

## Low Noise Amplifier

12-30GHz/2dB NF/30dB Gain/24dBm P1dB

Model: TLLA12G30G-30-20

TLLA12G30G-30-20 is a low noise amplifier with a typical small signal gain of 30 dB and a nominal noise figure of 2 dB across the frequency range of 12 to 30 GHz. The DC power requirement for the amplifier is +12 V DC/550 mA. The input and output port configuration offers coax adapter structure with 2.92mm female.

### Features:

- Frequency range: 12-30GHz
- Gain: 30dB Typ
- Noise Figure: 2dB 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	12		30	GHz
小信号增益 Small Signal Gain	28.5	30		dB
增益平坦度 Gain Flatness		±1.5		dB
噪声系数 Noise Figure		2	3	dB
线性输出功率 Output P1dB	23.5	24		dBm
饱和输出功率 Output Psat		25		dBm
输入驻波 Input VSWR		1.6		:1
输出驻波 Output VSWR		1.8		:1
直流电压 DC Voltage		+12		V DC
直流电流 DC Supply Current		550		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	50*55*14	mm

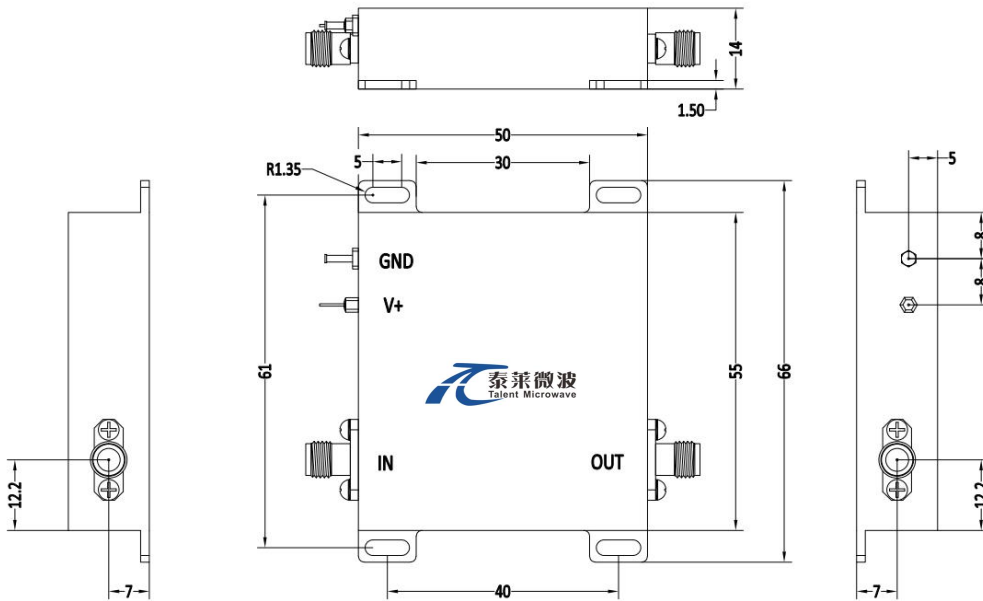
## 绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	TBD
输入功率 RF Input Power	+5 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:

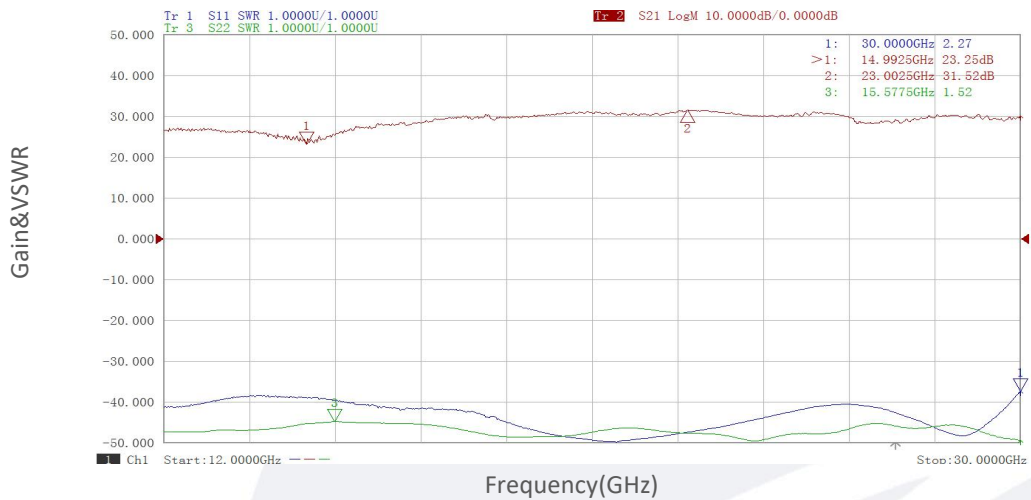
参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature	-45		+85	°C
存储温度 Non-operating Temperature	-55		+125	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc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

