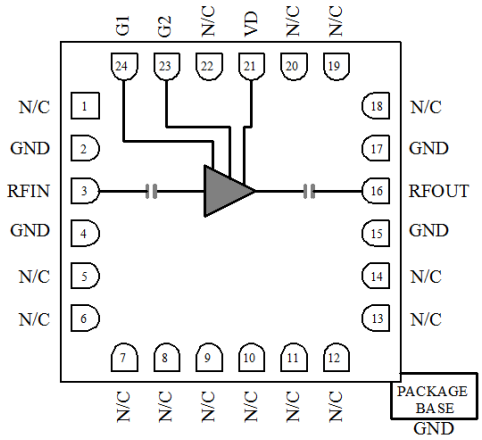
Features

- Featuring Two Working Modes:
  High Power Consumption And Low Power Consumption.
- Frequency: 7-13GHz
- Small Signal Gain: 31dB@21mA; 30dB@13mA Typical
- Gain Flatness: ⊥1.0dBTypical
- Noise Figure:1.0dB Typical
- P1dB: 10.5dBm @21mA; 6dBm@13mA Typical
- Power Supply:
  +5V/21mA@G1 G2 Suspended
  +5V/13mA@G1 G2 Grounded
- Input/Output: 50Ω
- Package Size : 4 x 4x 0.8mm

Functional Block Diagram



Typical Applications

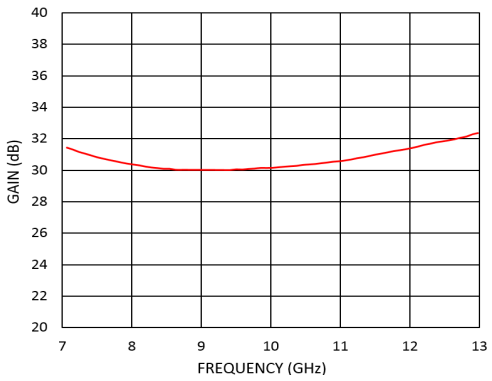
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

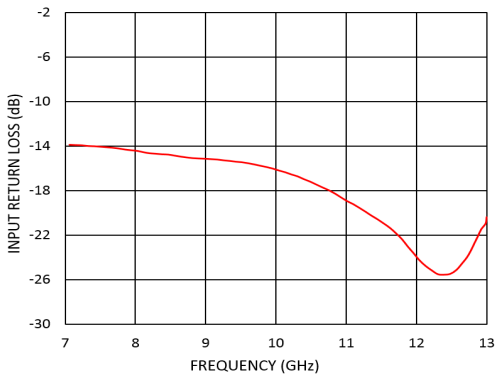
Electrical Specifications

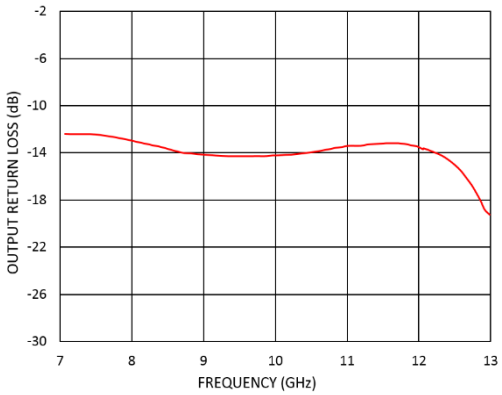
TA = +25°C, VD = +5V, IDD = 21mA & 13mA Typical

Parameters	G1 G2 Suspended			G1 G2grounded			
	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency	7		13	7		13	GHz
Small Signal Gain	28	30		27.5	29.5		dB
Gain Flatness		±1.0			±0.7		dB
Noise Figure		1.0			1.1		dB
P1dB - Output 1dB Compression	9	10.5		4	6		dBm
Psat - Saturated Output Power		11.5			7		dBm
OIP3 - Output Third Order Intercept		21			16		dBm
Input Return Loss		17			15		dB
Output Return Loss		14			13		dB

