The latest amplifier series from the world class leader of amplifier products and solutions

The New Narda-MITEQ LNA Series

Amplifier Features:
- INDUSTRIES LARGEST LNA CATALOG OFFERING
- +10 dBm, +15 dBm, +20 dBm or +25 dBm
- UHF to Ka-band
- Commercial and Military Applications
This catalog provides the design engineer with a broad overview of the LNA Series of amplifier products currently available from L3 Narda-MITEQ. The devices presented here represent specific existing designs and the levels of performance they provide, and the shortest delivery available.

In addition to these standard products, much of L3 Narda-MITEQ’s production is devoted to custom designs, specifically tailored to meet individual customer requirements. Key amplifier parameters, such as frequency range, gain, gain slope, noise figure, VSWR, linearity and phase/gain tracking, can be optimized to meet your specific needs.

GENERAL SPECIFICATIONS

L3 Narda-MITEQ’s standard amplifiers have been designed to meet the following environmental conditions:

- Operating temperature: -55 °C to +85 °C
- Storage temperature: -65 °C to +125 °C
- Shock (survival): 30 g’s, 10 ms pulse
- Humidity: 95% relative humidity, noncondensing
- Vibration: 7.3 g’s rms, 50-2000 CPS, per MIL-STD-883K, Method 2026, Condition IB

Data curves are at 23 °C. There will be some variation in the typical data shown as a function of temperature.
WIDEBAND OR OCTAVE/MULTIOCTAVE LOW NOISE AMPLIFIER

1 GHz to 40 GHz, +10 dBm Series

FEATURES
• Unconditionally stable
• 50 Ohm input and output match
• Internally regulated
• -55°C to +85°C operating temperature
• Hermetically sealed package available
• RoHs compliant
• 3 year warranty

APPLICATIONS
• Radar and Satellite Communications
• Telecommunications
• Military and Aerospace
• Test Instrumentation
• Transceiver Subassembly Applications
• Laboratory Application
• R & D Labs

MODELS

<table>
<thead>
<tr>
<th>FREQUENCY (GHz)</th>
<th>GAIN dB (Min.) (Select One)</th>
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<td>20 30 40</td>
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<td>2.5:1</td>
<td>325</td>
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</table>

ORDERING INFORMATION
Specify by part number: xxx-

LNA-30-01000200-06-10P

Example: 1 to 2 GHz, 30 dB gain, 0.6 dB noise figure, +10 dBm

LNA-30-01000200-06-10P
WIDEBAND OR OCTAVE/MULTIOCTAVE
LOW NOISE AMPLIFIER

.1 GHz to 40 GHz, +10 dBm Series

FEATURES
- Unconditionally stable
- 50 Ohm input and output match
- Internally regulated
- -55° C to +85° C operating temperature
- Hermetically sealed package available
- RoHs compliant
- 3 year warranty

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Notes: Noise figure increases below 500 MHz.
* P1dB +5 dBm, minimum

ORDERING INFORMATION
Specify by part number: xxx-

LNA-00100400-00100400-13-10P

Example: 0.1 to 4 GHz, 30 dB gain, 1.3 dB noise figure, +10 dBm
LNA-30-00100400-13-10P
WIDEBAND OR OCTAVE/MULTIOCTAVE LOW NOISE AMPLIFIER

2 GHz to 40 GHz, +10 dBm Series

FEATURES

- Unconditionally stable
- 50 Ohm input and output match
- Internally regulated
- -55°C to +85°C operating temperature
- Hermetically sealed package available
- RoHs compliant
- 3 year warranty

APPLICATIONS

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<td>3 2.7:1</td>
<td>400</td>
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</table>

* P1dB +5 dBm, minimum

ORDERING INFORMATION

Specify by part number: xxx-

LNA - 3 0 - 0 2 0 0 0 6 0 0 - 0 9 - 10P

Gain dB  Frequency GHz  Noise Figure dB

Example: 2 to 6 GHz, 30 dB gain, 0.9 dB noise figure, +10 dBm

LNA-30-02000600-09-10P
4 GHz to 40 GHz, +10 dBm Series

**FEATURES**
- Unconditionally stable
- 50 Ohm input and output match
- Internally regulated
- -55°C to +85°C operating temperature
- Hermetically sealed package available
- RoHs compliant
- 3 year warranty

