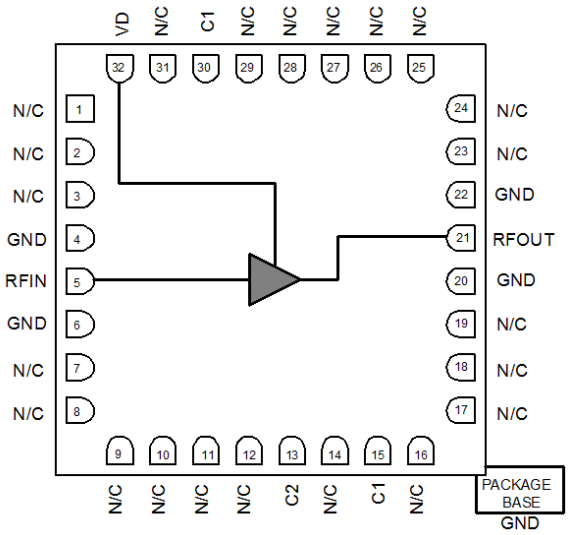
Features

- Single Biasing Voltage (Self Biased)
- Frequency: DC - 20GHz
- Small Signal Gain: 17.5dB Typical
- Gain Flatness: ±1dB Typical
- Noise Figure:2.5dB Typical
- P1dB: 11dBm Typical
- Power Supply: +5V/38mA
  +8V/70mA
- Input/Output: 50Ω
- Package Size : 5 x 5x 1mm

Typical Applications

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

Functional Block Diagram



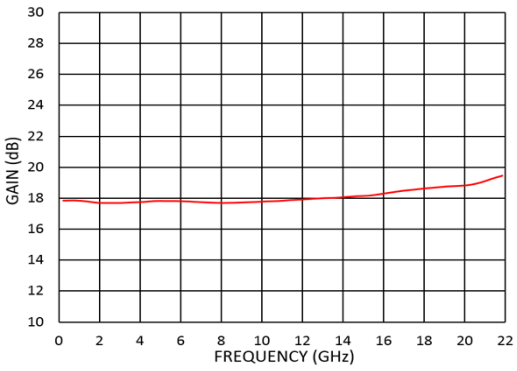
Electrical Specifications

TA = +25°C, VD = +5V, IDD = 38mA Typical

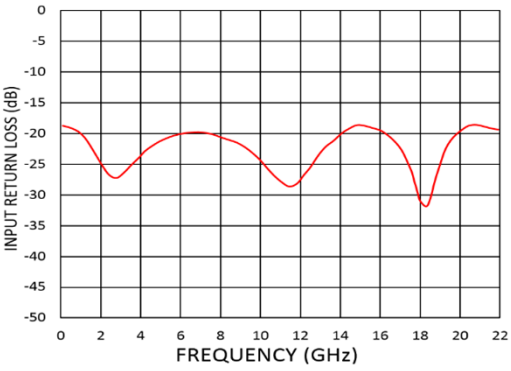
Parameters	Min.	Typ.	Max.	Units
Frequency	DC		20	GHz
Small Signal Gain	16	17.5		dB
Gain Flatness		±1.0		dB
Noise Figure		2.5		dB
P1dB - Output 1dB Compression	8	11		dBm
Past - Saturated Output Power		13		dBm
OIP3 - Output Third Order Intercept		21		dBm
Input Return Loss		18		dB
Output Return Loss		18		dB

Measurement Plots: S-parameters

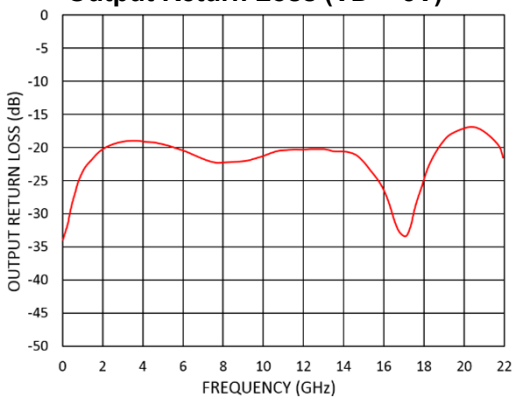
Gain (VD=+5V)



