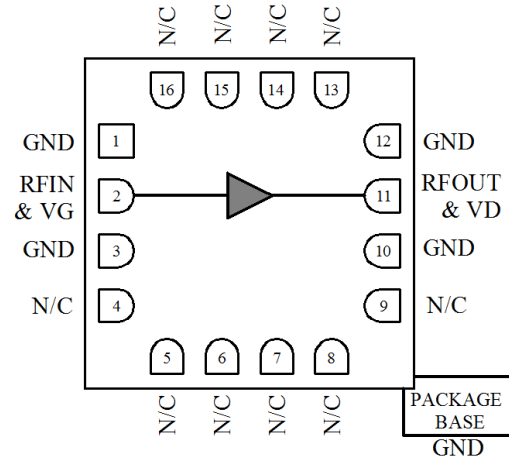


### Features

- Frequency: 0.1-18GHz
- Small Signal Gain: 15dB Typical
- Gain Flatness:  $\pm 1.0$ dB Typical
- Noise Figure: 1.7dB Typical
- P1dB: 17dBm Typical
- Power Supply: +5V/35mA
- Input/Output: 50 $\Omega$
- Package Size : 3 x 3x 0.7mm

### Functional Block Diagram



### Typical Applications

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

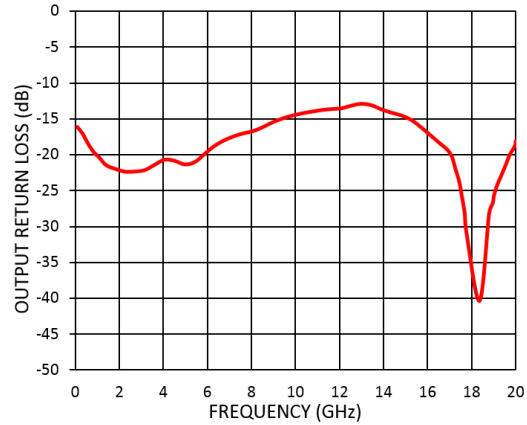
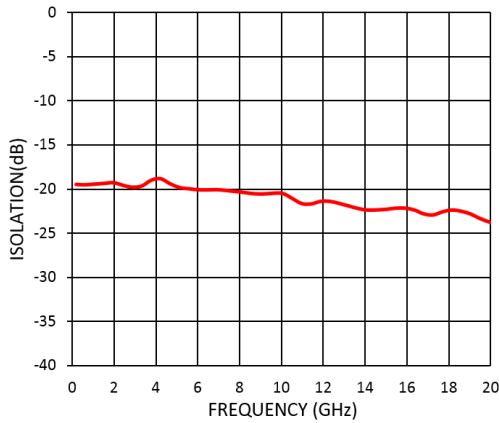
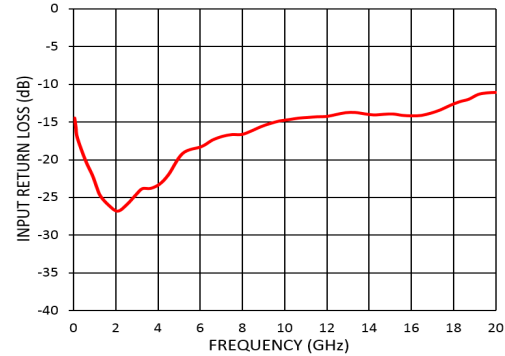
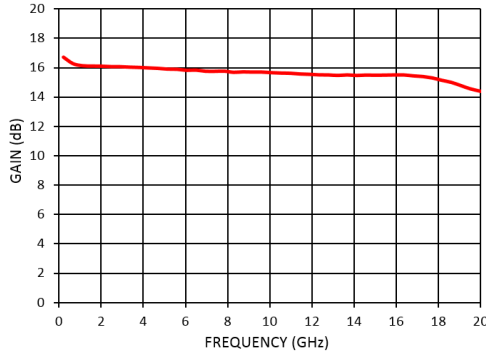
### Electrical Specifications

