

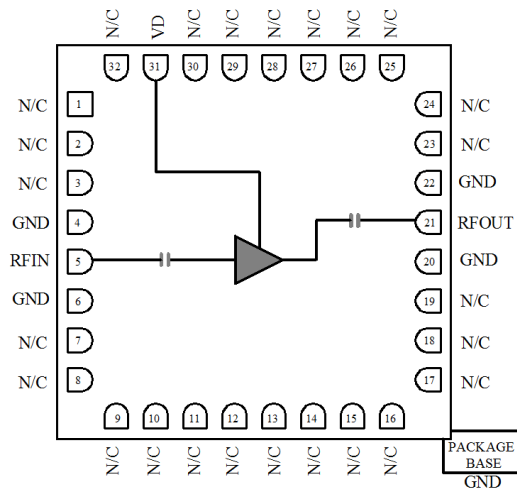
Features

- Single Biasing Voltage (Self Biased)
- Frequency: 2-20GHz
- Small Signal Gain: 12.5dB Typical
- Gain Flatness: ± 1.0 dB Typical
- Noise Figure: 4.5dB Typical
- P1dB: 24dBm Typical
- Psat: 25dBm Typical
- Supply voltage: +8V/185mA
- Input/Output: 50 Ω
- Package Size : 5 x 5x 1mm

Typical Applications

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

Functional Block Diagram



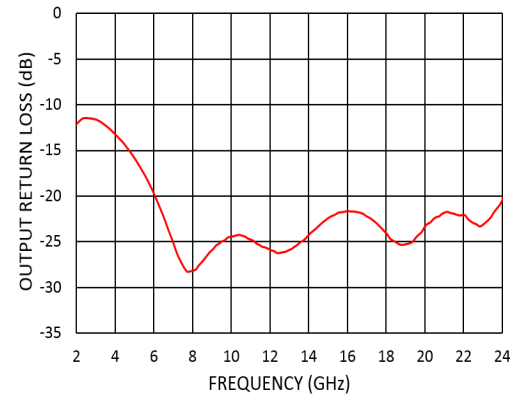
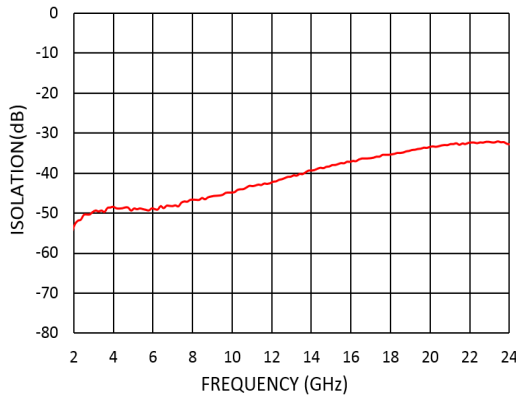
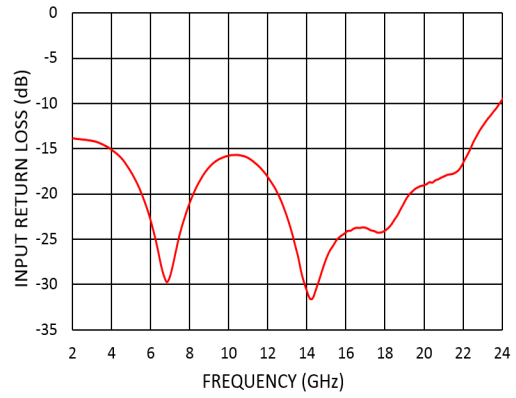
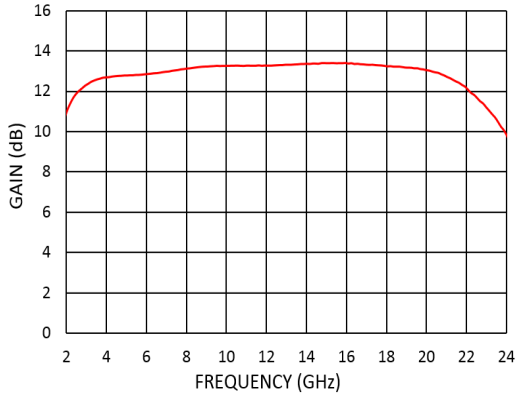
Electrical Specifications

TA = +25°C, VD = +8V, IDD = 185mA Typical

Parameters	Min.	Typ.	Max.	Units
Frequency	2-20			GHz
Small Signal Gain	10	12.5		dB
Gain Flatness		± 1.0		dB
Noise Figure		5.0		dB
P1dB - Output 1dB Compression	21.5	24		dBm
Psat - Saturated Output Power	22.5	25		dBm
OIP3 - Output Third Order Intercept		33		dBm
Input Return Loss		15		dB
Output Return Loss		18		dB



Measurement Plots: S-parameters





Absolute Maximum Ratings

Drain Bias Voltage (VD)	+10V
RF Input Power (RFIN)	+20dBm
Channel Temperature	175°C
Continuous Pdiss (T = 85 °C) (derate 22mW/°C above 85 °C)	2W
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