Input Return Loss (VD=+5V)

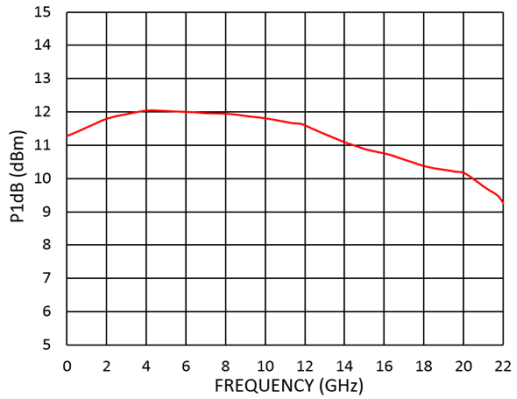


Output Return Loss (VD=+5V)



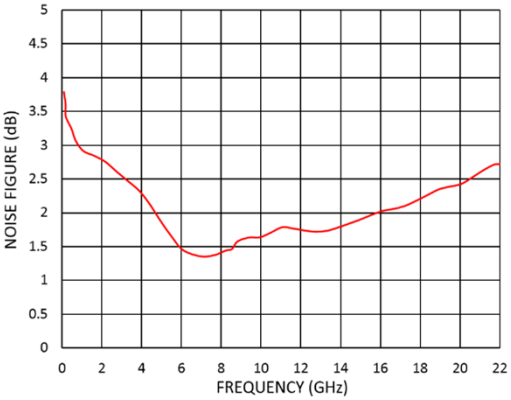
Measurement Plots: P1dB

(VD=+5V)



Measurement Plots: Noise Figure

(VD=+5V)



Absolute Maximum Ratings

Drain Bias Voltage (VD)	+9V
RF Input Power (RFIN)(VDD=+5V)	+18 dBm
Channel Temperature	175°C
Continuous Pdiss (T = 85 °C) (derate 9mW/°C above 85 °C)	0.8W
Thermal Resistance (channel to die bottom)	50°C/W
Operating Temperature	-55°C to +85 °C
Storage Temperature	-55°C to +150 °C