TA = +25°C, VD = +5V, VG= +0.5V, IDD = 35mA Typical

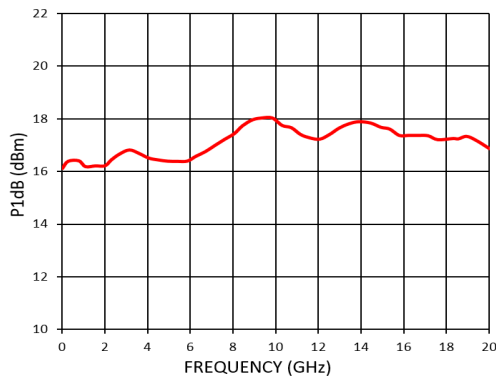
Parameters	Min.	Typ.	Max.	Units
Frequency	0.1		18	GHz
Small Signal Gain	14	15		dB
Gain Flatness		$\pm 1.0$		dB
Noise Figure		1.7		dB
P1dB - Output 1dB Compression	15	16		dBm
Psat - Saturated Output Power		17		dBm
OIP3 - Output Third Order Intercept		25		dBm
Input Return Loss		-15		dB
Output Return Loss		-15		dB



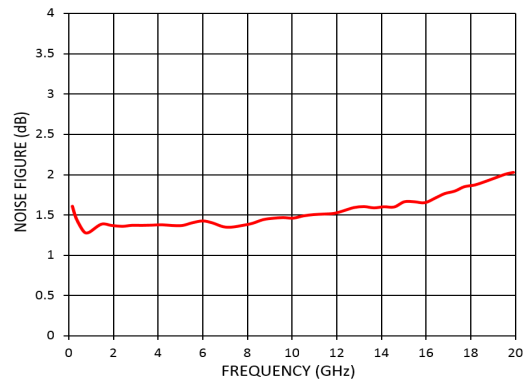
### Measurement Plots: S-parameters



### Measurement Plots: P1dB



### 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	-55°C to +150 °C

**Typical Supply Current vs. VD**

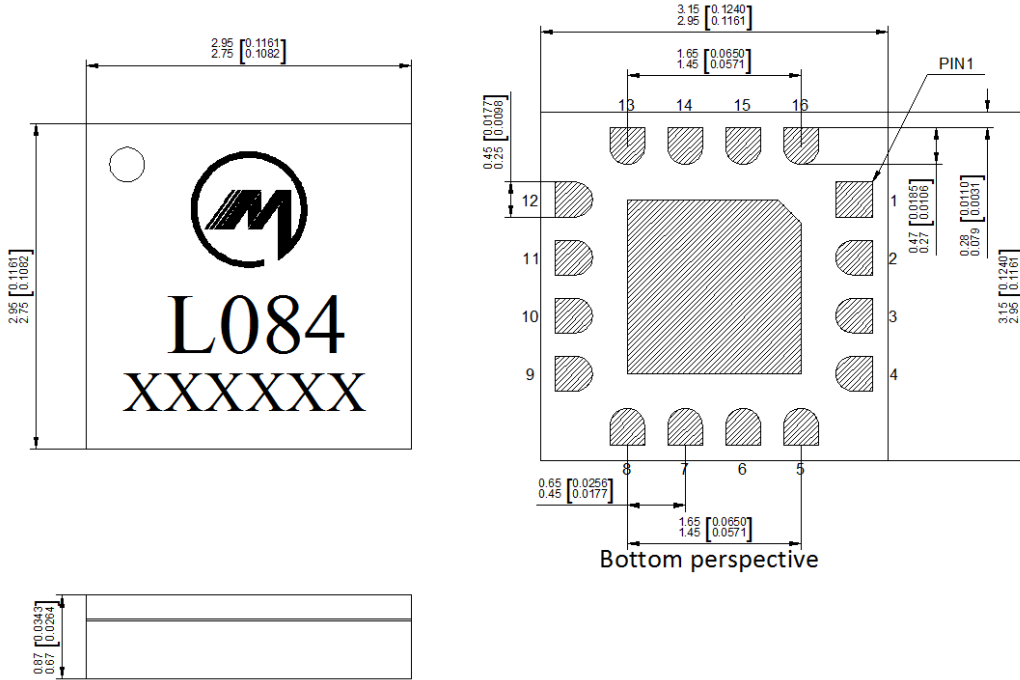
VD (V)	IDD (mA)
+5	35



ELECTROSTATIC SENSITIVE DEVICE  
OBSERVE HANDLING PRECAUTIONS



### Outline Drawing: All Dimensions in mm[inches]

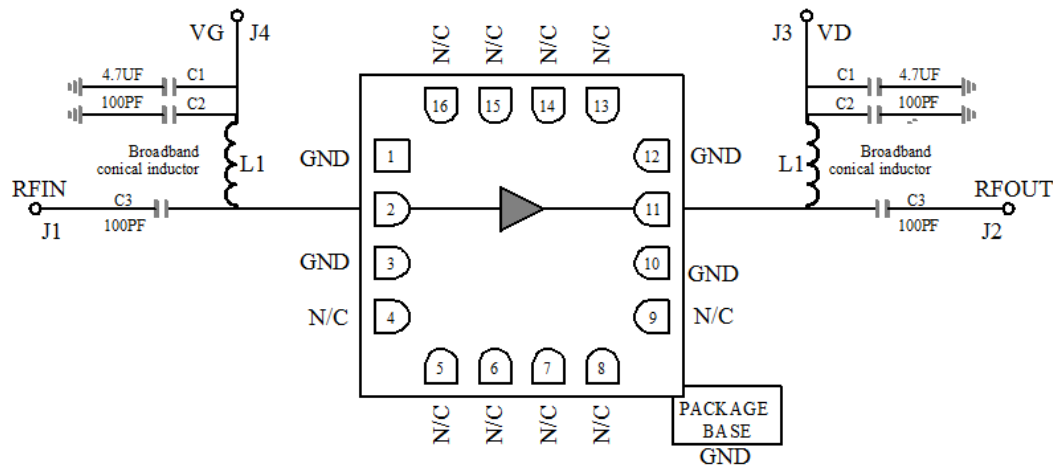