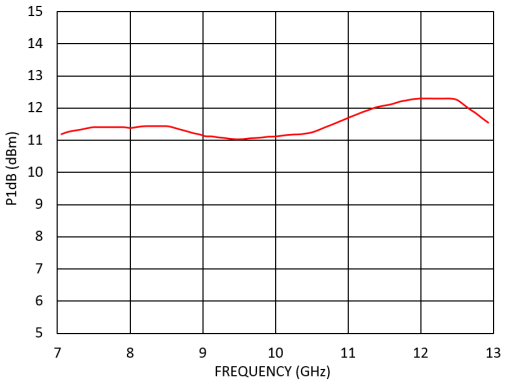
Measurement Plots: S-parameters
G1 G2 Suspended



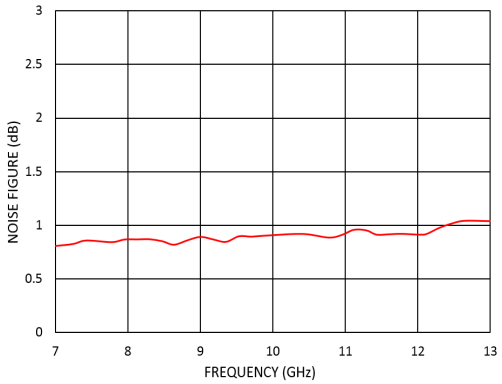




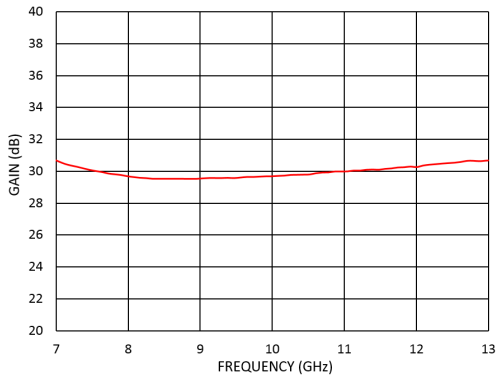
Measurement Plots: P1dB
G1 G2 Suspended

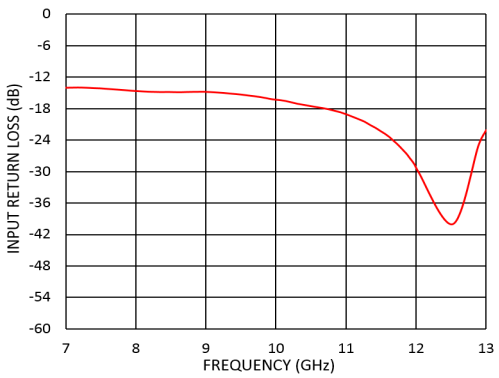


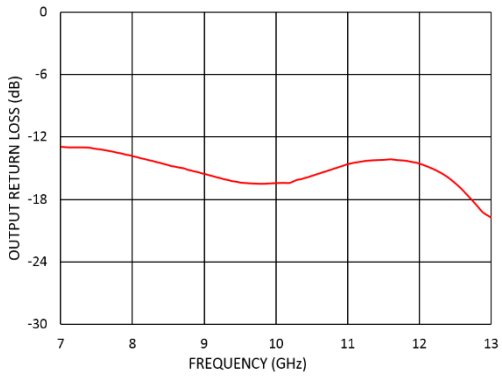
Measurement Plots: Noise Figure
G1 G2 Suspended



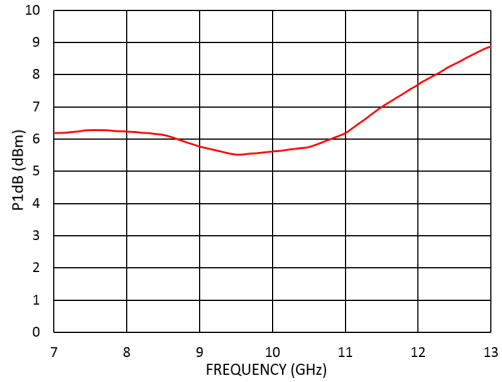
Measurement Plots: S-parameters
G1 G2 grounded