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<td>8 to 18</td>
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<td>18 to 40*</td>
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</table>

* P1dB +5 dBm, minimum

**ORDERING INFORMATION**
Specify by part number: xxx-

\[
\text{LNA} - \text{Gain dB} - \text{Frequency GHz} - \text{Noise Figure dB} - 10P
\]

Example: 8 to 18 GHz, 30 dB gain, 1.4 dB noise figure, +10 dBm

LNA-30-08001800-14-10P
WIDEBAND OR OCTAVE/MULTIOCTAVE LOW NOISE AMPLIFIER

1 GHz to 40 GHz, +15 dBm Series

FEATURES
- Unconditionally stable
- 50 Ohm input and output match
- Internally regulated
- -55° C to +85° C operating temperature
- Hermetically sealed package available
- RoHs compliant
- 3 year warranty

APPLICATIONS
- Radar and Satellite Communications
- Telecommunications
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<td>2:1</td>
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<td>12 to 18</td>
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ORDERING INFORMATION

Specify by part number: xxx-

**LNA-** [Gain dB] - [Frequency GHz] - [Noise Figure dB] - 15P

Example: 1 to 2 GHz, 30 dB gain, 1.0 dB noise figure, +15 dBm
LNA-30-01000200-10-15P
### FEATURES
- Unconditionally stable
- 50 Ohm input and output match
- Internally regulated
- -55°C to +85°C operating temperature
- Hermetically sealed package available
- RoHs compliant
- 3 year warranty

### APPLICATIONS
- Radar and Satellite Communications
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<td>40</td>
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<td>1.5</td>
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<td>1.8</td>
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<tr>
<td>.1 to 8</td>
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Notes: Noise figure increases below 500 MHz.

### ORDERING INFORMATION
Specify by part number: xxx-

LNA- [Gain dB] - [Frequency GHz] - [Noise Figure dB] -15P

Example: .1 to 8 GHz, 20 dB gain, 2.0 dB noise figure, +15 dBm
LNA-20-00100800-20-15P
WIDEBAND OR OCTAVE/MULTIOCTAVE
LOW NOISE AMPLIFIER

2 GHz to 40 GHz, +15 dBm Series

FEATURES
- Unconditionally stable
- 50 Ohm input and output match
- Internally regulated
- -55°C to +85°C operating temperature
- Hermetically sealed package available
- RoHS compliant
- 3 year warranty

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ORDERING INFORMATION
Specify by part number: xxx-

LNA - 40 - 02001200 - 25 - 15P

Example: 2 to 12 GHz, 40 dB gain, 2.5 dB noise figure, +15 dBm
LNA-40-02001200-25-15P

Example: 2 to 12 GHz, 40 dB gain, 2.5 dB noise figure, +15 dBm
LNA-40-02001200-25-15P
WIDEBAND OR OCTAVE/MULTIOCTAVE LOW NOISE AMPLIFIER

4 GHz to 40 GHz, +15 dBm Series

FEATURES
- Unconditionally stable
- 50 Ohm input and output match
- Internally regulated
- -55°C to +85°C operating temperature
- Hermetically sealed package available
- RoHs compliant
- 3 year warranty

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<td>2.5:1</td>
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<td>8 to 18</td>
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<td>40</td>
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<td>5.5</td>
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ORDERING INFORMATION

Specify by part number: xxx-

LNA - ![Gain dB] - 3.0 - ![Frequency GHz] - 18 - 0 - 0 - 4 - 0 - 0 - ![Noise Figure dB] - 0 - 15P

Example: 18 to 40 GHz, 30 dB gain, 4.0 dB noise figure, +15 dBm
LNA-30-18004000-40-15P
WIDEBAND OR OCTAVE/MULTIOCTAVE LOW NOISE AMPLIFIER

1 GHz to 26.5 GHz, +20 dBm Series

FEATURES
- Unconditionally stable
- 50 Ohm input and output match
- Internally regulated
- -55° C to +85° C operating temperature
- Hermetically sealed package available
- RoHs compliant
- 3 year warranty

