

LNA Series

10 – 600MHz Low Noise Amplifier

Features

- Frequency Range: 10 - 600MHz
- Gain: 40dB
- P_{1dB}: +17dBm
- IP3: +31dBm
- Noise Figure: 1dB
- DC Power: 5V/135mA
- SMA Connector

Picture



Performance measured @ 300MHz

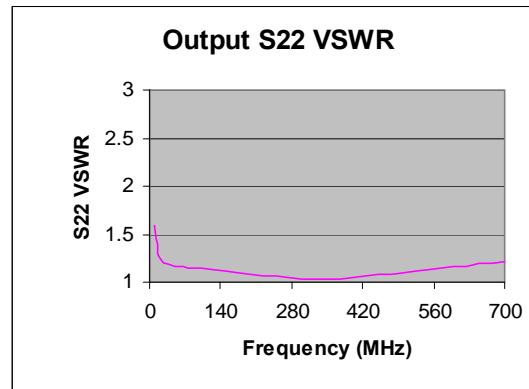
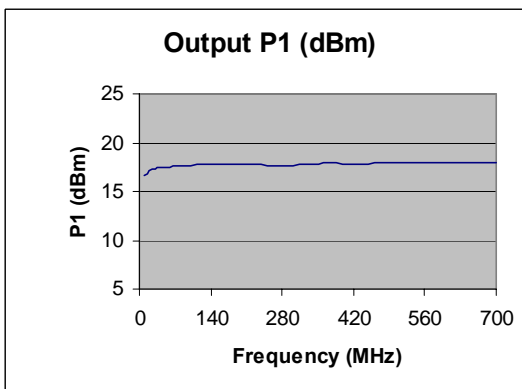
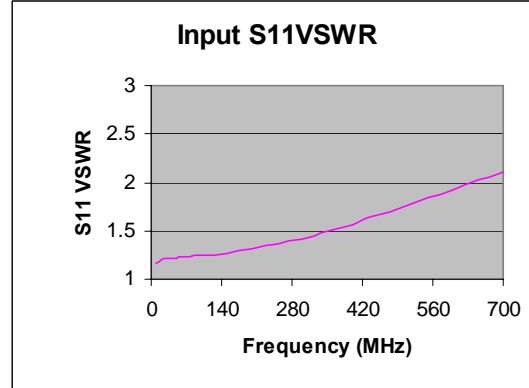
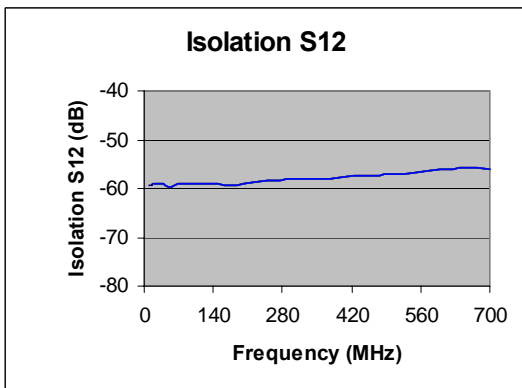
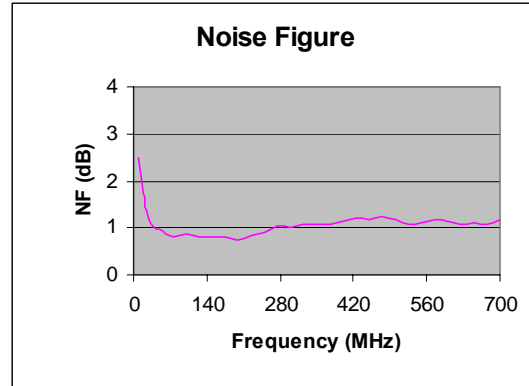
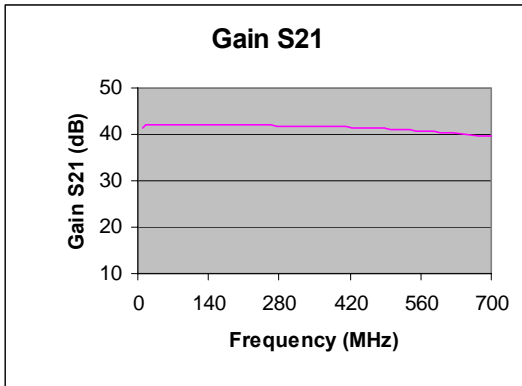
Description

LNA-605 is a 1dB Noise Figure Low Noise Amplifier operates with frequency range from 10MHz to 600MHz. Useable to 700MHz.

Electrical Specifications @ +25 °C, Z_{in} = Z_{out} = 50 Ω, V_{cc} = 5V

| Parameter | Unit | Minimum | Typical | Maximum |
|-------------------|------|---------|---------|---------|
| Frequency Range | MHz | 10 | | 600 |
| Gain f = 10MHz | dB | | 41 | |
| f = 300MHz | dB | | 41 | |
| f = 600MHz | dB | | 40 | |
| Gain Flatness | dB | | ± 0.8 | |
| P _{1dB} | dBm | | +17 | |
| IP3 | dBm | | +31 | |
| Noise Figure | dB | | 1.0 | |
| Reverse Isolation | dB | | -57 | |
| VSWR Input VSWR | | | 1.5:1 | |
| Output VSWR | | | 1.2:1 | |
| DC Power Supply | V | | 5 | |
| Supply Current | mA | | 135 | |

