

## Hermetically Sealed Wide Band Low Noise Amplifier 6GHz~18GHz



Note: Photo is for illustration purposes only.  
Please refer to outline drawing.

### Features

- Gain: 38dB Typical
- Noise Figure: 2dB Typical
- P<sub>1dB</sub> Output Power: 16dBm Typical
- Supply Voltage: +12V
- Drop in Package

### Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test and Measurement

Electrical Specifications, TA = +25°C, Vcc = +12V

| Parameter                                        | Min.                | Typ. | Max. | Units |
|--------------------------------------------------|---------------------|------|------|-------|
| Frequency Range                                  | 6                   |      | 18   | GHz   |
| Gain                                             |                     | 38   |      | dB    |
| Gain Flatness                                    |                     | ±1.5 |      | dB    |
| Gain Variation Over Temperature<br>(-40 ~ +85)   |                     | ±1.0 |      | dB    |
| Noise Figure                                     |                     | 2    |      | dB    |
| Input VSWR                                       |                     |      | 1.8  | : 1   |
| Output VSWR                                      |                     |      | 1.8  | : 1   |
| Output 1dB Compression Point (P <sub>1dB</sub> ) | 16                  |      |      | dBm   |
| Saturated Output Power (P <sub>sat</sub> )       |                     | 18   |      | dBm   |
| Output Third Order Intercept (IP <sub>3</sub> )  |                     | 26   |      | dBm   |
| Supply Current (Vcc=+13V)                        |                     |      | 180  | mA    |
| Isolation S <sub>12</sub>                        |                     | -60  |      | dB    |
| Impedance                                        | 50                  |      |      | Ohms  |
| Input / Output Connectors                        | SMA -Female         |      |      |       |
| Finish                                           | Gold Plated         |      |      |       |
| Material                                         | Kovar               |      |      |       |
| Package Sealing                                  | Hermetically Sealed |      |      |       |

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### Absolute Maximum Ratings

|                   |        |
|-------------------|--------|
| Operating Voltage | +15V   |
| RF Input Power    | -10dBm |

### Biasing Up Procedure

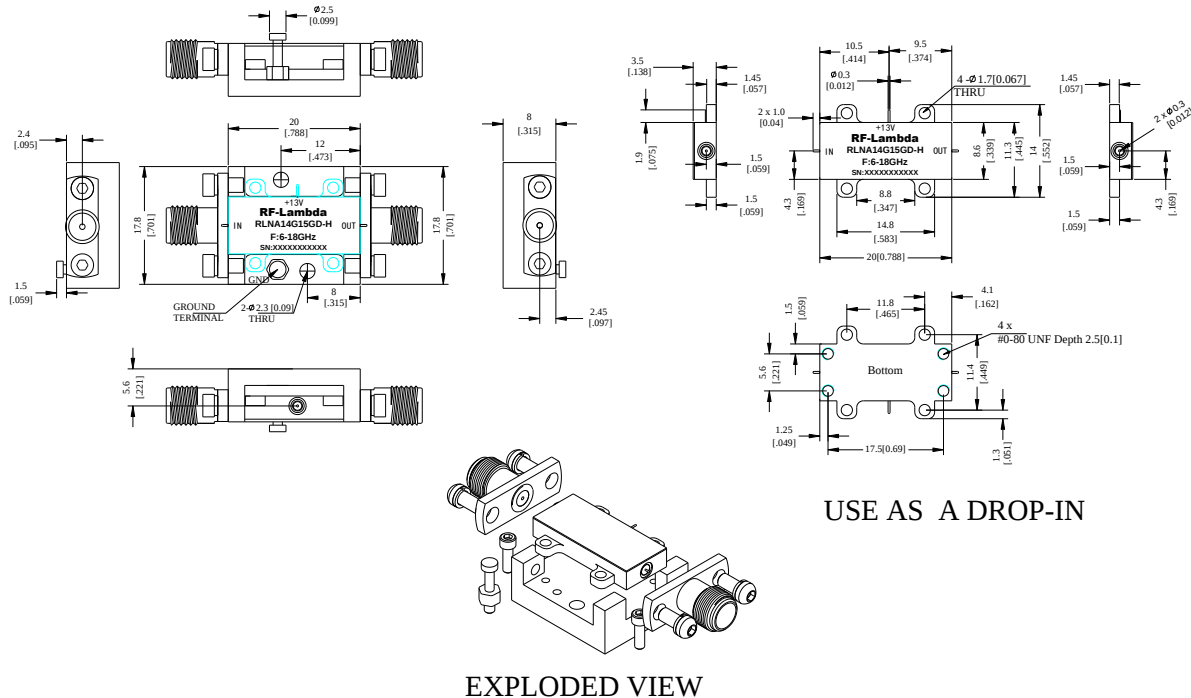
|                     |                          |
|---------------------|--------------------------|
| Step 1              | Connect Ground Pin       |
| Step 2              | Connect input and output |
| Step 3              | Connect +13V biasing     |
| Power OFF Procedure |                          |
| Step 1              | Turn off +13V biasing    |
| Step 2              | Remove RF connection     |
| Step 3              | Remove Ground.           |

### Environmental Specifications and Test Standards

| Parameter                      | Description                                                                                                                                                                                                     |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operational Temperature        | -40°C~+85°C<br>(Case Temperature)                                                                                                                                                                               |
| Storage Temperature            | -50°C~+105°C                                                                                                                                                                                                    |
| Thermal Shock                  | -40°C → +85°C<br>(5 Cycles / 10 hours)                                                                                                                                                                          |
| Random Vibration               | MIL-STD-202G<br>Table 214-I, Test Condition Letter C<br>1.5 Hours Per Axis                                                                                                                                      |
| High Temperature Burn In       | Temperature +85°C for 72 Hours                                                                                                                                                                                  |
| Shock                          | 1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s<br>2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s<br>3. Total 18 times (6 directions, 3 repetitions per direction). |
| Altitude                       | Standard: 30,000 Ft (Epoxy Sealed Controlled Environment)<br>Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)                                                                                             |
| Hermetically Sealed (Optional) | MIL-STD-883 (For Hermetically Sealed Units)                                                                                                                                                                     |

### Outline Drawing:

All Dimensions in mm [inches]



## USE AS A DROP-IN

EXPLODED VIEW

Heat Sink required during operation (Sold Separately)



## Ordering Information

| Part No.      | Description                                                  |
|---------------|--------------------------------------------------------------|
| RLNA14G15GD-H | Hermetically Sealed<br>6-18GHz Wide Band Low Noise Amplifier |

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