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<td>1.5</td>
<td>2:1</td>
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<td>2 to 4</td>
<td>20 30 40</td>
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<td>2</td>
<td>2.3:1</td>
<td>400</td>
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ORDERING INFORMATION
Specify by part number: xxx-

Example: 1 to 2 GHz, 30 dB gain, 2.5 dB noise figure, +20 dBm
LNA-30-01000200-25-20P
.1 GHz to 26 GHz, +20 dBm Series

FEATURES
- Unconditionally stable
- 50 Ohm input and output match
- Internally regulated
- -55°C to +85°C operating temperature
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- Laboratory Application
- R & D Labs

MODELS

<table>
<thead>
<tr>
<th>FREQUENCY (GHz)</th>
<th>GAIN dB (Min.) (Select One)</th>
<th>NOISE FIGURE dB (Max.)</th>
<th>FLATNESS dB (± Max.)</th>
<th>VSWR (In/Out, Max.)</th>
<th>15 VDC @ Current mA (Max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>.1 to 4</td>
<td>20</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1.5</td>
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<td>.1 to 6</td>
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<td>3.5</td>
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<tr>
<td>.1 to 8</td>
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<td>40</td>
<td>4</td>
<td>4</td>
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<tr>
<td>.1 to 12</td>
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<td>40</td>
<td>4.2</td>
<td>4.2</td>
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<tr>
<td>.1 to 18</td>
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<td>40</td>
<td>4.5</td>
<td>4.5</td>
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<tr>
<td>.1 to 26</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>5</td>
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</tbody>
</table>

Notes: Noise figure increases below 500 MHz.

ORDERING INFORMATION
Specify by part number: xxx-

Example: .1 to 18 GHz, 40 dB gain, 4.5 dB noise figure, +20 dBm
LNA-40-00101800-45-20P
WIDEBAND OR OCTAVE/MULTIOCTAVE
LOW NOISE AMPLIFIER

2 GHz to 26 GHz, +20 dBm Series

FEATURES
- Unconditionally stable
- 50 Ohm input and output match
- Internally regulated
- -55°C to +85°C operating temperature
- Hermetically sealed package available
- RoHs compliant
- 3 year warranty

APPLICATIONS
- Radar and Satellite Communications
- Telecommunications
- Military and Aerospace
- Test Instrumentation
- Transceiver Subassembly Applications
- Laboratory Application
- R & D Labs

MODELS

<table>
<thead>
<tr>
<th>FREQUENCY (GHz)</th>
<th>GAIN dB (Min.) (Select One)</th>
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<tr>
<td>2 to 6</td>
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<td>2:1</td>
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<td>2 to 8</td>
<td>20</td>
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<td>3.2</td>
<td>3.2</td>
<td>2:1</td>
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<tr>
<td>2 to 12</td>
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<td>3.3</td>
<td>3.3</td>
<td>3.3</td>
<td>2:1</td>
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<td>2 to 18</td>
<td>20</td>
<td>4</td>
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<td>4</td>
<td>2:1</td>
</tr>
<tr>
<td>2 to 20</td>
<td>20</td>
<td>4.2</td>
<td>4.2</td>
<td>4.2</td>
<td>2:1</td>
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<tr>
<td>2 to 26</td>
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<td>4.7</td>
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</tbody>
</table>

ORDERING INFORMATION

Specify by part number: xxx-

LNA-20-02001200-33-20P

Example: 2 to 12 GHz, 20 dB gain, 3.3 dB noise figure, +20 dBm
LNA-20-02001200-33-20P
WIDEBAND OR OCTAVE/MULTIOCTAVE
LOW NOISE AMPLIFIER

4 GHz to 26 GHz, +20 dBm Series

FEATURES
- Unconditionally stable
- 50 Ohm input and output match
- Internally regulated
- -55° C to +85° C operating temperature
- Hermetically sealed package available
- RoHs compliant
- 3 year warranty

APPLICATIONS
- Radar and Satellite Communications
- Telecommunications
- Military and Aerospace
- Test Instrumentation
- Transceiver Subassembly Applications
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- R & D Labs

