

Low Noise Amplifier

0.5-8GHz/1.4dB NF/21dB Gain/16dBm P1dB

Model: TLLA0.5G8G-21-14

TLLA0.5G8G-21-14 is a low noise amplifier with a typical small signal gain of 21 dB and a nominal noise figure of 1.4 dB across the frequency range of 0.5 to 8 GHz. The DC power requirement for the amplifier is +12 V DC/50 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 0.5-8GHz
- Gain: 21dB Typ
- Noise Figure: 1.4dB 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	0.5		8	GHz
小信号增益 Small Signal Gain		21		dB
增益平坦度 Gain Flatness		±2.0		dB
噪声系数 Noise Figure		1.4		dB
线性输出功率 Output P1dB		16		dBm
输出三阶交调 Output IP3		30		dBm
输入驻波 Input VSWR		2.5		:1
输出驻波 Output VSWR		2		:1
直流电压 DC Voltage	+8	+12	+15	V DC
直流电流 DC Supply Current		50		mA
阻抗 Impedance		50		Ohms

机械特性 Mechanical Specifications:

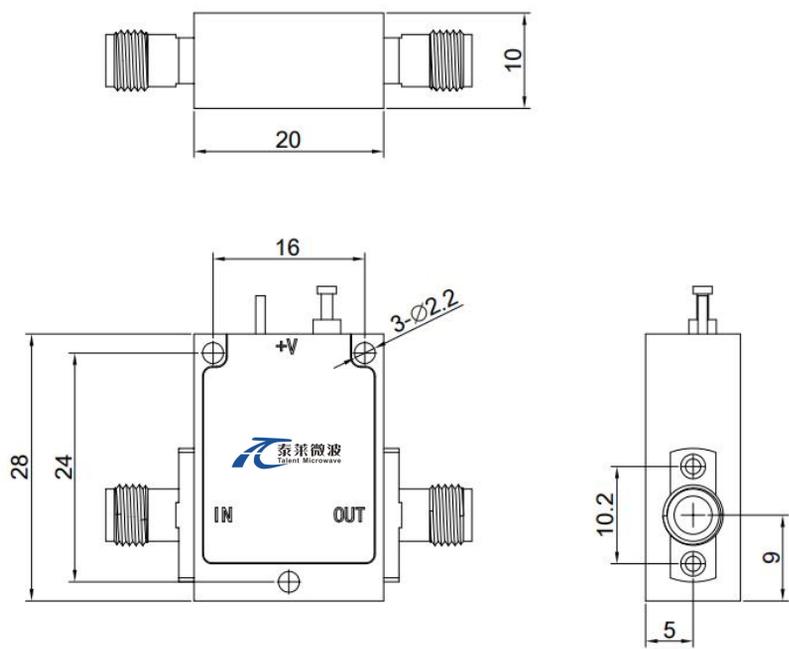
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/SMA Female	
直流偏置 DC Bias	Solder Pin	
尺寸 Size	28*20*10	mm
重量 Weight	55	g

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



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

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

温度环境 Environmental Conditions:

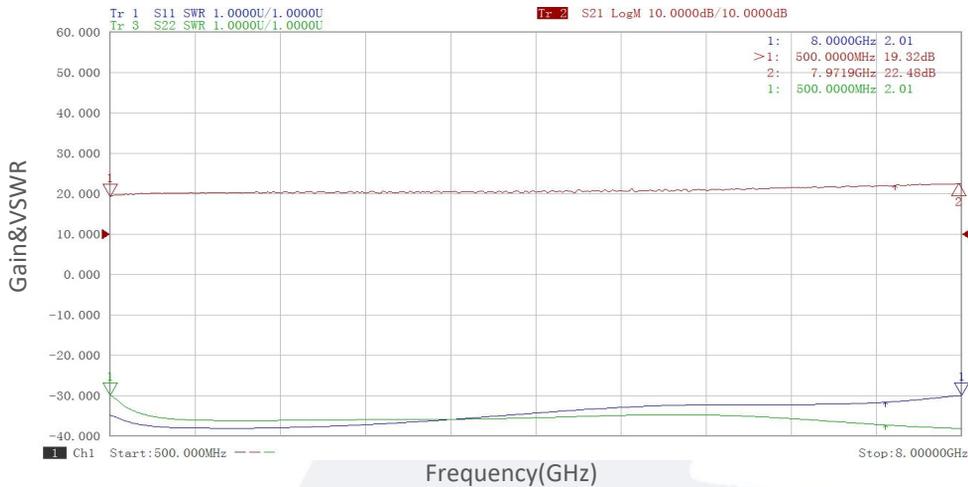
参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature	-45		+85	°C
存储温度 Non-operating Temperature	-55		+125	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc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