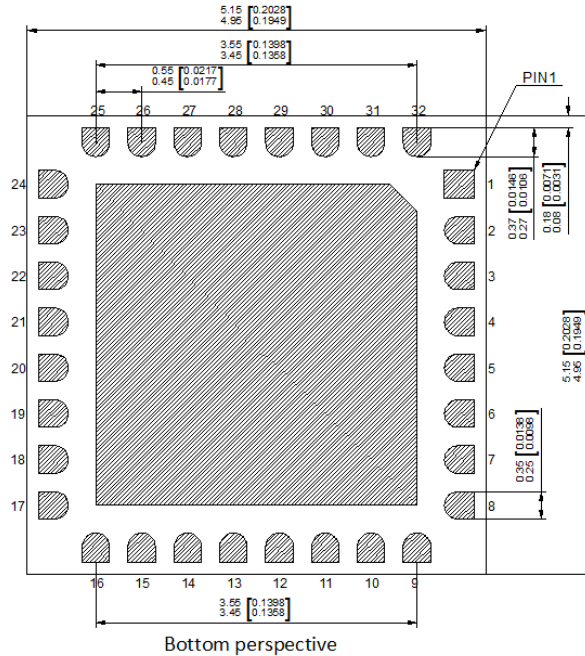
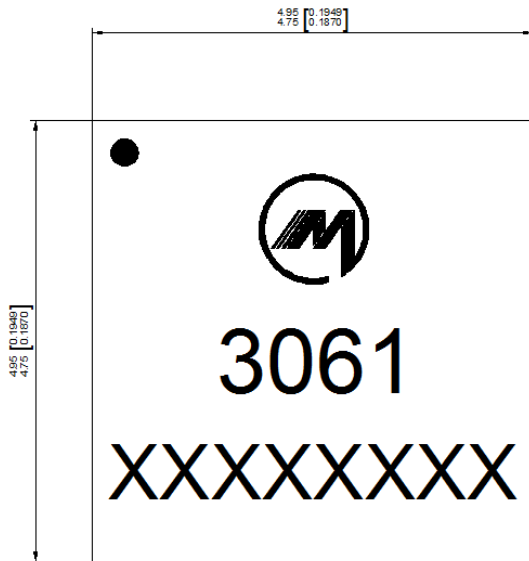
VD (V)	IDD (mA)
8	185



ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS



Outline Drawing: All Dimensions in mm[inches]

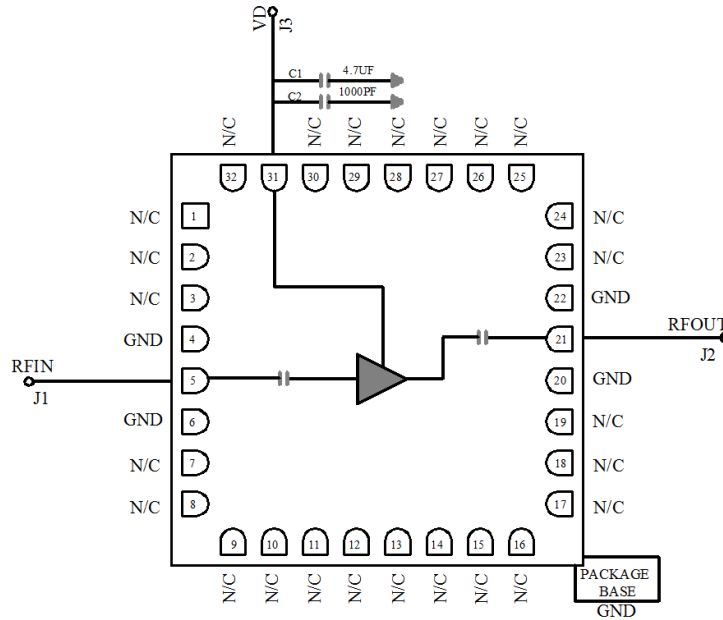


Notes:

1. Package body material : Alumina.
2. Lead and ground paddle plating: Gold flash over nickel.
3. Dimensions are in millimeters(inches).
4. Lead spacing tolerance is non-cumulative.

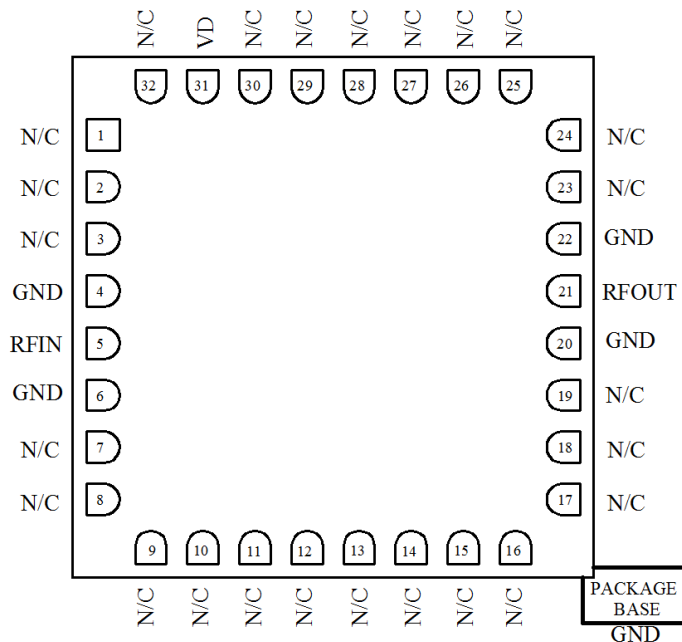


Assembly Drawing



Pin Descriptions

No	Function	Description
1,2,3,7,8,9,10,11,12,13,14,15,16,17,18,19,23,24,25,26,27,28,29,30,32	NC	No connection. These pins may be connected to RF ground. Performance will not be affected.
5	RF IN	RF Signal Input. This pad is dc-coupled and matched to 50 Ω.
21	RF OUT	RF Signal Output. This pad is dc-coupled and matched to 50 Ω.
31	VD	Connect to external 1000pf and 4.7uf bypass capacitors.
4,6,20,22	GND	These pins & exposed ground paddle must be connected to RF/DC ground
	GND	Package bottom must be connected to RF/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 +8.0 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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