MODELS

<table>
<thead>
<tr>
<th>FREQUENCY (GHz)</th>
<th>GAIN dB (Min.) (Select One)</th>
<th>NOISE FIGURE dB (Max.)</th>
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<th>VSWR (In/Out, Max.)</th>
<th>15 VDC @ Current mA (Max.)</th>
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<tr>
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<td>30</td>
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<td>3.5</td>
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<tr>
<td>6 to 18</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>8 to 18</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>3.2</td>
<td>3.2</td>
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<tr>
<td>12 to 26</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>3.8</td>
<td>3.8</td>
</tr>
</tbody>
</table>

ORDERING INFORMATION
Specify by part number: xxx-

Example: 18 to 40 GHz, 40 dB gain, 9.0 dB noise figure, +20 dBm
LNA-40-18004000-90-20P

Narda-MITEQ
WIDEBAND OR OCTAVE/MULTIOCTAVE LOW NOISE AMPLIFIER

1 GHz to 26.5 GHz, +25 dBm Series

FEATURES
• Unconditionally stable
• 50 Ohm input and output match
• Internally regulated
• -55° C to +85° C operating temperature
• Hermetically sealed package available
• RoHs compliant
• 1 year warranty

APPLICATIONS
• Radar and Satellite Communications
• Telecommunications
• Military and Aerospace
• Test Instrumentation
• Transceiver Subassembly Applications
• Laboratory Application
• R & D Labs

MODELS

<table>
<thead>
<tr>
<th>FREQUENCY (GHz)</th>
<th>GAIN dB (Min.) (Select One)</th>
<th>NOISE FIGURE dB (Max.)</th>
<th>FLATNESS dB (± Max.)</th>
<th>VSWR (In/Out, Max.)</th>
<th>15 VDC @ Current mA (Max.)</th>
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</thead>
<tbody>
<tr>
<td>1 to 2</td>
<td>20</td>
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<td>3</td>
<td>1.5</td>
<td>2:1</td>
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<tr>
<td>2 to 4</td>
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<td>3</td>
<td>3</td>
<td>1.5</td>
<td>2:1</td>
</tr>
<tr>
<td>4 to 8</td>
<td>20</td>
<td>3.5</td>
<td>3.5</td>
<td>1.5</td>
<td>2:1</td>
</tr>
<tr>
<td>8 to 12</td>
<td>20</td>
<td>3.5</td>
<td>3.5</td>
<td>1.5</td>
<td>2:1</td>
</tr>
<tr>
<td>12 to 18</td>
<td>20</td>
<td>3.5</td>
<td>3.5</td>
<td>2</td>
<td>2:1</td>
</tr>
<tr>
<td>18 to 26.5</td>
<td>20</td>
<td>5.5</td>
<td>5.5</td>
<td>2</td>
<td>2.3:1</td>
</tr>
</tbody>
</table>

ORDERING INFORMATION
Specify by part number: xxx-

LNA- 40-01000200-30-25P

Example:  1 to 2 GHz, 40 dB gain, 3.0 dB noise figure, +25 dBm
LNA-40-01000200-30-25P
WIDEBAND OR OCTAVE/MULTIOCTAVE
LOW NOISE AMPLIFIER

.1 GHz to 26 GHz, +25 dBm Series

FEATURES
• Unconditionally stable
• 50 Ohm input and output match
• Internally regulated
• -55° C to +85° C operating temperature
• Hermetically sealed package available
• RoHs compliant
• 1 year warranty

APPLICATIONS
• Radar and Satellite Communications
• Telecommunications
• Military and Aerospace
• Test Instrumentation
• Transceiver Subassembly Applications
• Laboratory Application
• R & D Labs

