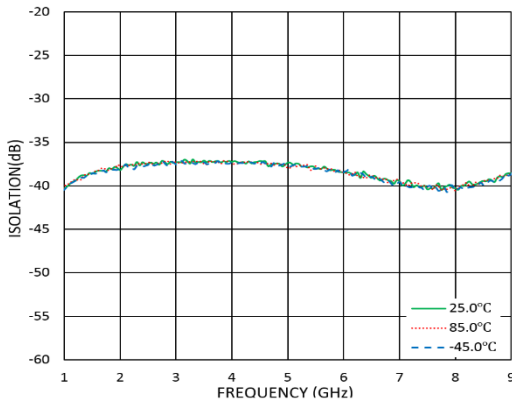
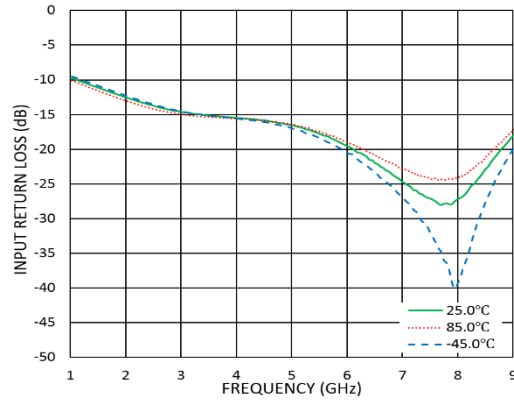
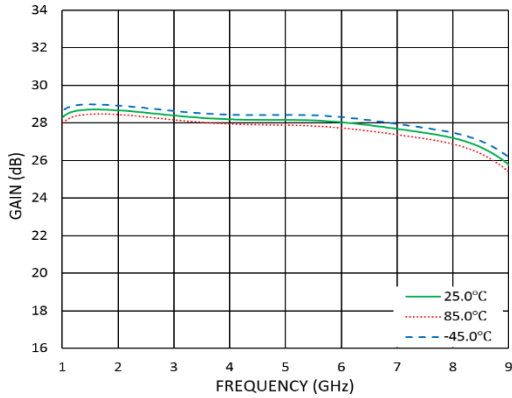
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Functional Block Diagram

Electrical Specifications
TA = +25°C, VD = +5V, IDD = 50mA Typical

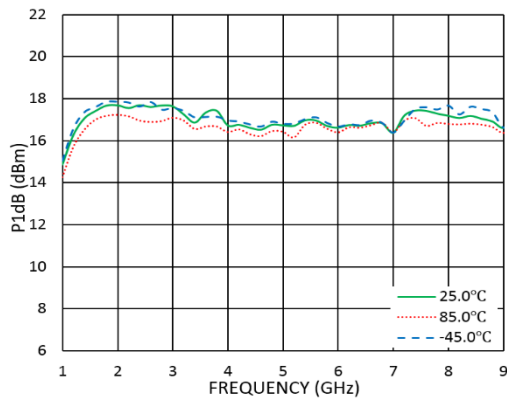
Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency	1		2	2		6	6		9	GHz
Small Signal Gain	27.5	28.5		27.0	28.0		24.5	27.0		dB
Gain Flatness		± 0.5			± 0.5			± 1.0		dB
Noise Figure		0.75	1.0		0.7	0.8		0.8	1.0	dB
P1dB - Output 1dB Compression	14.0	17.0		16.0	17.0		16.0	17.0		dBm
Past - Saturated Output Power		18.5			18.0			18.5		dBm
OIP3 - Output 3rd Order Intercept		30.0			29.0			29.0		dBm
Input Return Loss		12.0			15.0			22.0		dB
Output Return Loss		10.0			10.0			20.0		dB