Typical Performance @ +25 °C



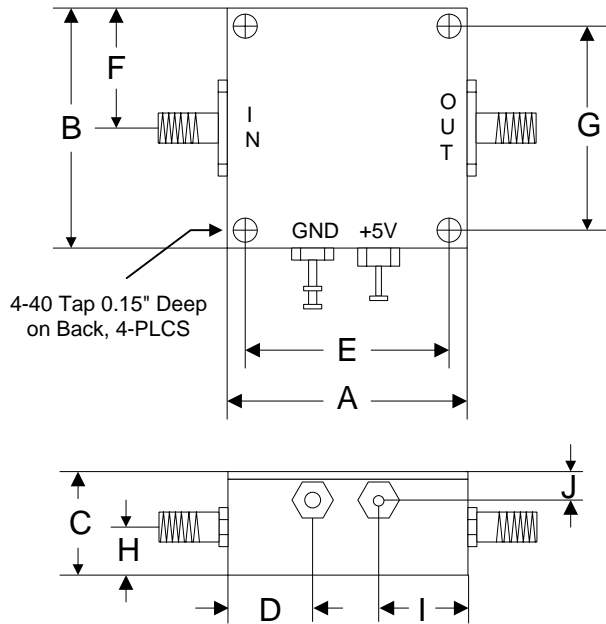
LNA Series**10 – 600MHz Low Noise Amplifier****Typical Performance @ +25 °C**

| Frequency(MHz) | NF (dB) | S21 (dB) | S12 (dB) | S11(VSWR) | S22(VSWR) | P _{1dB} (dBm) |
|----------------|---------|----------|----------|-----------|-----------|------------------------|
| 10 | 2.50 | 41.51 | -59.3 | 1.16 | 1.59 | +16.61 |
| 15 | 2.02 | 41.90 | -59.3 | 1.18 | 1.34 | +16.83 |
| 20 | 1.55 | 41.90 | -59.1 | 1.20 | 1.26 | +17.12 |
| 25 | 1.39 | 41.90 | -59.0 | 1.21 | 1.22 | +17.26 |
| 30 | 1.14 | 41.90 | -59.1 | 1.22 | 1.20 | +17.33 |
| 40 | 1.01 | 41.91 | -59.0 | 1.22 | 1.18 | +17.43 |
| 50 | 0.99 | 41.92 | -59.1 | 1.22 | 1.17 | +17.45 |
| 60 | 0.86 | 41.92 | -59.2 | 1.23 | 1.16 | +17.54 |
| 75 | 0.82 | 41.90 | -59.0 | 1.23 | 1.15 | +17.60 |
| 100 | 0.87 | 41.90 | -59.1 | 1.24 | 1.14 | +17.67 |
| 125 | 0.82 | 41.91 | -59.0 | 1.25 | 1.13 | +17.75 |
| 150 | 0.79 | 41.93 | -59.1 | 1.27 | 1.12 | +17.77 |
| 175 | 0.82 | 41.94 | -59.2 | 1.29 | 1.10 | +17.71 |
| 200 | 0.74 | 41.92 | -58.9 | 1.31 | 1.08 | +17.73 |
| 225 | 0.83 | 41.91 | -58.8 | 1.34 | 1.07 | +17.72 |
| 250 | 0.92 | 41.90 | -58.5 | 1.37 | 1.06 | +17.68 |
| 275 | 1.03 | 41.88 | -58.3 | 1.39 | 1.05 | +17.65 |
| 300 | 1.00 | 41.84 | -58.0 | 1.42 | 1.04 | +17.63 |
| 325 | 1.08 | 41.80 | -58.0 | 1.45 | 1.04 | +17.73 |
| 350 | 1.08 | 41.75 | -58.1 | 1.50 | 1.04 | +17.85 |
| 375 | 1.09 | 41.68 | -57.9 | 1.53 | 1.04 | +17.89 |
| 400 | 1.15 | 41.60 | -57.7 | 1.57 | 1.05 | +17.83 |
| 425 | 1.22 | 41.48 | -57.5 | 1.62 | 1.07 | +17.76 |
| 450 | 1.18 | 41.36 | -57.3 | 1.66 | 1.08 | +17.83 |
| 475 | 1.23 | 41.25 | -57.4 | 1.70 | 1.09 | +17.97 |
| 500 | 1.18 | 41.07 | -57.1 | 1.74 | 1.10 | +18.00 |
| 525 | 1.09 | 40.96 | -57.0 | 1.79 | 1.12 | +18.01 |
| 550 | 1.11 | 40.75 | -56.7 | 1.84 | 1.13 | +17.95 |
| 575 | 1.16 | 40.58 | -56.5 | 1.88 | 1.15 | +17.93 |
| 600 | 1.13 | 40.37 | -56.1 | 1.92 | 1.16 | +17.92 |
| 625 | 1.06 | 40.21 | -56.0 | 1.97 | 1.17 | +17.97 |
| 650 | 1.10 | 39.98 | -55.7 | 2.02 | 1.19 | +18.00 |
| 675 | 1.09 | 39.75 | -55.9 | 2.06 | 1.20 | +17.97 |
| 700 | 1.17 | 39.55 | -56.0 | 2.10 | 1.22 | +17.97 |

Absolute Maximum Ratings

| Parameter | Absolute Maximum |
|-----------------------|-------------------|
| RF Input Power | +15dBm |
| Supply Voltage | +7V |
| Operating Temperature | -40 °C to +85 °C |
| Storage Temperature | -55 °C to +125 °C |

Outline



| | A | B | C | D | E | F | G | H | I | J |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Inch | 1.250 | 1.250 | 0.563 | 0.450 | 1.000 | 0.625 | 1.000 | 0.250 | 0.500 | 0.187 |
| mm | 31.75 | 31.75 | 14.29 | 11.43 | 25.40 | 15.88 | 25.40 | 6.35 | 12.70 | 4.76 |