#### Notes:

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.

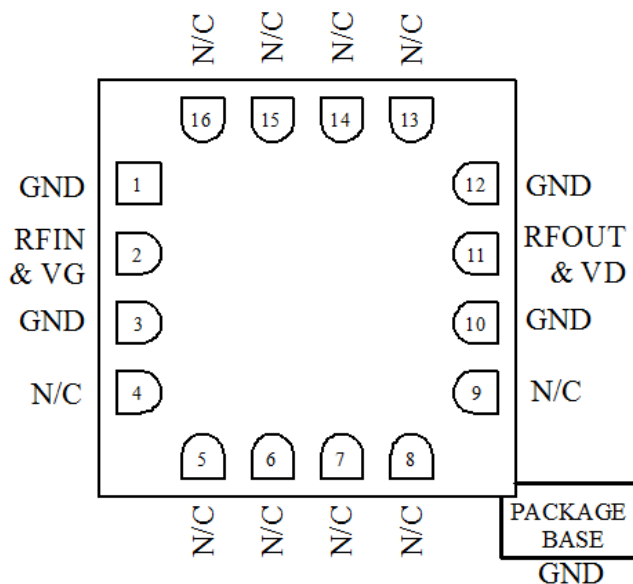


### Assembly Drawing



### Pin Descriptions

No	Function	Description
4,5,6,7,8,9,13,14,15,16	NC	No connection. These pins may be connected to RF ground. Performance will not be affected.
2	RF IN & VG	RF Signal Input. This pad is dc-coupled and matched to 50 $\Omega$ . Gate Control for amplifier.
11	RF OUT & VD	RF Signal Output. This pad is dc-coupled and matched to 50 $\Omega$ . Connect the DC bias (VD) network to provide drain current (IDD). See application circuit herein.
1,3,10,12	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 gate voltage VG and set to +0.5 V & 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 & VG.

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