

Low Noise Amplifier

50KHz-20GHz/3.0dB NF/35dB Gain/15dBm P1dB

TLLA50K20G-35-30

TURLA50K20G-3530 is a low noise amplifier with a minimum small signal gain of 35 dB and a nominal noise figure of 3.0dB across the frequency range of 50 KHz to 20 GHz. The DC power requirement for the amplifier is +12 V DC/150 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 50KHz-20GHz
- Gain: 35dB Min
- Noise Figure: 3.0dB 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 | 50KHz-20GHz | | | |
| 小信号增益 Small Signal Gain | 35 | 37 | | dB |
| 增益平坦度 Gain Flatness | | ±1.5 | | dB |
| 噪声系数 Noise Figure | | 3 | | dB |
| 线性输出功率 Output P1dB | | 15 | | dBm |
| 输入驻波 Input VSWR | | | 2 | :1 |
| 输出驻波 Output VSWR | | | 2 | :1 |
| 直流电压 DC Voltage | +10 | +12 | +15 | V DC |
| 直流电流 DC Supply Current | | 150 | | mA |
| 阻抗 Impedance | 50 | | | Ohms |

机械特性 Mechanical Specifications:

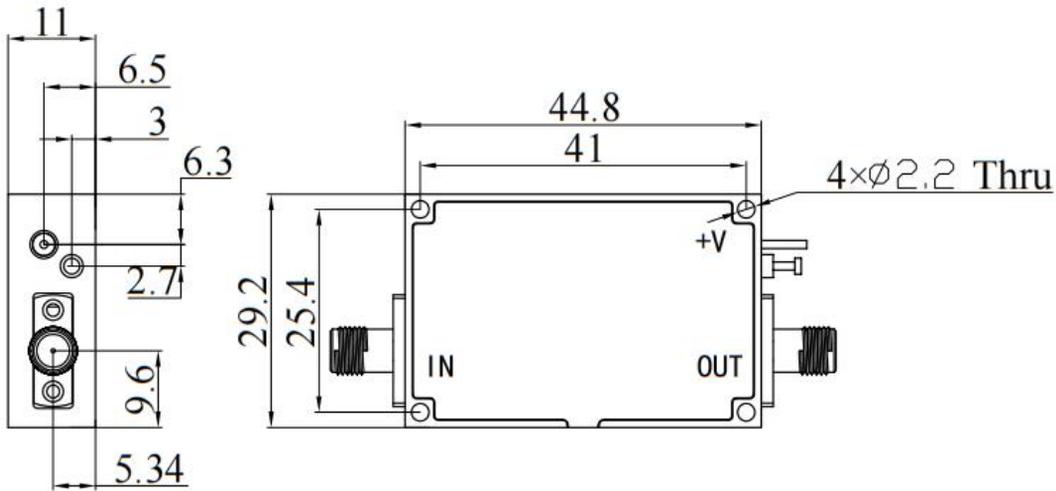
| 参数 Parameter | 指标 Value | 单位 Units |
|---------------------------------|-----------------------|----------|
| 输入/输出接口 Input /Output Connector | SMA Female/SMA Female | |
| 直流偏置 DC Bias | Solder Pin | |

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 | +15 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:

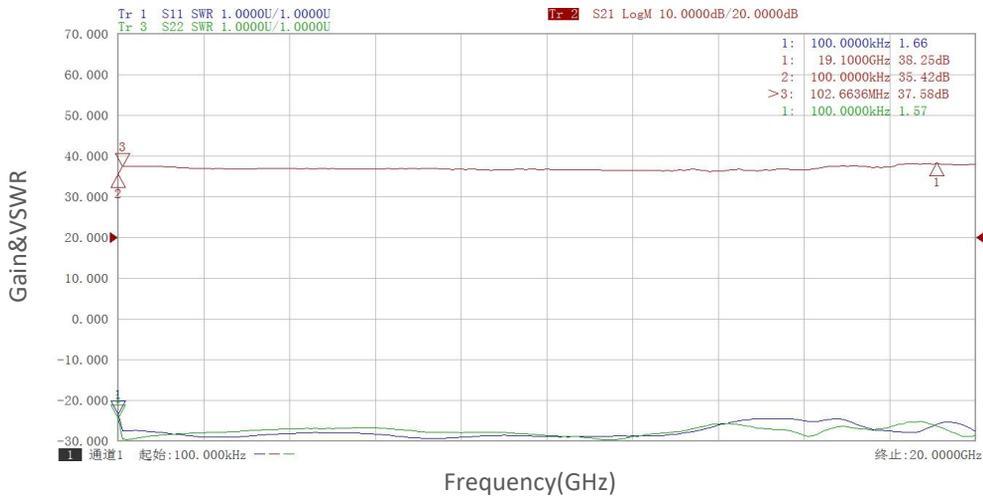
| 参数 Parameter | Min | Typ | Max | 单位 Units |
|------------------------------------|---|--------|------|----------|
| 操作温度 Operating Temperature | -45 | | +85 | °C |
| 存储温度 Non-operating Temperature | -55 | | +125 | °C |
| 相对湿度 Relative humidity | | 95 | | % |
| 海拔 Altitude | | 10,000 | | feet |
| 震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

订货信息 Ordering Information:

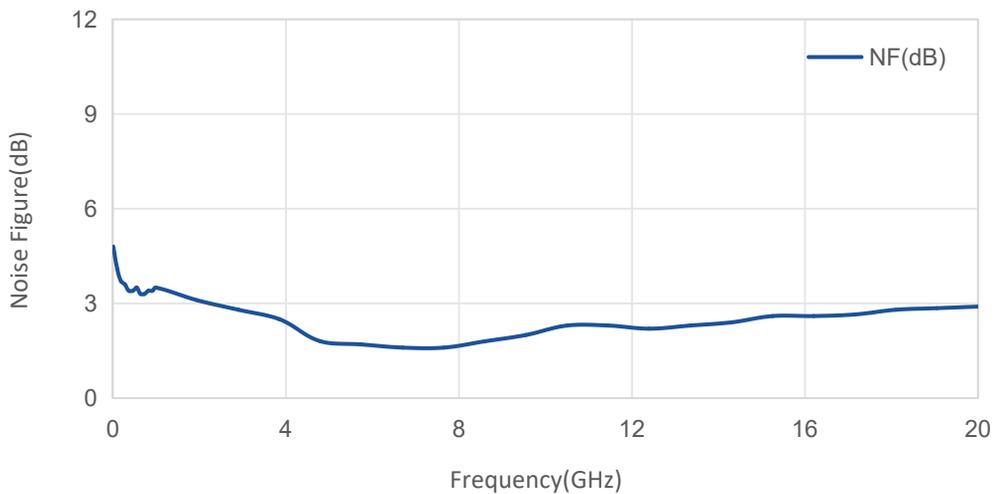
| 标准型号 Base Number | 描述 Description | 版本号 Revision |
|---------------------|--|--------------|
| TURLA50K20G-3530 | Low Noise Amplifier, 50K-20GHz, Noise Figure:3.0dB, Gain:35 dB,P1dB:15dBm,+12V DC,Without Heatsink | Rev.1.1 |
| TURLA50K20G-3530 HS | Low Noise Amplifier, 50K-20GHz, Noise Figure:3.0dB, Gain:35 dB,P1dB:15dBm,+12V DC,With Heatsink | Rev.1.1 |

典型曲线 Typical Performance Data:

Gain&VSWR vs Frequency

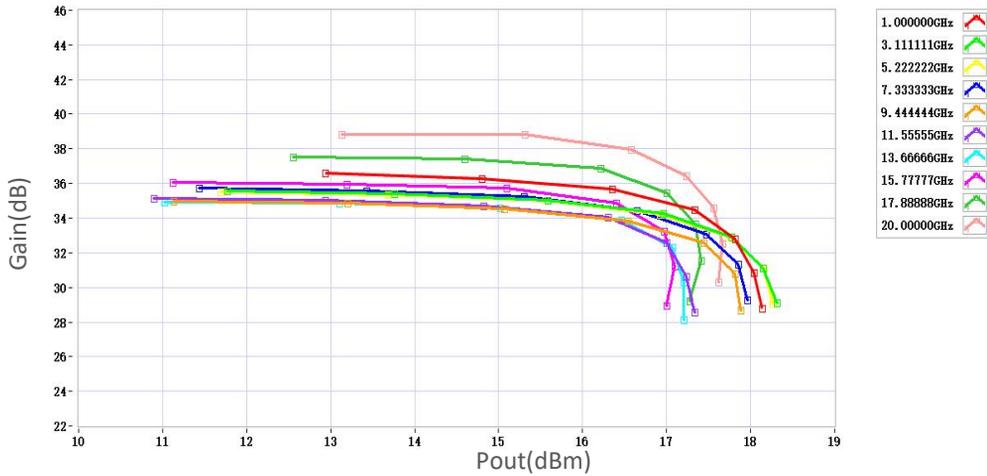


Noise Figure vs Frequency

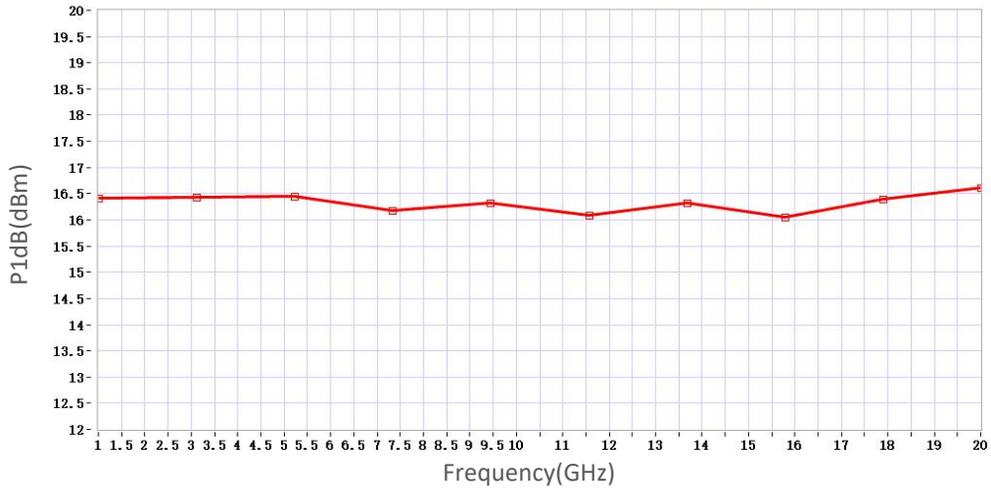


典型曲线 Typical Performance Data:

Gain vs Output Power



P1dB vs Frequency

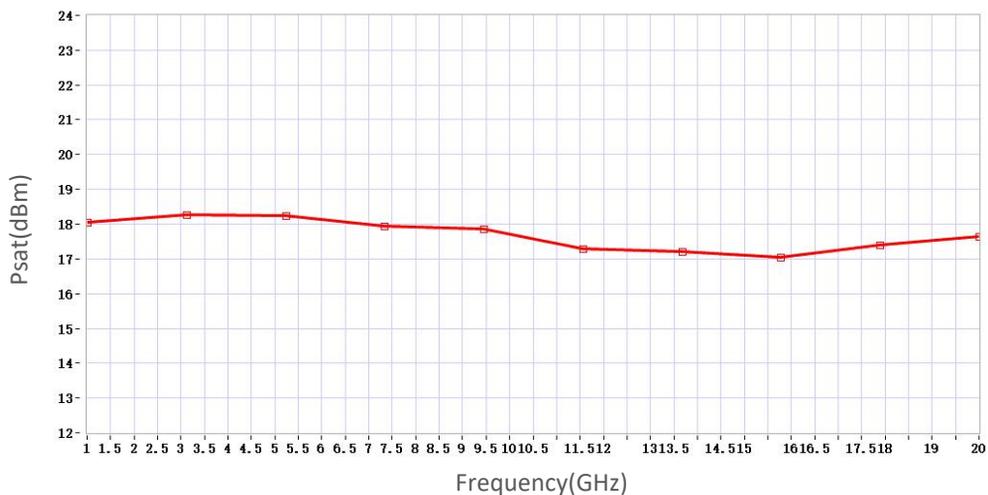


P3dB vs Frequency

P3dB(dBm)

典型曲线 Typical Performance Data:

Psat 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.