## 订货信息 Ordering Information:

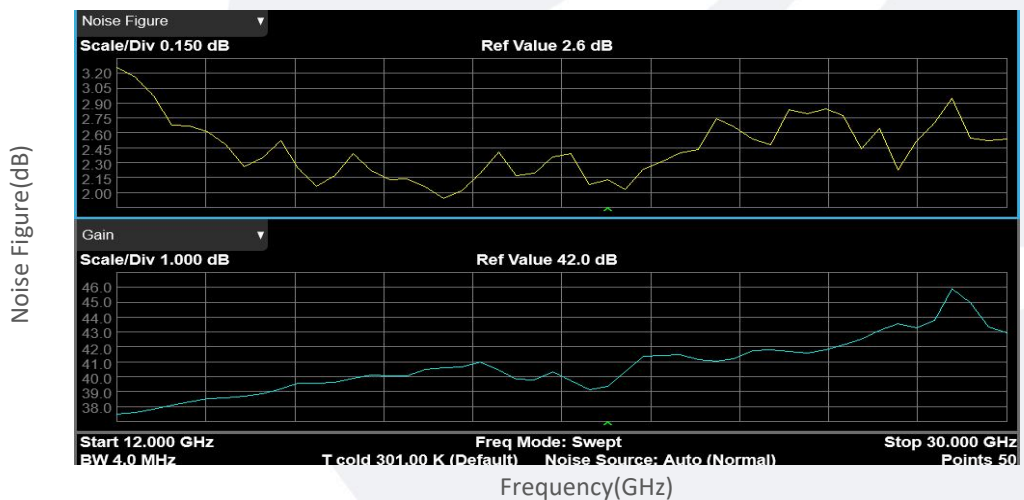
标准型号 Base Number	描述 Description	版本号 Revision
TLLA12G30G-30-20	Low Noise Amplifier, 12-30GHz, Noise Figure:2dB, Gain:30 dB,P1dB:24dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA12G30G-30-20-HS	Low Noise Amplifier, 12-30GHz, Noise Figure:2dB, Gain:30 dB,P1dB:24dBm,+12V DC,With Heatsink	Rev.1.1