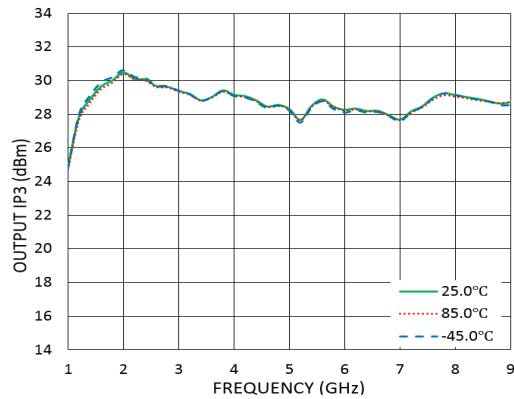
Measurement Plots: S-parameters

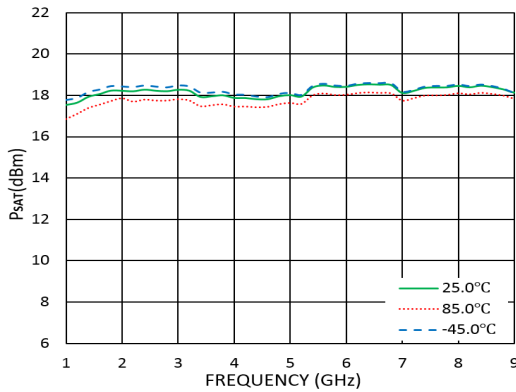
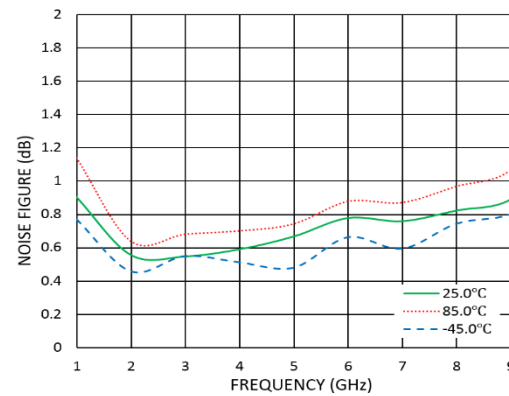


Measurement Plots: P1dB



Measurement Plots: OIP3



Measurement Plots: P_{SAT}

Measurement Plots: Noise Figure

Absolute Maximum Ratings

Drain Bias Voltage (VD)	+7V
RF Input Power (RFIN)(VD=+5V)	+20dBm
Channel Temperature	175°C
Continuous Pdiss (T = 85 °C) (derate 4.4mW/°C above 85 °C)	0.4W
Thermal Resistance (channel to die bottom)	50°C/W
Operating Temperature	-55°C to +85 °C
Storage Temperature	-65°C to +150 °C