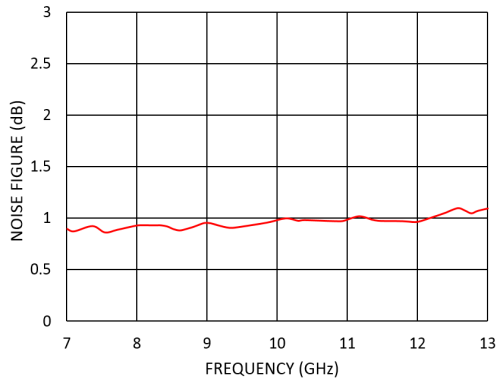




Measurement Plots: P1dB
G1 G2 grounded



Measurement Plots: Noise Figure
G1 G2 grounded



Absolute Maximum Ratings

Drain Bias Voltage (VD)	+6V
RF Input Power (RFIN)(VD=+5V)	+18dBm
Channel Temperature	175°C
Continuous Pdiss (T = 85 °C) (derate 2.2mW/°C above 85 °C)	0.2W
Thermal Resistance (channel to die bottom)	50°C/W
Operating Temperature	-55°C to +85 °C
Storage Temperature	-65°C to +150 °C

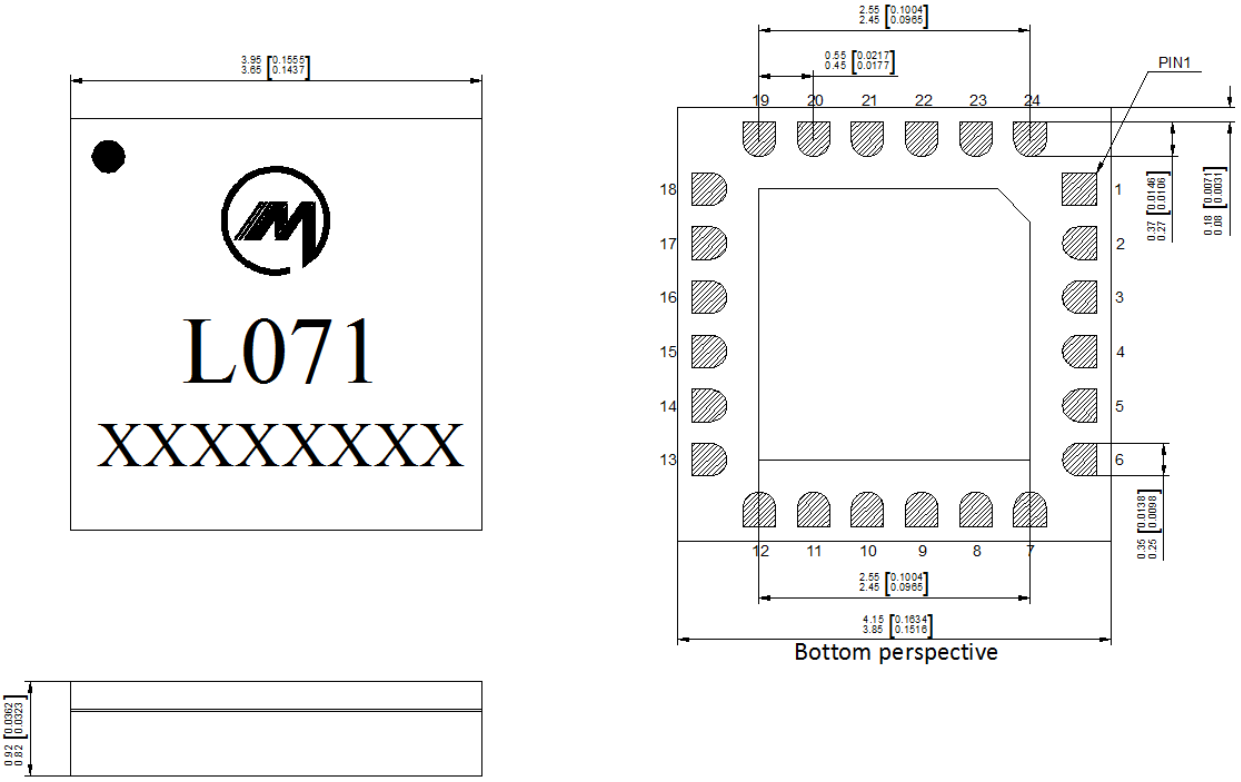
Typical Supply Current vs. VD

VD (V)	IDD (mA)
+5	21

ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

Outline Drawing:

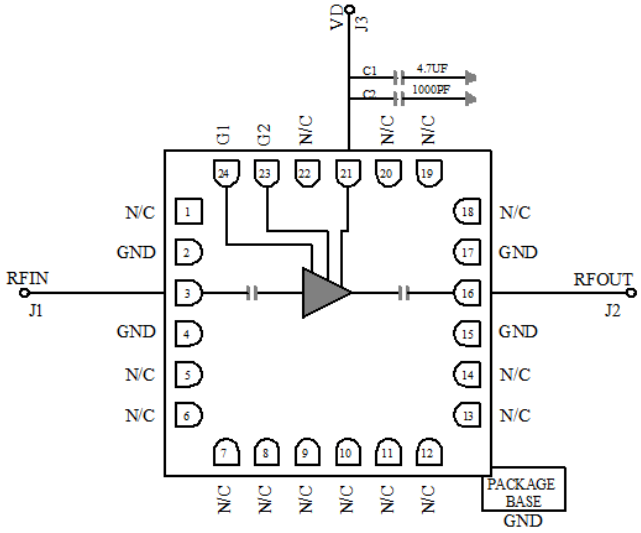
All Dimensions in mm[inches]



Notes:

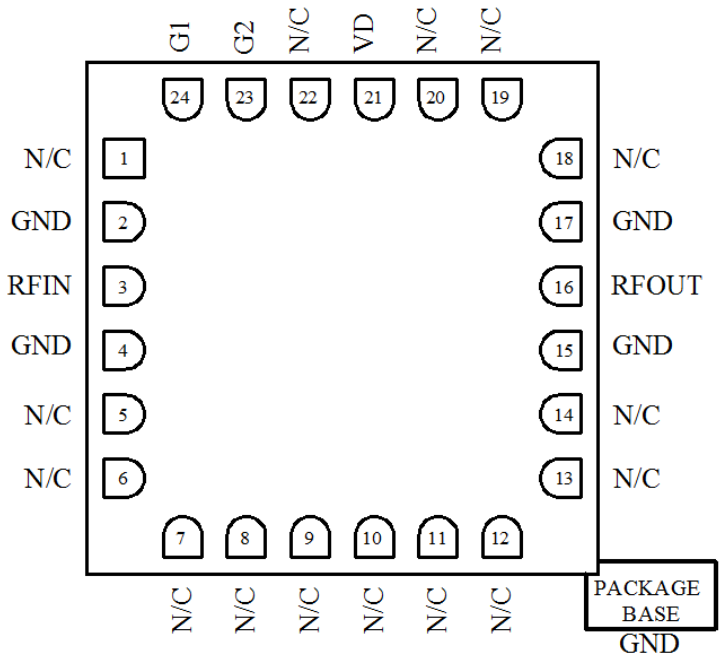
1. Package body material : Alumina.
2. Lead and ground paddle plating: Gold flash over nickel.
3. Dimensions are in millimeters(inches).
4. Lead spacing tolerance is non-cumulative.

Assembly Drawing



Pin Descriptions

No	Function	Description
1,5,6,7,8,9,10,11,12,13,14,18,19,20,22	NC	No connection. These pins may be connected to RF ground. Performance will not be affected.
3	RF IN	RF Signal Input. This pad is ac-coupled and matched to 50 Ω.
16	RF OUT	RF Signal Output. This pad is ac-coupled and matched to 50 Ω.
21	VD	Connect to external 1000pf and 4.7uf bypass capacitors.
23,24	G1,G2	This pad can adjust the working status of the amplifier. when suspended, the amplifier operates in high power mode, and when connected to RF/DC ground , the amplifier operates in low power mode.
2,4,15,17	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. G1&G2 suspended or connected to RF/DC ground, 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.