

Low Phase Noise Amplifier

2-30GHz /10dB Gain/+18dBm P1dB

Model: TLPNA2G30G-10-20

TLPNA2G30G-10-20 is a low phase noise driver amplifier across the frequency range of 2 to 30 GHz, with a typical small signal gain of 10dB , provide a +18 dBm P1dB@2-20GHz. The DC power requirement for the amplifier is +12 V DC/20 mA. The input and output port configuration offers coax adapter structure with 2.92mm female.

Features:

- Frequency range:2-30GHz
- Gain: 10dB Typ.
- Output P1dB: +18dB Typ.
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

电气特性 Electrical Characteristics:

| 参数 Parameter | Min | Typ | Max | 单位 Units |
|--------------------------------|-----------|------|-----|----------|
| 频率范围 Frequency range | 2 | | 30 | GHz |
| 小信号增益 Small Signal Gain | @2-20GHz | 10 | | dB |
| | @20-29GHz | 8 | | |
| 相位噪声 Phase Noise @10KHz offset | | -165 | | dBc/Hz |
| 噪声系数 Noise Figure | | 6 | | dB |
| 线性输出功率 Output P1dB | @2-20GHz | 18 | | dBm |
| | @20-29GHz | 15 | | |
| 输出三阶交调 Output IP3 | | 21 | | dBm |
| 输入驻波 Input VSWR | | 2.5 | | :1 |
| 输出驻波 Output VSWR | | 2.5 | | :1 |
| 直流电压 DC Voltage | +8 | +12 | +15 | V DC |
| 直流电流 DC Supply Current | | 20 | | mA |
| 阻抗 Impedance | | 50 | | Ohms |

机械特性 Mechanical Specifications:

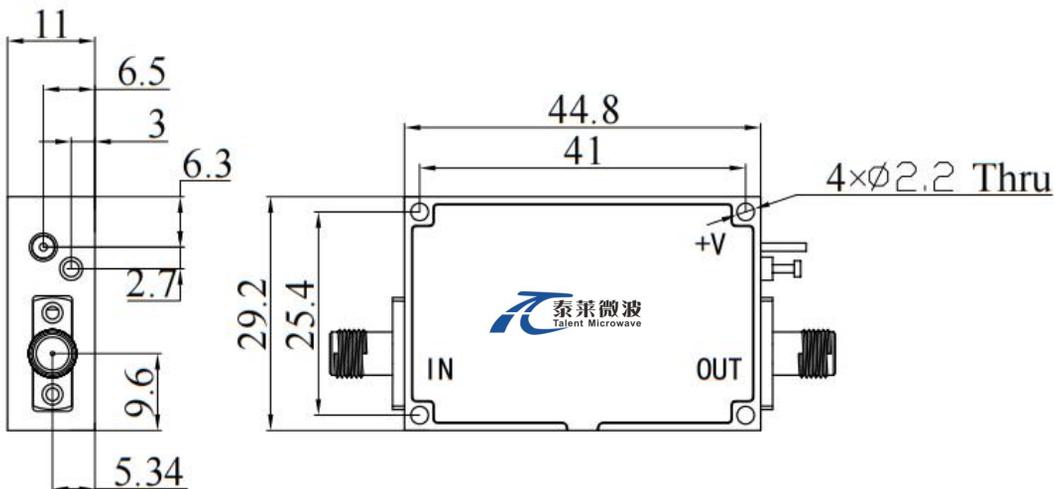
| 参数 Parameter | 指标 Value | 单位 Units |
|---------------------------------|-----------------------------|----------|
| 输入/输出接口 Input /Output Connector | 2.92mm Female/2.92mm Female | |
| 直流偏置 DC Bias | Solder Pin | |
| 尺寸 Size | 44.8*29.2*11 | mm |
| 重量 Weight | 55 | g |

绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter | 指标 Value |
|------------------------------|----------------------|
| 供电偏置电压 Supply Bias Voltage | +15 V |
| 输入功率 RF Input Power | +10 dBm |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |

外形图 Outline Drawing:

Unit:mm



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



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

温度环境 Environmental Conditions:

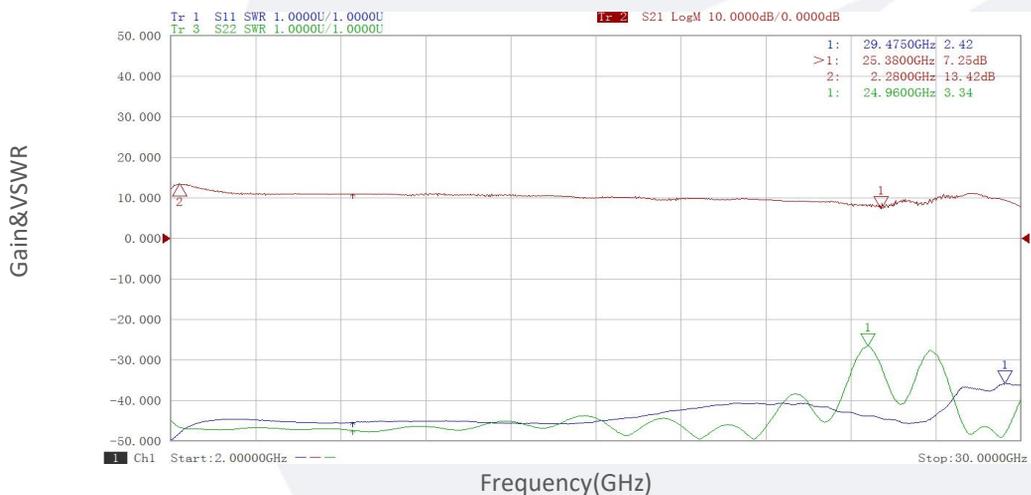
| 参数 Parameter | Min | Typ | Max | 单位 Units |
|------------------------------------|---|-----|------|----------|
| 操作温度 Operating Temperature | -45 | | +85 | °C |
| 存储温度 Non-operating Temperature | -55 | | +125 | °C |
| 相对湿度 Relative humidity | | 95 | | % |
| 海拔 Altitude | 10,000 | | | feet |
| 震动 Shock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

订货信息 Ordering Information:

| 标准型号 Base Number | 描述 Description | 版本号 Revision |
|---------------------|---|--------------|
| TLPNA2G30G-10-20 | Low Phase Noise Amplifier, 2-30GHz, Gain:10 dB, Phase Noise:-165dBc/Hz, P1dB:+18dBm,+12V DC, Without Heatsink | Rev.1.1 |
| TLPNA2G30G-10-20-HS | Low Phase Noise Amplifier, 2-30GHz, Gain:10 dB, Phase Noise:-165dBc/Hz, P1dB:+18dBm,+12V DC, With Heatsink | Rev.1.1 |

典型曲线 Typical Performance Data:

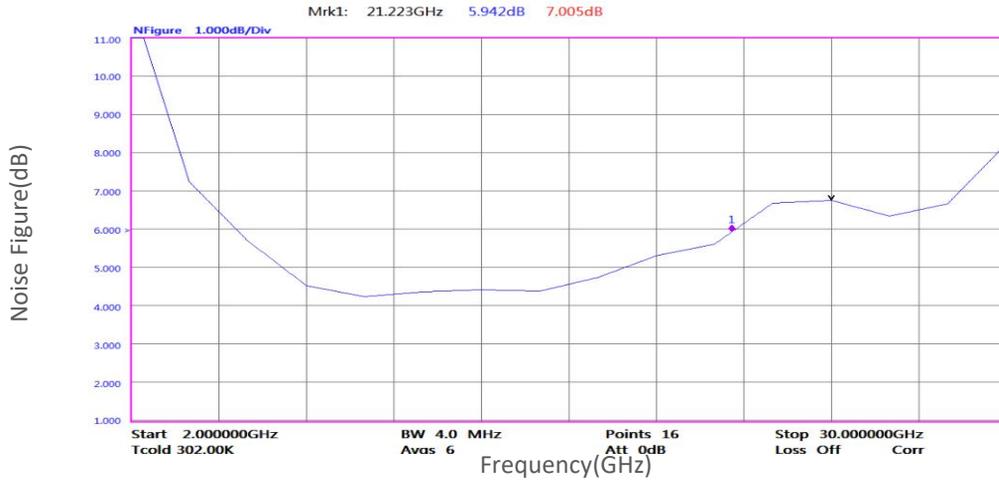
Gain&VSWR vs Frequency



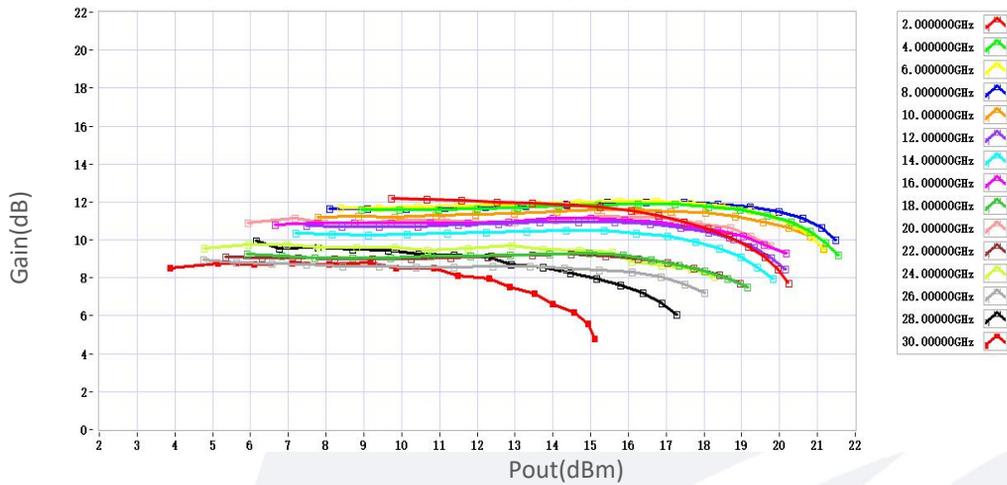
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

Noise Figure vs Output Power



Gain vs Output Power



P1dB 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.