## 典型曲线 Typical Performance Data:

### Gain&VSWR vs Frequency



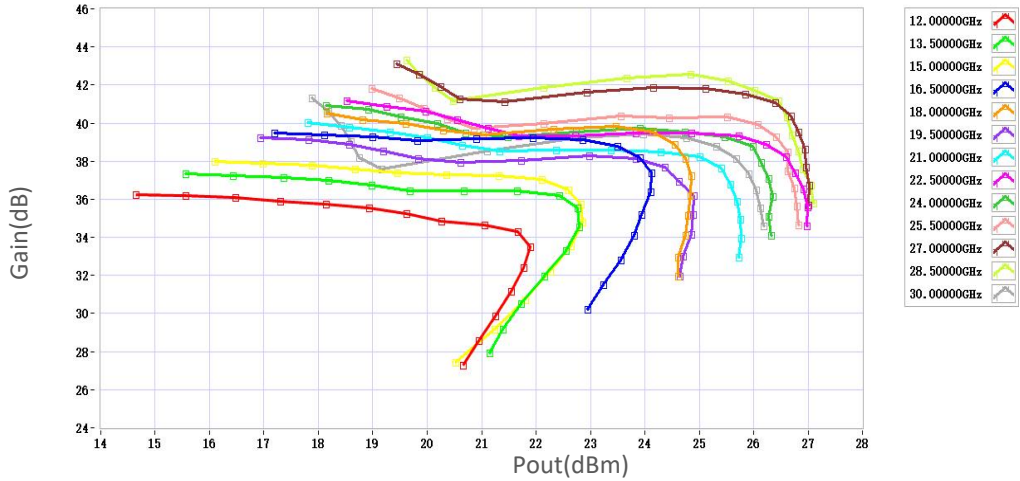
### Noise Figure vs Frequency



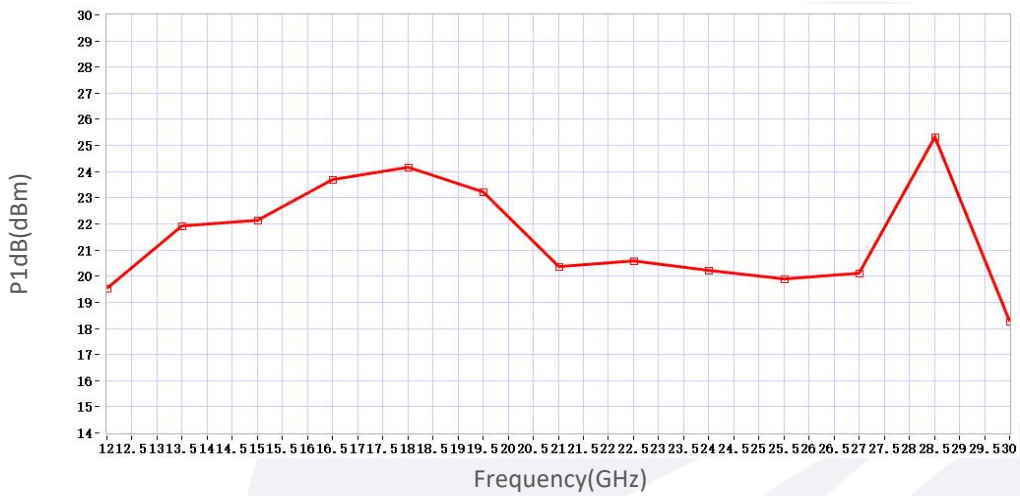
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

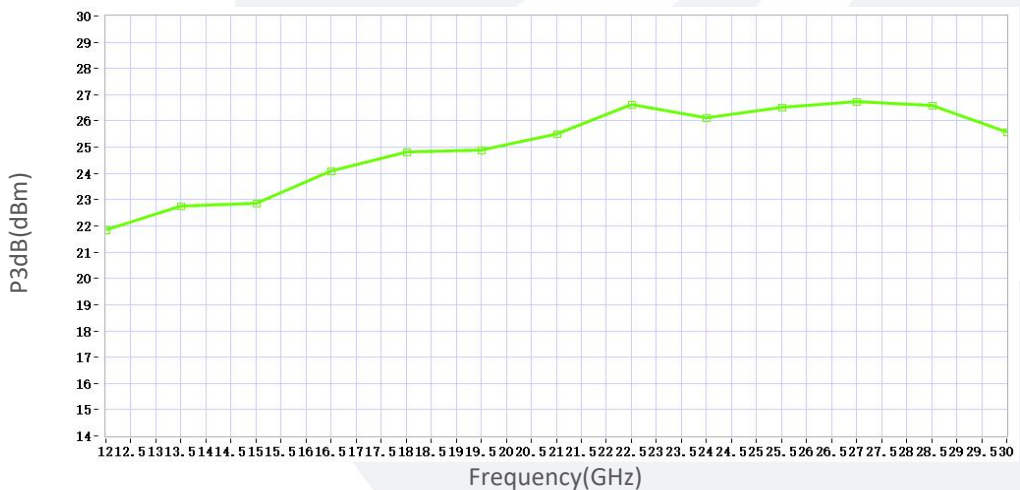
Gain vs Output Power



P1dB vs Frequency



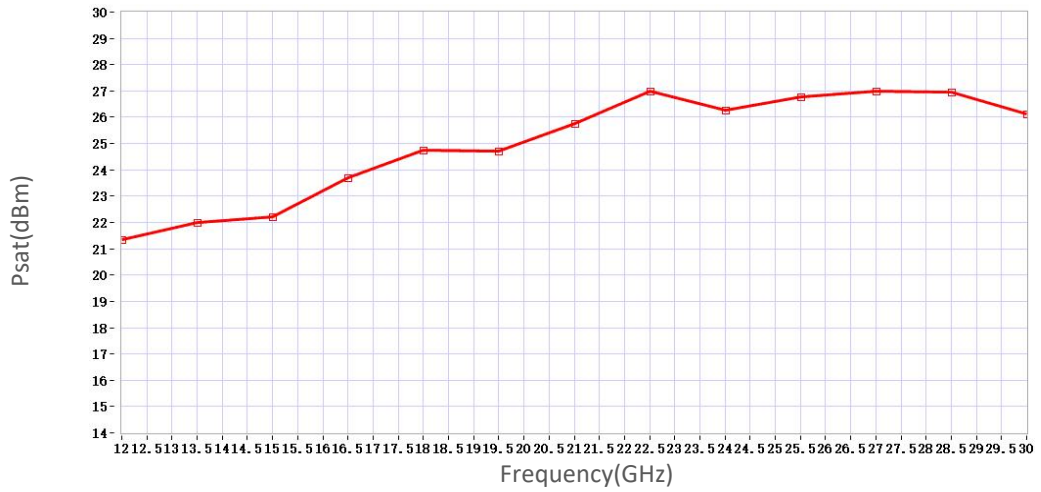
P3dB vs Frequency



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:

### Psat vs Frequency



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