MODELS

<table>
<thead>
<tr>
<th>FREQUENCY (GHz)</th>
<th>GAIN dB (Min.) (Select One)</th>
<th>NOISE FIGURE dB (Max.)</th>
<th>FLATNESS dB (± Max.)</th>
<th>VSWR (In/Out, Max.)</th>
<th>15 VDC @ Current mA (Max.)</th>
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</thead>
<tbody>
<tr>
<td>.1 to 4</td>
<td>20 30 40</td>
<td>3.5 3.5 3.5</td>
<td>1.5</td>
<td>2.2:1</td>
<td>500</td>
</tr>
<tr>
<td>.1 to 6</td>
<td>20 30 40</td>
<td>4 4 4</td>
<td>1.5</td>
<td>2.3:1</td>
<td>500</td>
</tr>
<tr>
<td>.1 to 8</td>
<td>20 30 40</td>
<td>4.5 4.5 4.5</td>
<td>2</td>
<td>2.3:1</td>
<td>550</td>
</tr>
<tr>
<td>.1 to 12</td>
<td>20 30 40</td>
<td>4.7 4.7 4.7</td>
<td>2</td>
<td>2.3:1</td>
<td>550</td>
</tr>
<tr>
<td>.1 to 18</td>
<td>20 30 40</td>
<td>5.5 5.5 5.5</td>
<td>2</td>
<td>2.3:1</td>
<td>650</td>
</tr>
<tr>
<td>.1 to 26</td>
<td>20 30 40</td>
<td>6 6 6</td>
<td>2.5</td>
<td>2.5:1</td>
<td>650</td>
</tr>
</tbody>
</table>

Notes: Noise figure increases below 500 MHz.

ORDERING INFORMATION
Specify by part number: xxx-

```
LNA-30-00101200-47-25P
```

Example: .1 to 12 GHz, 30 dB gain, 4.7 dB noise figure, +25 dBm
LNA-30-00101200-47-25P
**FEATURES**
- Unconditionally stable
- 50 Ohm input and output match
- Internally regulated
- -55° C to +85° C operating temperature
- Hermetically sealed package available
- RoHs compliant
- 1 year warranty

**APPLICATIONS**
- Radar and Satellite Communications
- Telecommunications
- Military and Aerospace
- Test Instrumentation
- Transceiver Subassembly Applications
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**MODELS**

<table>
<thead>
<tr>
<th>FREQUENCY (GHz)</th>
<th>GAIN dB (Min.) (Select One)</th>
<th>NOISE FIGURE dB (Max.)</th>
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<tbody>
<tr>
<td>2 to 6</td>
<td>20 30 40</td>
<td>3.7 3.7 3.7</td>
<td>1.5</td>
<td>2:1</td>
<td>500</td>
</tr>
<tr>
<td>2 to 8</td>
<td>20 30 40</td>
<td>4.3 4.3 4.3</td>
<td>1.5</td>
<td>2:1</td>
<td>550</td>
</tr>
<tr>
<td>2 to 12</td>
<td>20 30 40</td>
<td>4.5 4.5 4.5</td>
<td>2</td>
<td>2.2:1</td>
<td>550</td>
</tr>
<tr>
<td>2 to 18</td>
<td>20 30 40</td>
<td>5.2 5.2 5.2</td>
<td>2</td>
<td>2.3:1</td>
<td>650</td>
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<tr>
<td>2 to 20</td>
<td>20 30 40</td>
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<tr>
<td>2 to 26</td>
<td>20 30 40</td>
<td>5.8 5.8 5.8</td>
<td>2.5</td>
<td>2.5:1</td>
<td>650</td>
</tr>
</tbody>
</table>

**ORDERING INFORMATION**
Specify by part number: xxx-

Example: 2 to 26 GHz, 40 dB gain, 5.8 dB noise figure, +25 dBm

LNA-40-02002600-58-25P
WIDEBAND OR OCTAVE/MULTIOCTAVE
LOW NOISE AMPLIFIER

4 GHz to 26 GHz, +25 dBm Series

FEATURES
• Unconditionally stable
• 50 Ohm input and output match
• Internally regulated
• -55° C to +85° C operating temperature
• Hermetically sealed package available
• RoHs compliant
• 1 year warranty

APPLICATIONS
• Radar and Satellite Communications
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• Military and Aerospace
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</tr>
</thead>
<tbody>
<tr>
<td>4 to 12</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>6 to 18</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>8 to 18</td>
<td>20</td>
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<td>40</td>
<td>4</td>
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</tr>
<tr>
<td>12 to 26</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

ORDERING INFORMATION
Specify by part number: xxx-

Example: 18 to 40 GHz, 20 dB gain, 9.0 dB noise figure, +25 dBm
LNA-20-18004000-90-25P

Narda-MITEQ
**GENERAL AMPLIFIER OPTIONS**

Options for a variety of special performance and testing requirements as well as connector types can be identified by adding a suffix to the part number. The table below lists the most commonly requested options. Option requests should be accompanied by a description of the required performance details, as applicable.

