

Low Noise Amplifier

12-15GHz/1.8dB NF/50dB Gain/10dBm P1dB

Model: TLLA12G15G-50-BPF

TLLA12G15G-50-BPF is a low noise amplifier with a minimum small signal gain of 50 dB and a nominal noise figure of 1.8 dB across the frequency range of 12 to 15 GHz. The DC power requirement for the amplifier is +12 V DC/90 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 12-15GHz
- Gain: 50dB Min
- Noise Figure: 1.8dB 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		15	GHz
小信号增益 Small Signal Gain		50			dB
增益平坦度 Gain Flatness			±2.0		dB
噪声系数 Noise Figure			1.8		dB
线性输出功率 Output P1dB		10			dBm
带外抑制 Rejection	@9.5GHz		90		dBc
	@16.5GHz		57		
输入驻波 Input VSWR			2		:1
输出驻波 Output VSWR			2		:1
直流电压 DC Voltage			12		V DC
直流电流 DC Supply Current			90		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	95*24*14.5	mm
重量 Weight	106	g

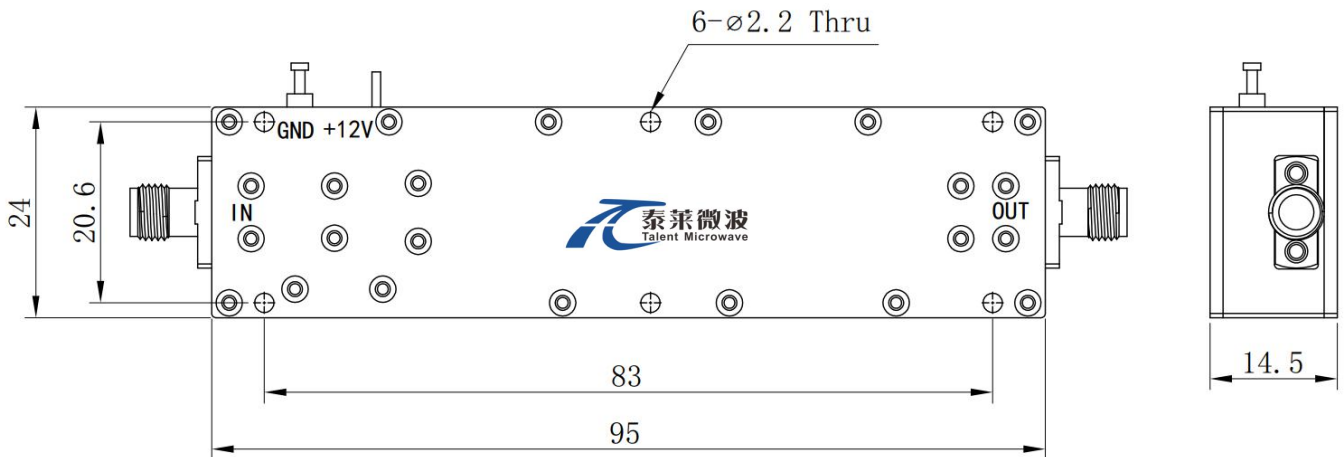
绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+14 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; Tolerance:±0.1mm



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



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

温度环境 Environmental Conditions:

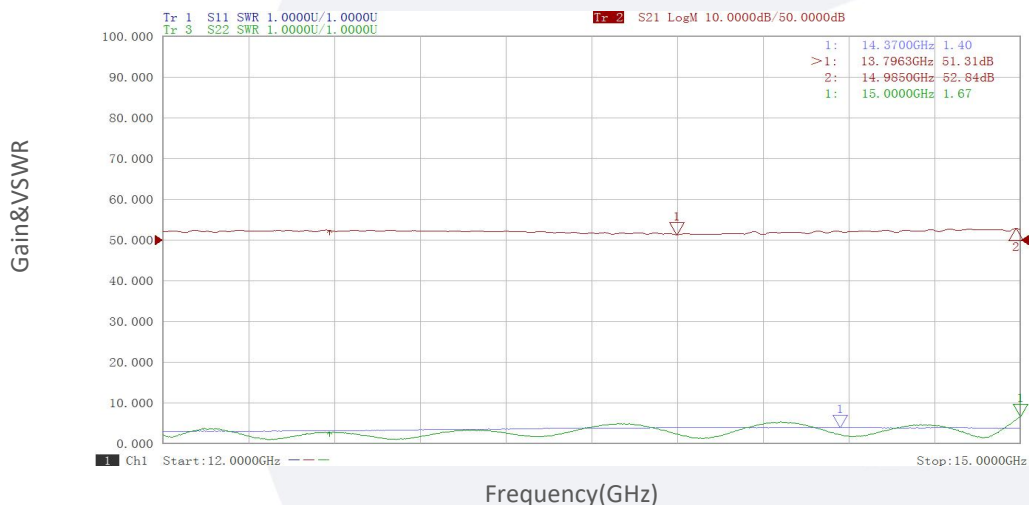
参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature	-45		+85	°C
存储温度 Non-operating Temperature	-55		+125	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc 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
TLLA12G15G-50-BPF	Low Noise Amplifier, 12-15GHz, Noise Figure:1.8dB, Gain:50dB,P1dB:10dBm,+12V DC,Without Heatsink	Rev.1.0
TLLA12G15G-50-BPF-HS	Low Noise Amplifier, 12-15GHz, Noise Figure:1.8dB, Gain:50dB,P1dB:10dBm,+12V DC,With Heatsink	Rev.1.0