订货信息 Ordering Information:

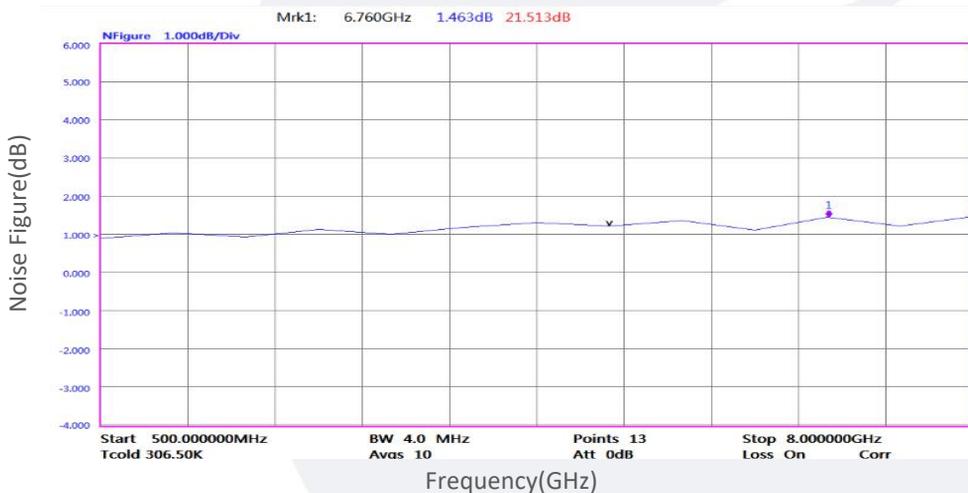
标准型号 Base Number	描述 Description	版本号 Revision
TLLA0.5G8G-21-14	Low Noise Amplifier, 0.5-8GHz, Noise Figure:1.4dB, Gain: 21dB,P1dB:16dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA0.5G8G-21-14-HS	Low Noise Amplifier, 0.5-8GHz, Noise Figure:1.4dB, Gain: 21dB,P1dB:16dBm,+12V DC,With Heatsink	Rev.1.1

典型曲线 Typical Performance Data:

Gain&VSWR vs Frequency



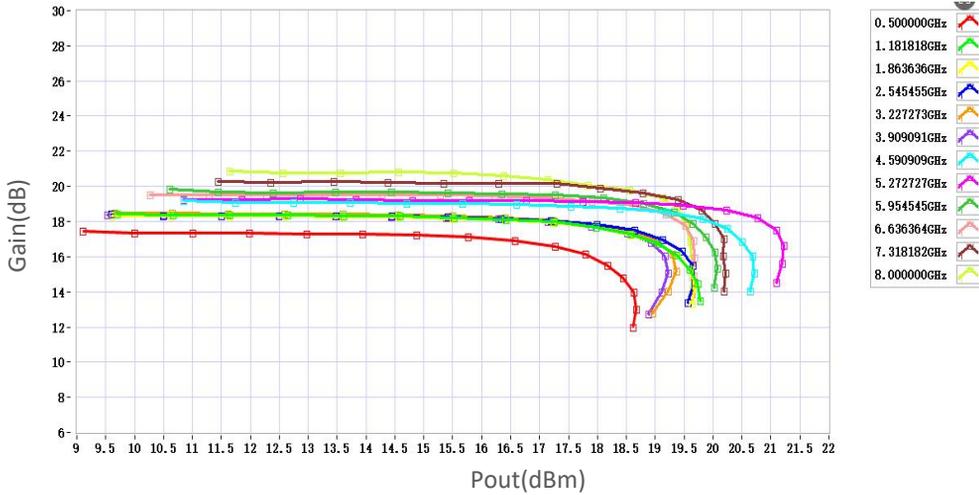
Noise Figure vs Frequency



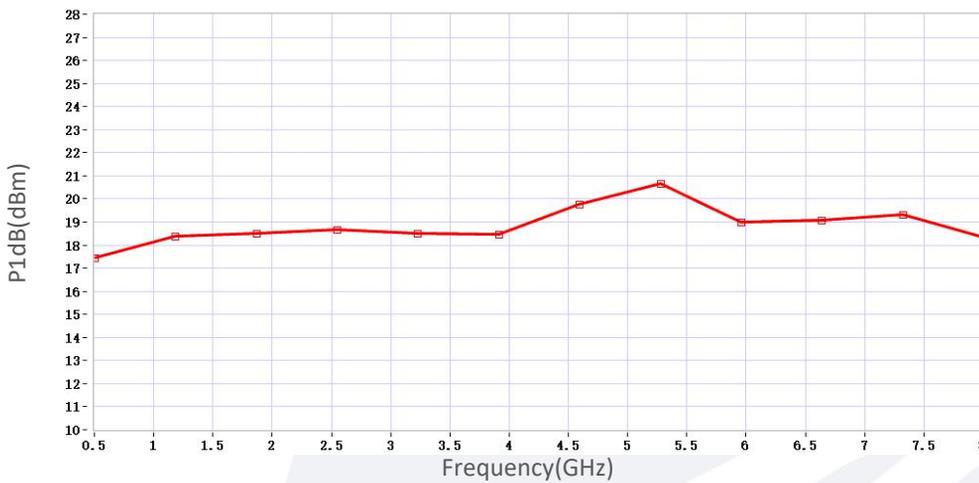
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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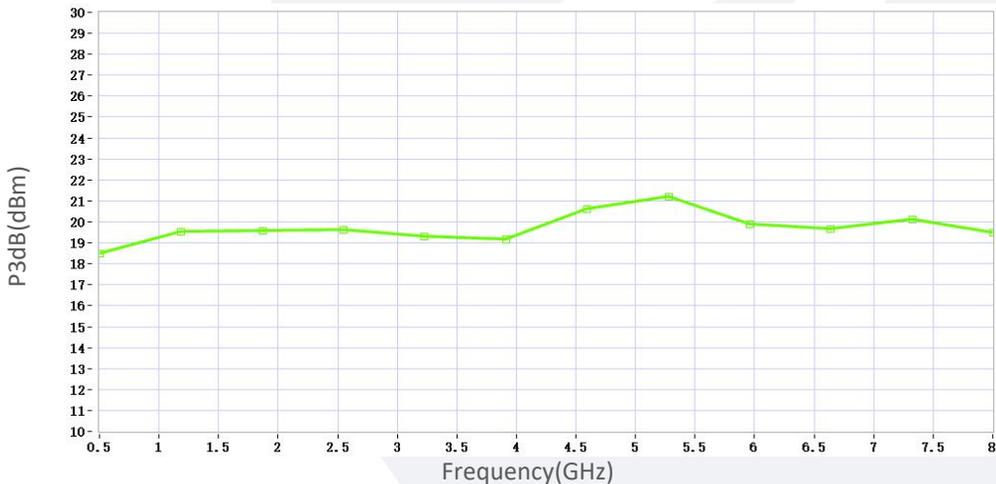
Gain vs Output Power



P1dB vs Frequency



P3dB vs Frequency



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