

## Low Noise Amplifier

5-20GHz/3.0dB NF/35dB Gain/14.5dBm P1dB

Model: TLLA5G20G-35-30

TLLA5G20G-35-30 is a low noise amplifier with a minimum small signal gain of 35 dB and a nominal noise figure of 3.0 dB across the frequency range of 5 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: 5-20 GHz
- Gain: 35dB Min
- Noise Figure: 3.0dB Max
- 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	5		20	GHz
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		14.5		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	+18	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	
尺寸 Size	44.8*29.2*11	mm
重量 Weight	55	g

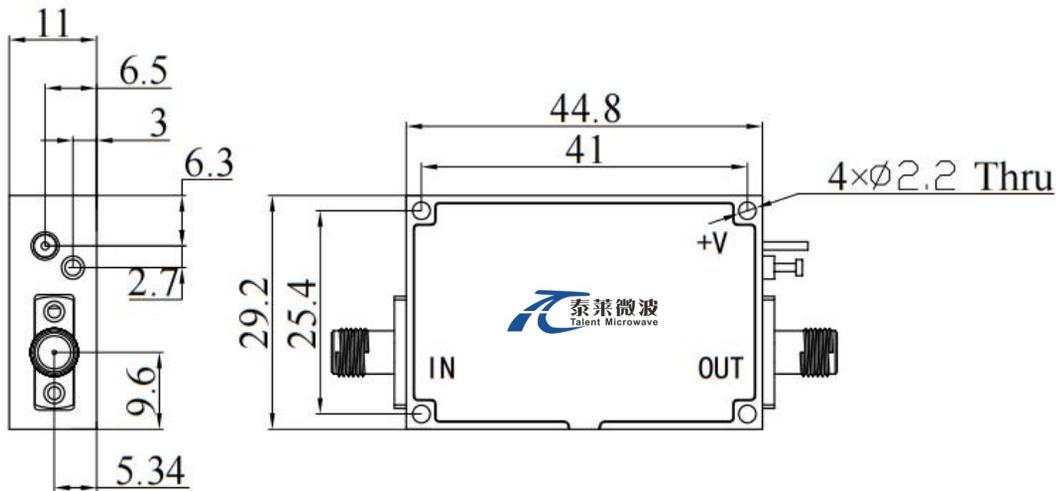
### 绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+20 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:

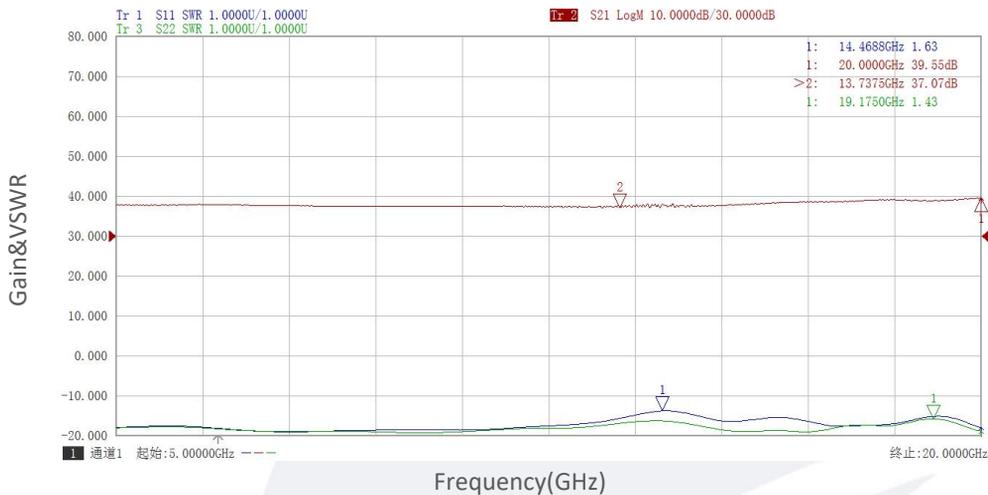
参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature	-45		+85	°C
存储温度 Non-operating Temperature	-55		+125	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc 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
TLLA5G20G-35-30	Low Noise Amplifier, 5-20GHz, Noise Figure:3.0dB, Gain:35dB,P1dB:14.5dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA5G20G-35-30-HS	Low Noise Amplifier, 5-20GHz, Noise Figure:3.0dB, Gain:35dB,P1dB:14.5dBm,+12V DC,With Heatsink	Rev.1.1

