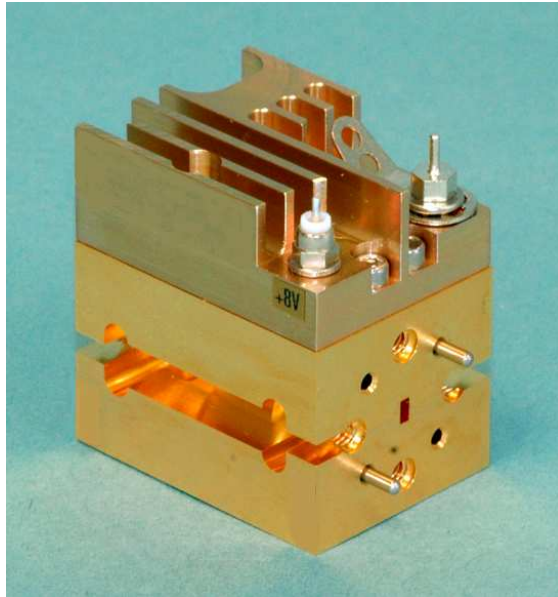


SERIES LNA
LOW NOISE AMPLIFIERS

FEATURES:

- Wideband coverage
- Modular compact design
- Military or commercial units available
- K, V or Waveguide interfaces as required
- Internal voltage regulation and bias circuitry
- State-of-the-art noise figure performance

APPLICATIONS:

- Sensitive receivers
- Spectrum analyzer preamplifiers
- Wideband radiometry
- Radar front-ends
- Communication subsystems
- Remote Sensing
- Radiometer Systems

DESCRIPTION

Millitech's series LNA low noise amplifier utilizes advanced PHEMT MMICs and transistors for state-of-the-art noise performance in the 18 to 110 GHz frequency range.

Each amplifier has internal bias circuitry that generates gate control voltages, provides proper voltage sequencing and bias.

The standard amplifier interfaces include coaxial connectors of 2.9 mm (K), (0 to 40 GHz), and 2.4 mm (V), (0 to 50 GHz), as well as waveguide interfaces ranging from WR-42 to WR-10.

Standard products offer sufficient gain for most applications but multiple MMIC amplifier chips can be combined or cascaded for applications that require higher gain or greater output power.

The broad bandwidth and low noise of the series LNA makes them perfect for a wide range of applications including radiometry, polarimetry, EW systems, instrumentation and radar systems. For applications requiring driver or power amplification, please refer to series AMP, Millitech's power amplifiers.

SPECIFICATIONS

Ultra Wide Bandwidth:

| Part Number | F _{Low} | F _{High} | Gain (typ.) (dB) | NF (typ.) (dB) | Connector | Current (A) (typ.) | Input Voltage (V) (min-max) |
|--------------|------------------|-------------------|------------------|----------------|-------------|--------------------|-----------------------------|
| LNA-KK-01050 | 5.0 | 40.0 | 12.0 | 5.0 | K Connector | .060 | 7.5 - 15 |
| LNA-KK-01020 | 24.0 | 40.0 | 23 to 15. | 3.6 | K Connector | .075 | 7.5 - 15 |
| LNA-28-01050 | 26.5 | 40.0 | 12.0 | 4.0 | WR-28 | .060 | 7.5 - 15 |
| LNA-28-01020 | 26.5 | 40.0 | 25 to 17 | 2.9 | WR-28 | .075 | 7.5 - 15 |
| LNA-22-01020 | 33.0 | 40.0 | 21.5 to 17 | 2.9 | WR-22 | .075 | 7.5 - 15 |

Very Wide Bandwidth:

| Part Number | F _{Low} | F _{High} | Gain (typ.) (dB) | NF (typ.) (dB) | Connector | Current (A) (typ.) | Input Voltage (V) (min-max) |
|--------------|------------------|-------------------|------------------|----------------|-------------|--------------------|-----------------------------|
| LNA-42-02160 | 19.0 | 21.2 | 19.0 | 2.8 | WR-42 | .100 | 7.5 - 15 |
| LNA-42-02010 | 18.0 | 26.5 | 19.0 | 3.0 | WR-42 | .100 | 7.5 - 15 |
| LNA-KK-02010 | 14.0 | 27.0 | 18.0 | 3.5 | K Connector | .100 | 7.5 - 15 |
| LNA-28-02170 | 34.0 | 36.0 | 19.0 | 3.1 | WR-28 | .075 | 7.5 - 15 |
| LNA-KK-02110 | 26.0 | 40.0 | 17.0 | 4.3 | K Connector | .075 | 7.5 - 15 |
| LNA-28-02110 | 26.5 | 40.0 | 19.0 | 3.3 | WR-28 | .075 | 7.5 - 15 |
| LNA-KK-02060 | 32.0 | 40.0 | 16.0 | 4.5 | K Connector | .055 | 7.5 - 15 |
| LNA-28-02060 | 32.0 | 40.0 | 16.0 | 3.5 | WR-28 | .055 | 7.5 - 15 |
| LNA-KK-02070 | 35.0 | 40.0 | 16 to 12 | 4.0 | K Connector | .100 | 7.5 - 15 |
| LNA-28-02070 | 35.0 | 40.0 | 18 to 14 | 3.0 | WR-28 | .100 | 7.5 - 15 |
| LNA-22-02070 | 35.0 | 45.0 | 18 to 11 | 3.0 | WR-22 | .100 | 7.5 - 15 |
| LNA-22-02060 | 33.0 | 46.0 | 15.0 | 3.5 | WR-22 | .055 | 7.5 - 15 |
| LNA-15-02080 | 50.0 | 55.0 | 11 to 8 | 3.5 | WR-15 | .100 | 7.5 - 15 |
| LNA-12-02100 | 71.0 | 86.0 | 13.0 | 5.5 | WR-12 | .045 | 7.5 - 15 |
| LNA-10-02100 | 75.0 | 86.0 | 12.0 | 5.5 | WR-10 | .045 | 7.5 - 15 |
| LNA-12-02150 | 75.0 | 90.0 | 21.0 | 5.0 | WR-12 | .050 | 7.5 - 15 |
| LNA-10-02180 | 92.0 | 96.0 | 22.0 | 4.7 | WR-10 | .050 | 7.5 - 15 |
| LNA-10-02120 | 82.0 | 100.0 | 16.0 | 6.0 | WR-10 | .065 | 7.5 - 15 |
| LNA-10-02130 | 82.0 | 100.0 | 30.0 | 6.5 | WR-10 | .100 | 7.5 - 15 |
| LNA-10-02150 | 75.0 | 110.0 | 22.0 | 5.0 | WR-10 | .050 | 7.5 - 15 |

*CONTACT MILLITECH FOR DETAILS

Wide Bandwidth:

| Part Number | F _{Low} | F _{High} | Gain (typ.) (dB) | NF (typ.) (dB) | Connector | Current (A) (typ.) | Input Voltage (V) (min-max) |
|--------------|------------------|-------------------|------------------|----------------|-------------|--------------------|-----------------------------|
| LNA-KK-03050 | 26.0 | 34.0 | 22.5 | 3.8 | K Connector | .080 | 7.5 – 15 |
| LNA-28-03050 | 26.5 | 34.0 | 24.0 | 3.0 | WR-28 | .080 | 7.5 – 15 |
| LNA-28-03110 | 32.0 | 34.0 | 19.0 | 3.0 | WR-28 | .075 | 7.5 – 15 |
| LNA-KK-03060 | 27.0 | 36.0 | 18.5 | 4.0 | K Connector | .075 | 7.5 – 15 |
| LNA-28-03060 | 27.0 | 36.0 | 20.0 | 3.2 | WR-28 | .075 | 7.5 – 15 |
| LNA-KK-03070 | 30.0 | 40.0 | 17.0 | 5.0 | K Connector | .065 | 7.5 – 15 |
| LNA-28-03070 | 30.0 | 40.0 | 19.0 | 4.0 | WR-28 | .065 | 7.5 – 15 |
| LNA-22-03070 | 33.0 | 42.0 | 20.0 | 4.0 | WR-22 | .065 | 7.5 – 15 |
| LNA-15-03090 | 55.0 | 65.0 | 19.0 | 4.8 | WR-15 | .080 | 7.5 – 15 |
| LNA-10-03100 | 88.0 | 96.0 | 15.5 | 5.5 | WR-10 | .050 | 7.5 – 15 |

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**Some part numbers are ITAR controlled. Please call Millitech for details.