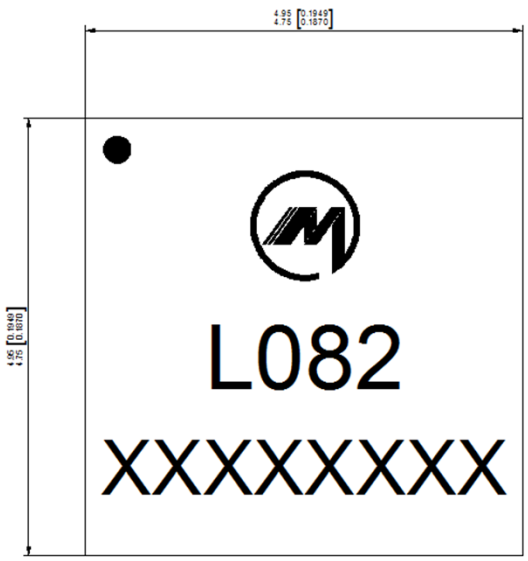
Typical Supply Current vs. VD

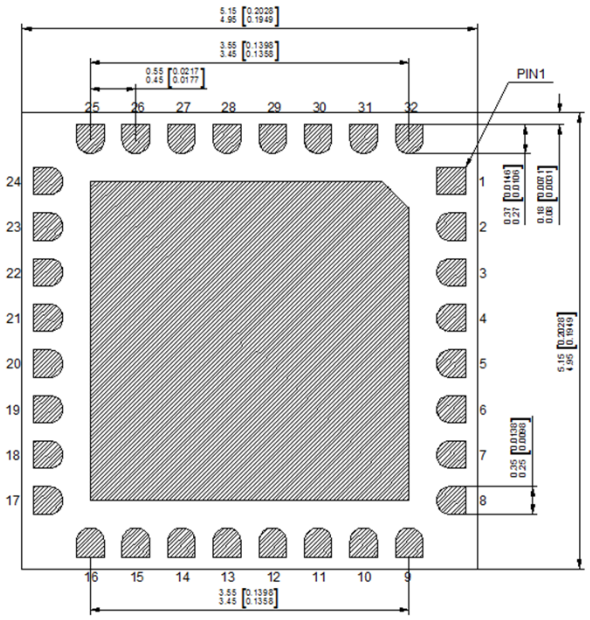
VD (V)	IDD (mA)
+5	38
+8	70

ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

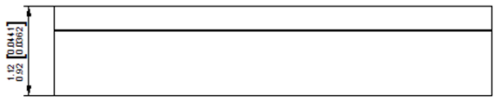
Outline Drawing:

All Dimensions in mm[inches]





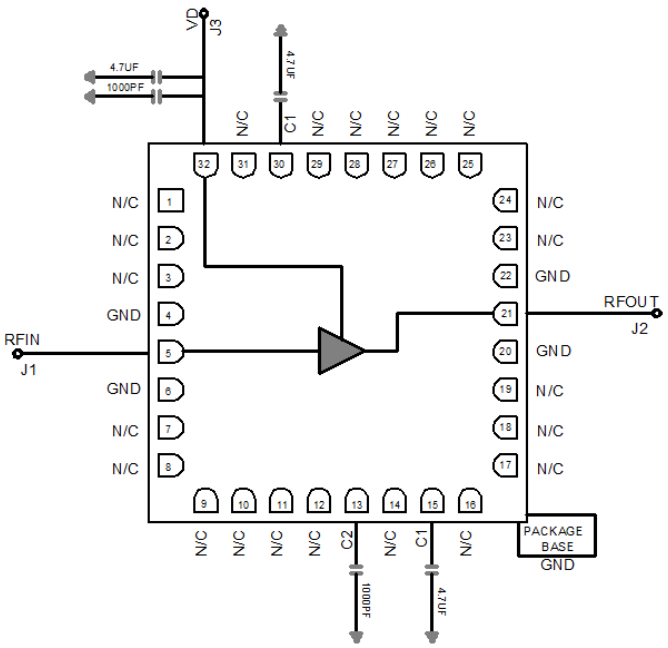
Bottom perspective



Notes:

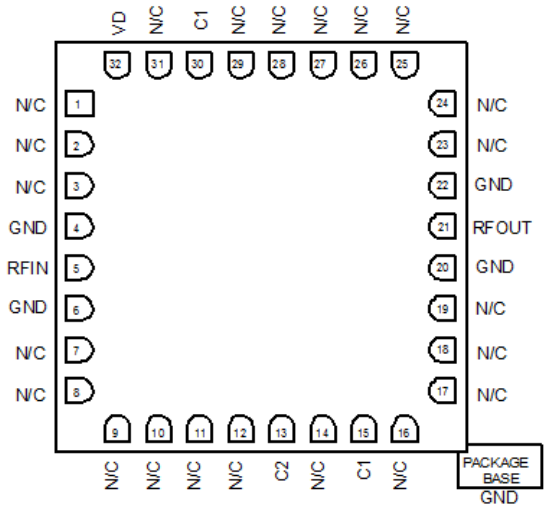
1. Package body material : Alumina.
2. Lead and ground paddle plating: Gold flash over nickel.
3. Dimensions are in millimeters(inches).
4. Lead spacing tolerance is non-cumulative.

Assembly Drawing



Pin Descriptions

No	Function	Description
1,2,3,7,8,9,10,11,12,14,16 ,17,18,19,23,24,25,26,27, 28,29,31	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.
32	VD	Connect to external 1000pF and 4.7uF bypass capacitors.
15,30	C1	Connect to external 4.7uF bypass capacitors.
13	C2	Connect to external 1000pF 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 +5.0 V .
3. Apply RF signal.

Turn OFF procedure:

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