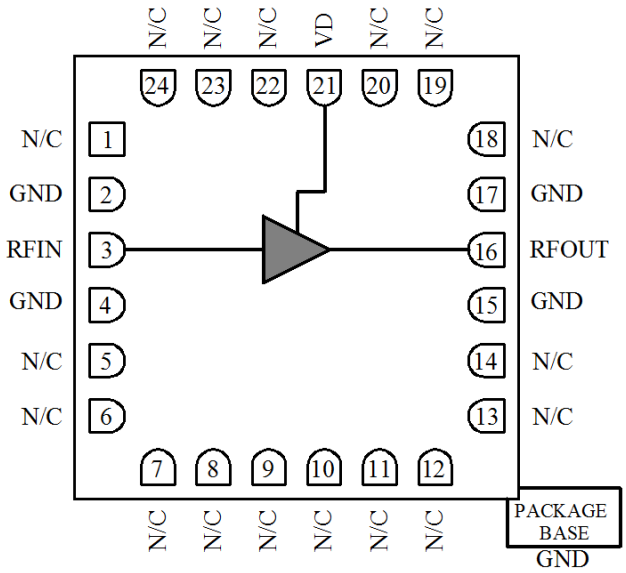
Features

- Single Biasing Voltage (Self Biased)
- Frequency: 0.05-20GHz
- Small Signal Gain: 23dB Typical
- Gain Flatness: ±0.75dB Typical
- Noise Figure:1.8dB Typical
- P1dB: 10dBm Typical
- Power Supply: +5V/55mA
- Input/Output: 50Ω
- Package Size : 4 x 4x 0. 8mm

Typical Applications

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

Functional Block Diagram

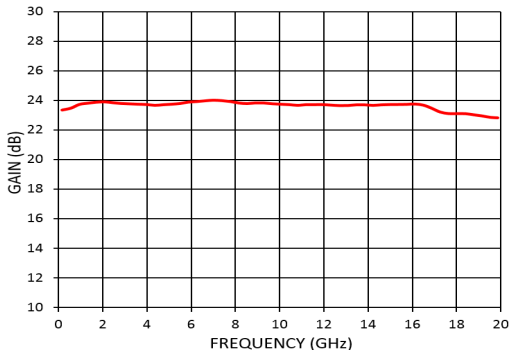


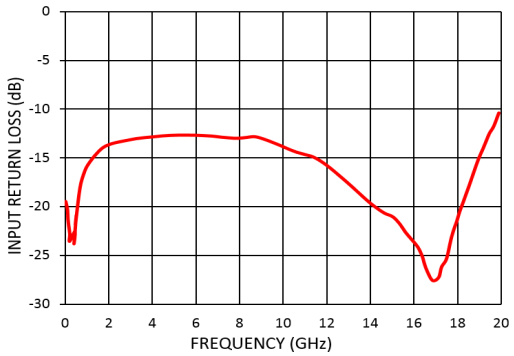
Electrical Specifications

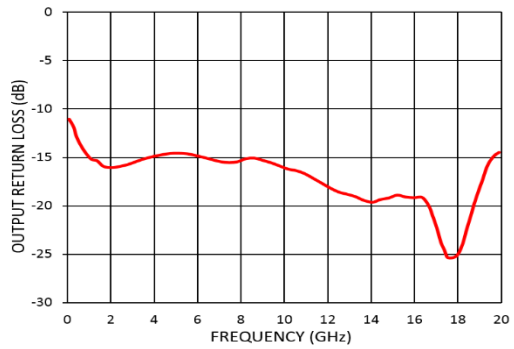
TA = +25°C, VD = +5V, IDD = 55mA Typical

Parameters	Min.	Typ.	Max.	Units
Frequency	0.05		20	GHz
Small Signal Gain	21	23		dB
Gain Flatness		±0.75		dB
Noise Figure		1.7		dB
P1dB - Output 1dB Compression	8	10		dBm
Psat - Saturated Output Power		12		dBm
OIP3 - Output Third Order Intercept		21		dBm
Input Return Loss		-13		dB
Output Return Loss		-15		dB