<table>
<thead>
<tr>
<th>STANDARD PERFORMANCE OPTIONS</th>
<th>SUFFIX</th>
<th>STANDARD PERFORMANCE OPTIONS</th>
<th>SUFFIX</th>
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</thead>
<tbody>
<tr>
<td>Input Limiter</td>
<td>-L</td>
<td>SMA Male Connector</td>
<td>-M</td>
</tr>
<tr>
<td>Gain Window</td>
<td>-GW</td>
<td>K Type Connector</td>
<td>-K</td>
</tr>
<tr>
<td>Temperature Compensation</td>
<td>-TC</td>
<td>V Type Connector</td>
<td>-V</td>
</tr>
<tr>
<td>Phase Match</td>
<td>-PM</td>
<td>Waveguide Input</td>
<td>-WG</td>
</tr>
<tr>
<td>Amplitude Match</td>
<td>-AM</td>
<td>NPC Connector</td>
<td>-NP</td>
</tr>
<tr>
<td>Amplitude/Phase Match</td>
<td>-APM</td>
<td>N Type Connector</td>
<td>-N</td>
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<tr>
<td>Gain Control</td>
<td>-GC</td>
<td>TNC Type Connector</td>
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<tr>
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<td>Hermetic</td>
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<tr>
<td>Kovar Chassis</td>
<td>-KC</td>
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<td>Bias Through Output</td>
<td>-BTO</td>
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<td>Bias Through Input</td>
<td>-BTI</td>
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<tr>
<td>Specific Operating Voltage</td>
<td>-XXV</td>
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<td>Gain Slope</td>
<td>-GS</td>
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<td>Phase and Gain Tracking</td>
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<td>Power Supply</td>
<td>-PS or -AS</td>
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<td>Combination of three or more standard options</td>
<td>-S</td>
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</tr>
</tbody>
</table>

**OTHER AVAILABLE AMPLIFIERS**

L3 Narda-MITEQ is a leading supplier of RF and microwave components, equipment, and systems for both commercial and defense applications, including; satellite, avionics, reconnaissance, surveillance, radar, and electronic countermeasure systems. Our continued advancements in the state-of-the-art and unique capability have led to wide acceptance of our company as a forerunner in the field of low-noise amplifier technology for space applications. We are confident that based on our experience we can offer you the following:

- Mature technology with heritage on space flight platforms.
- An organization dedicated to developing and manufacturing the very best low-noise amplifiers for space use.
- A staff of amplifier experts with state-of-the-art experience in both space and military type amplifiers.
- Cost competitive products.
- Low risk (both technical and schedule), through an extensive inventory of standard designs.
- Very high reliability.

L3 Narda-MITEQ’s continued advancements combining state-of-the-art components and unique capabilities have led to a wide acceptance by the microwave community as a leader in spaceborne technology. Our space-qualified components include mixers, oscillators, amplifiers, synthesizers and super-components.

L3 Narda-MITEQ’s Space-Qualified Quality Assurance Plan establishes the actions necessary to provide confidence that the end item will meet the quality, reliability and electrical performance required for space-qualified applications.
The material presented in this datasheet was current at the time of publication. L3 Narda-MITEQ’s continuing product improvement program makes it necessary to reserve the right to change our mechanical and electrical specifications without notice. If either of these parameters is critical, please contact the factory to verify that the information is current.

This material consists of L3 Narda-MITEQ general capabilities information and does not contain controlled technical data as defined within the International Traffic in Arms (ITAR) Part 120.10 or Export Administration Regulations (EAR) Part 734.7-11.