### 典型曲线 Typical Performance Data:

#### Gain&VSWR vs Frequency



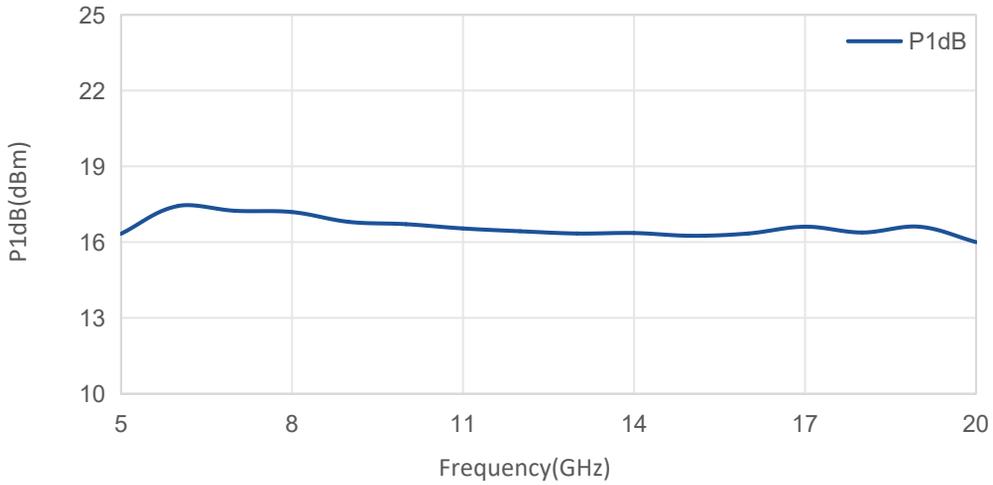
#### Noise Figure vs Frequency



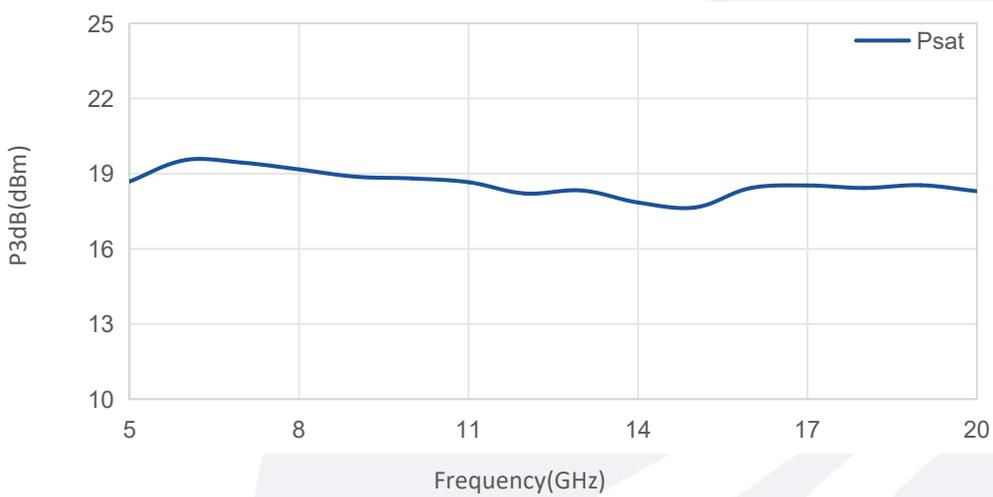
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

**典型曲线 Typical Performance Data:**

**P1dB vs Frequency**



**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.