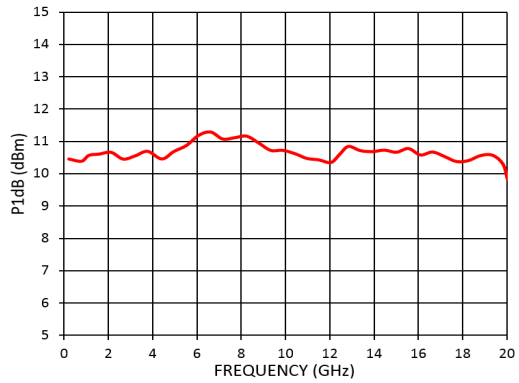
Measurement Plots: S-parameters



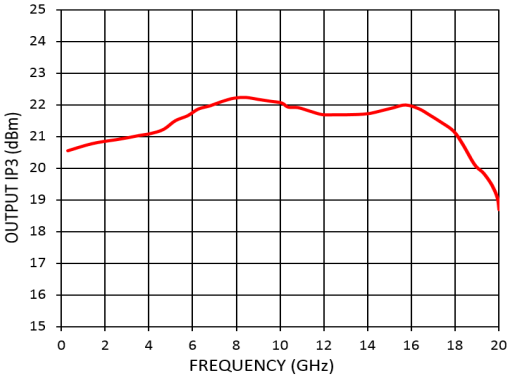




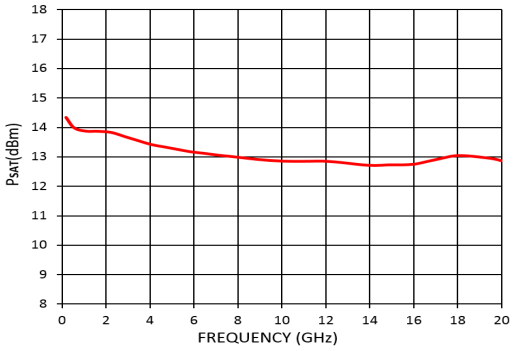
Measurement Plots: P1dB



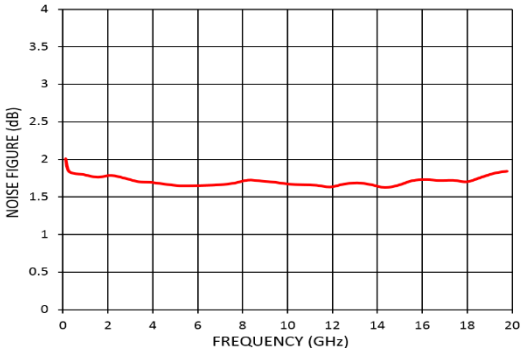
Measurement Plots: OIP3



Measurement Plots: PSAT



Measurement Plots: Noise Figure



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 4.9mW/°C above 85 °C)	4.4W
Thermal Resistance (channel to die bottom)	50°C/W
Operating Temperature	-55°C to +85 °C
Storage Temperature	-55°C to +150 °C