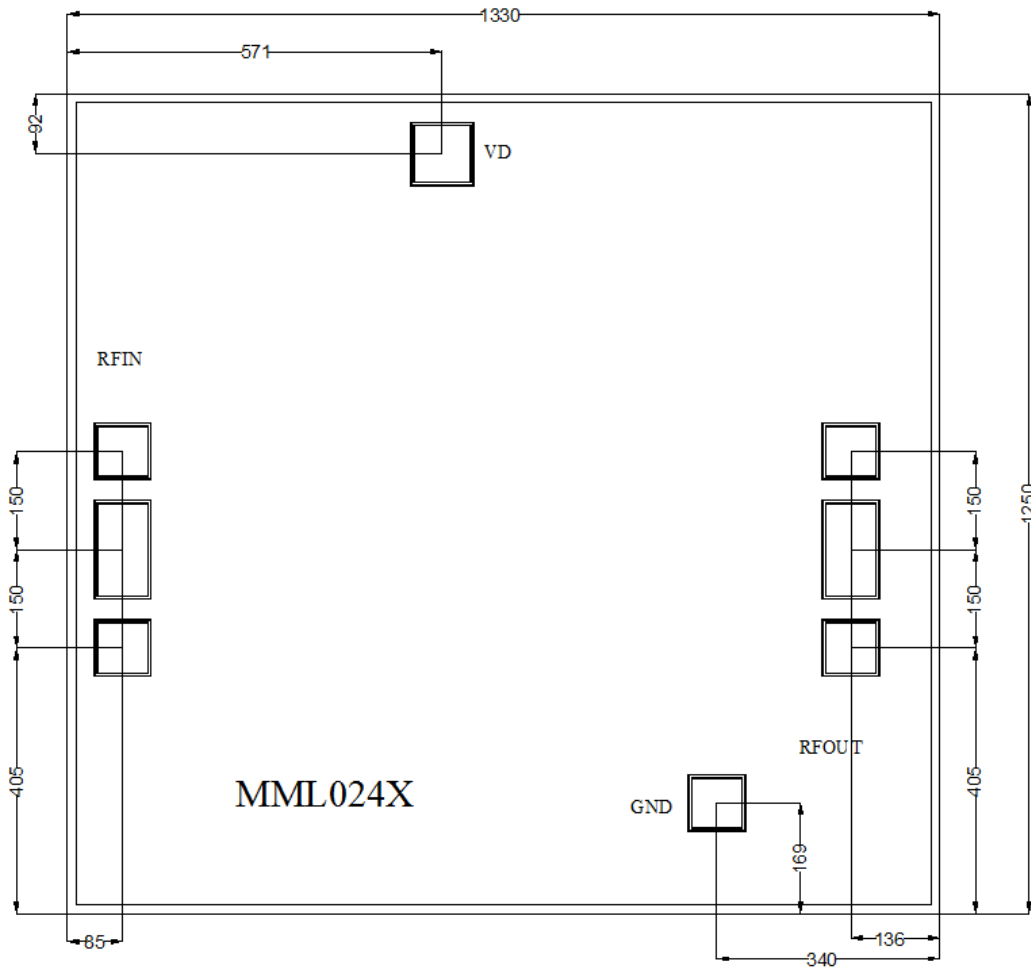
Typical Supply Current vs. VD

VD (V)	IDD (mA)
+5	50


**ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS**



Outline Drawing:
All Dimensions in μm

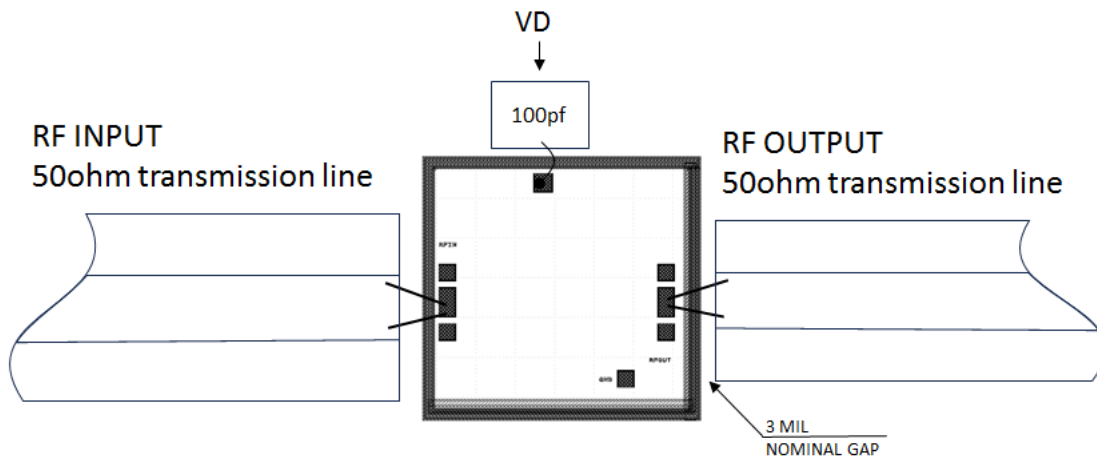


Notes:

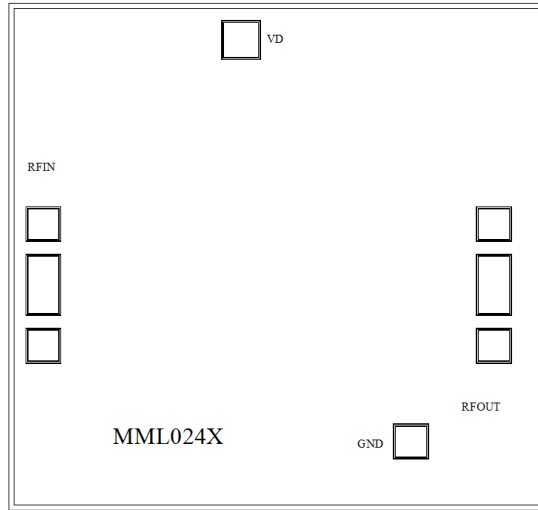
1. Die thickness: 100 μm
2. DC bond pad is 100 x 100 μm^2
3. RF IN/OUT bond pad is 100 x 100 μm^2
4. Bond pad metalization: Gold
5. Backside metalization: Gold



Assembly Drawing



No	Function	Description
1	RF IN	RF Signal Input. This pad is ac-coupled and matched to 50 Ω.
2	RF OUT	RF Signal Output. This pad is ac-coupled and matched to 50 Ω.
3	VD	Connect to external 100pf bypass capacitors.
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 +5.0 V .
3. Apply RF signal.

Turn OFF procedure:

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

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