典型曲线 Typical Performance Data:

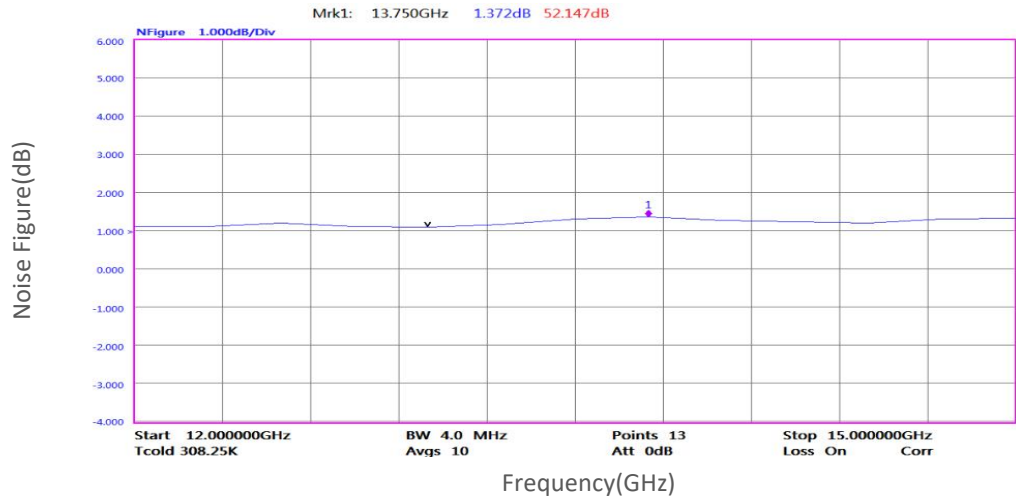
Gain&VSWR vs Frequency



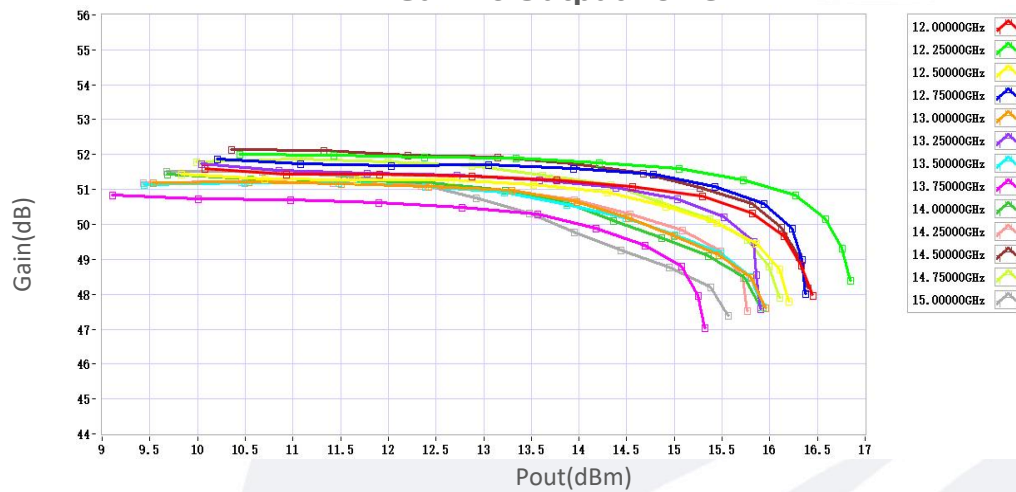
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