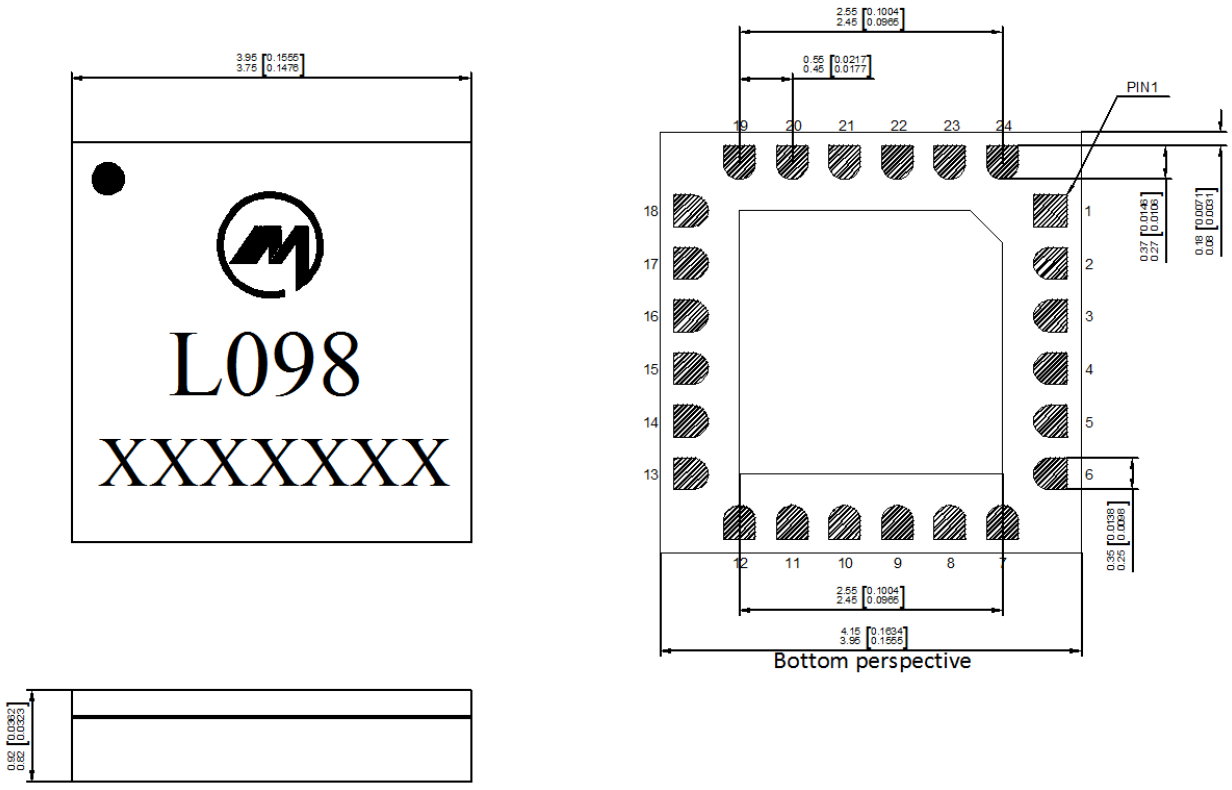
Typical Supply Current vs. VD

VD (V)	IDD (mA)
+5	55

ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

Outline Drawing:

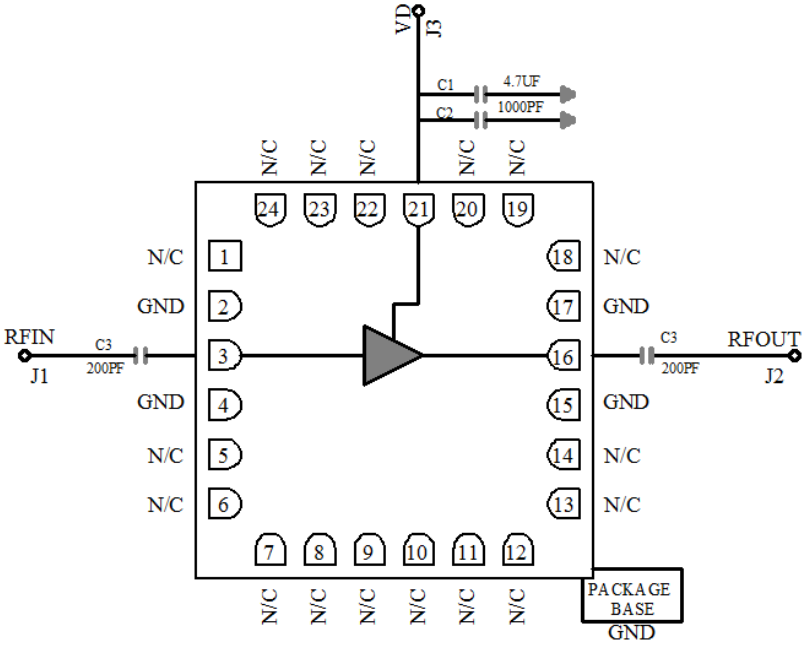
All Dimensions in mm[inches]



Notes:

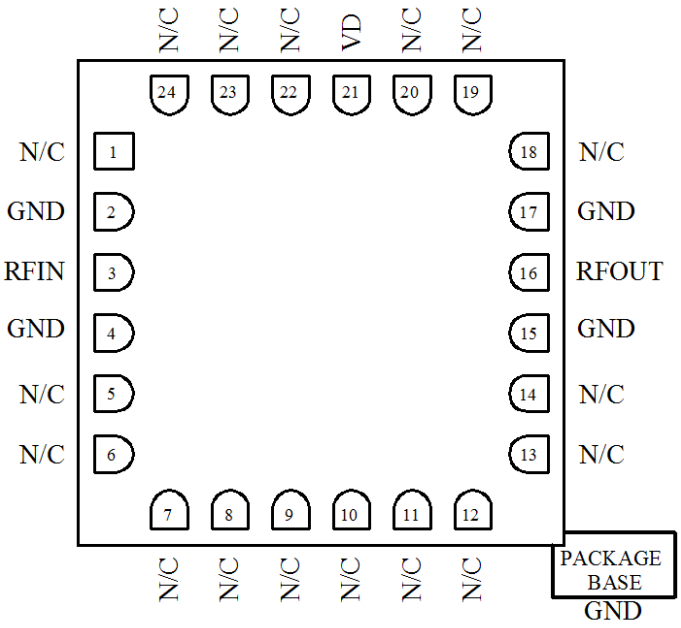
1. Package body material : Alumina.
2. Lead and ground paddle plating: Gold flash over nickel.
3. Dimensions are in millimeters(inches).
4. Lead spacing tolerance is non-cumulative.

Assembly Drawing



Pin Descriptions

No	Function	Description
1,5,6,7,8,9,10,11,12,13, 14,18,19,20,22,23,24	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 dc-coupled and matched to 50 Ω.
16	RF OUT	RF Signal Output. This pad is dc-coupled and matched to 50 Ω.
21	VD	Connect to external 1000pf and 4.7uf bypass capacitors.
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. 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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