

LNA-37-25-11

Low Noise Amplifier

4-8 GHz/1.1dB NF/ 25dB Gain/ 16dBm P1dB

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**LAUFTEK**

LNA-37-25-11 is a low noise amplifier with a minimum small signal gain of 25 dB and a nominal noise figure of 1.1 dB across the frequency range of 4 to 8 GHz. The DC power requirement for the amplifier is +12 V DC/80 mA. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 4-8GHz
- Gain: 25dB Min
- Noise Figure: 1.1dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

### Applications:

- Communication systems

### Electrical Characteristics:

| Parameter         | Min | Typ  | Max | Units |
|-------------------|-----|------|-----|-------|
| Frequency range   | 4   |      | 8   | GHz   |
| Small Signal Gain | 25  |      |     | dB    |
| Gain Flatness     |     | ±1.0 |     | dB    |
| Noise Figure      |     | 1.1  |     | dB    |
| Output P1dB       | 14  | 16   |     | dBm   |
| Input VSWR        |     | 2.0  | 2.2 | :1    |
| Output VSWR       |     | 2.0  | 2.2 | :1    |
| DC Voltage        |     | +12  |     | V DC  |
| DC Supply Current |     | 80   |     | mA    |
| Impedance         |     | 50   |     | Ohms  |

### Mechanical Specifications:

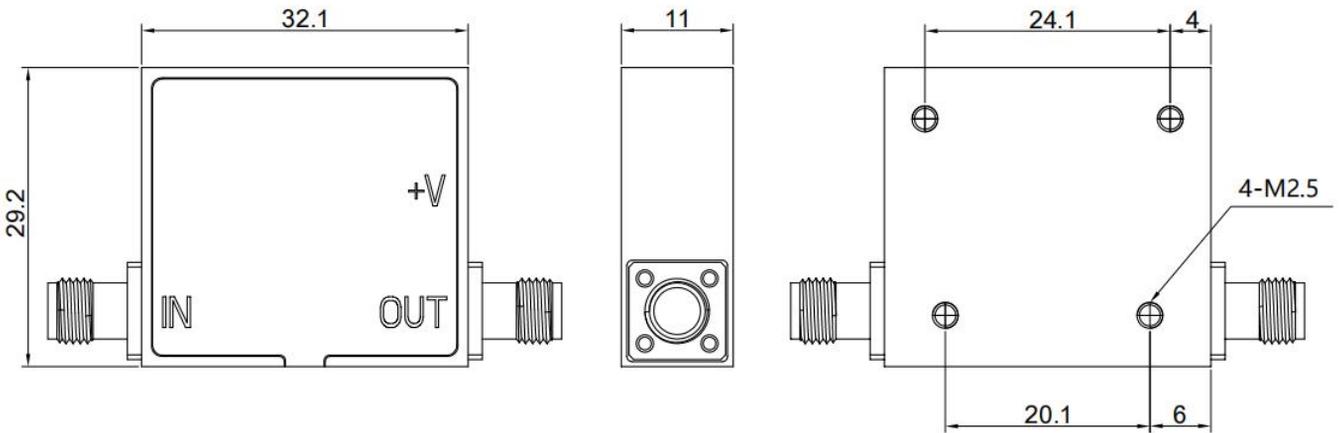
| Parameter               | Value                 | Units |
|-------------------------|-----------------------|-------|
| Input /Output Connector | SMA Female/SMA Female |       |
| DC Bias                 | Solder Pin            |       |
| Size                    | 32.1*29.2*11          | mm    |

### Absolute Maximum Ratings:

| Parameter             | Value                |
|-----------------------|----------------------|
| Supply Bias Voltage   | +15 V                |
| RF Input Power        | +15 dBm              |
| ESD sensitivity (HBm) | Class 0, passed 150V |

### Outline Drawing:

Unit:mm



**\*\*\*Heat Sink Required During Operation**



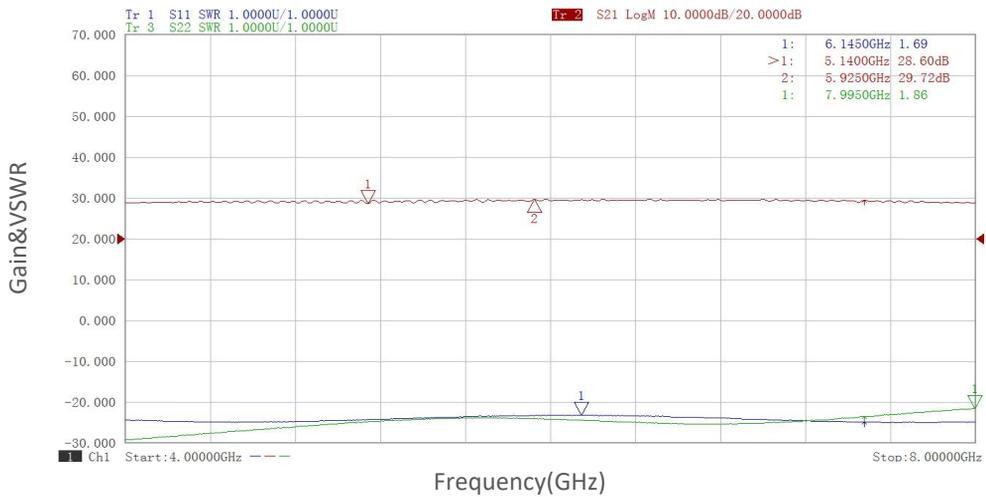
ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