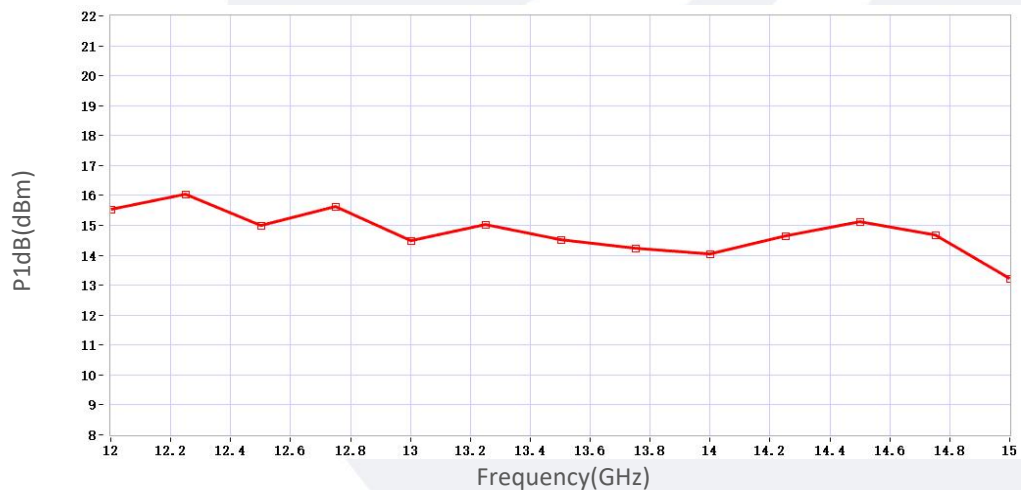
Noise Figure vs Frequency



Gain vs Output Power



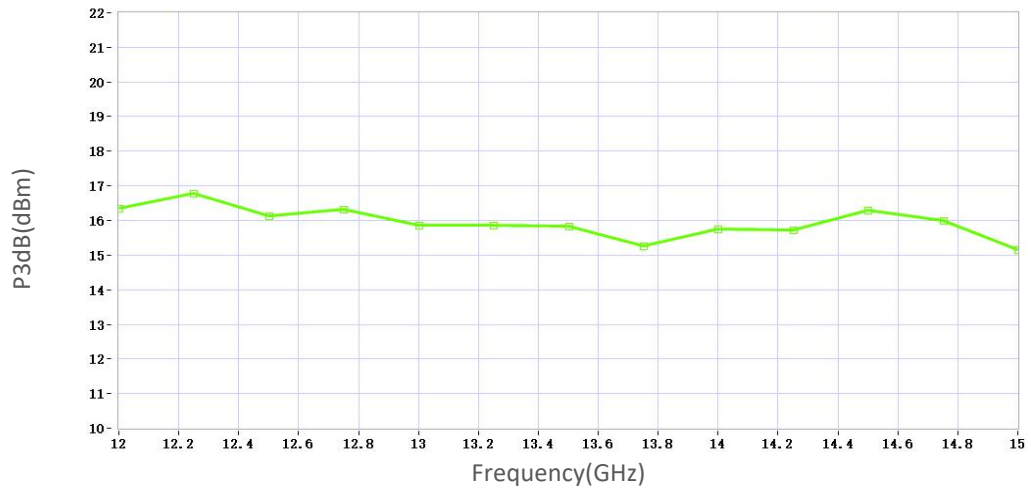
P1dB vs Frequency



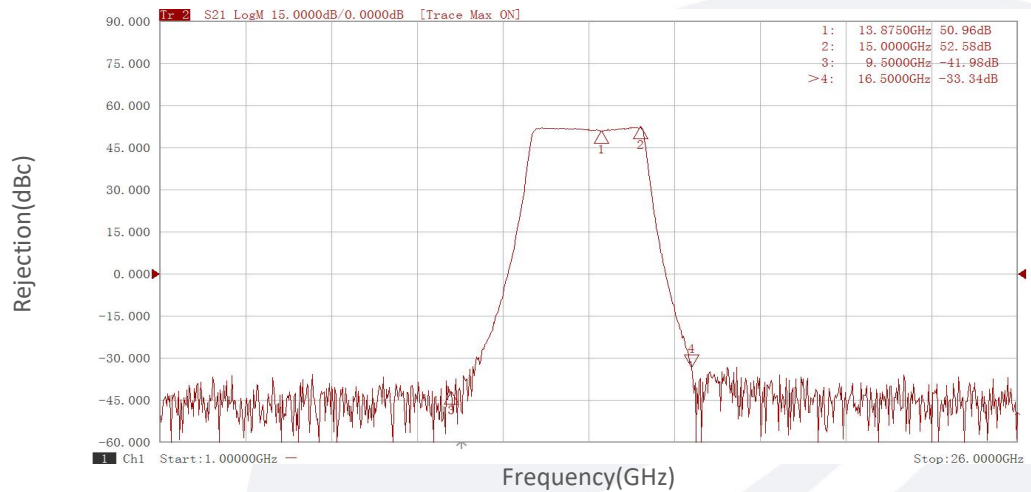
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

P3dB vs Frequency



Rejection 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.