### Environmental Conditions:

| Parameter                       | Min   | Typ | Max  | Units |
|---------------------------------|---|-----|------|-------|
| Operating Temperature           | -45   |     | +85  | °C    |
| Non-operating Temperature       | -55   |     | +125 | °C    |
| Relative humidity               |   | 95  |      | %     |
| Altitude                        | 10,000  |     |      | feet  |
| Shock / Vibration(MIL-STD-810F) | 25g rms (15 degree 2KHz) endurance, 1 hour per axis |     |      |       |
| Shock(non operating)            | 20G for 11msc half sin wave,3 axis both directions  |     |      |       |

### Typical Performance Data:

#### Gain&VSWR vs Frequency



#### Noise Figure vs Frequency



Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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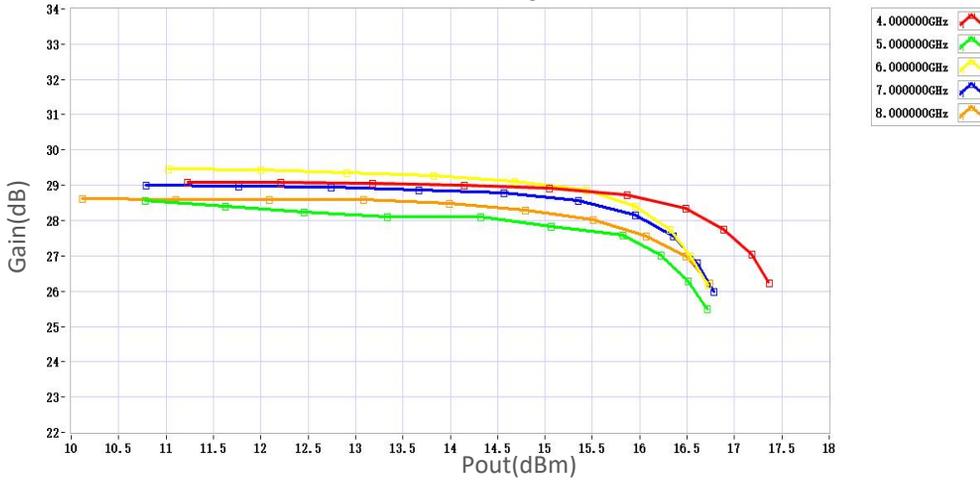
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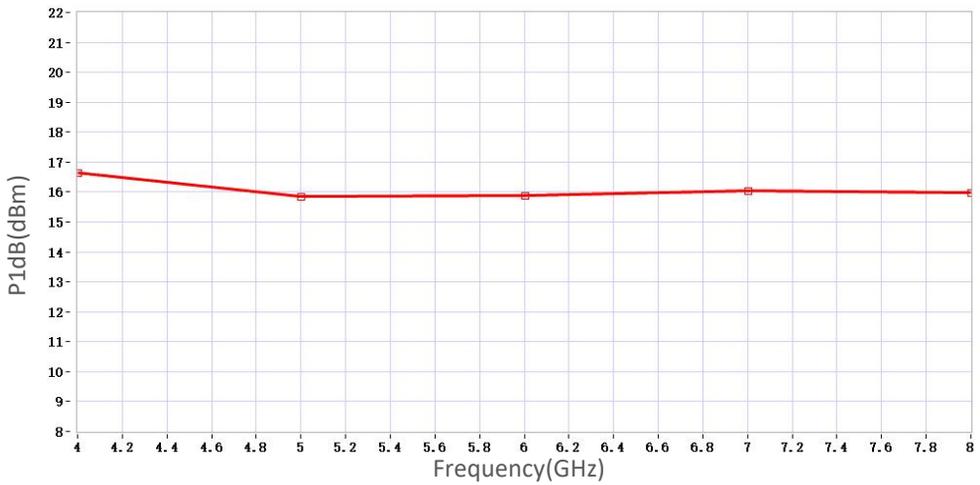


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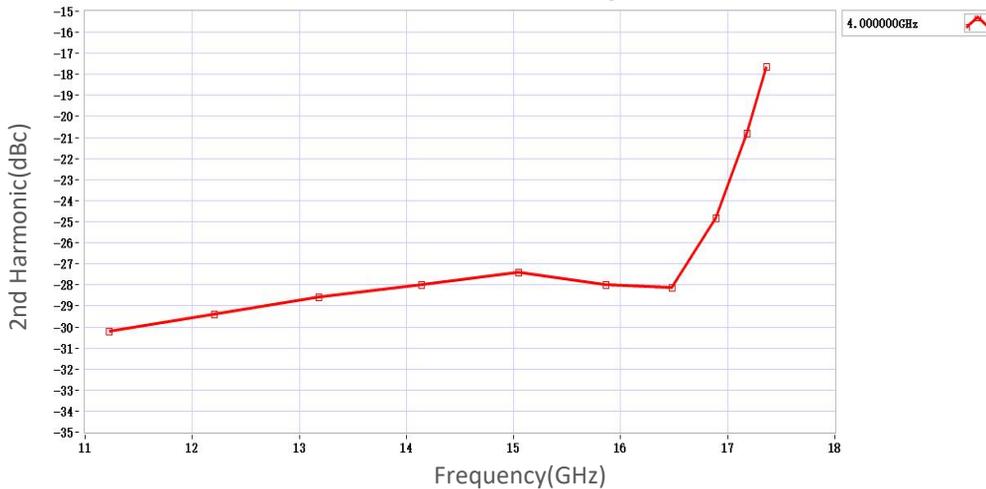
#### Gain vs Output Power



#### P1dB vs Frequency



#### 2nd Harmonic vs Output Power



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