

## Low Noise Amplifier

0.5-6GHz/1.8dB NF/50dB Gain/10dBm P1dB

Model: TLLA0.5G6G-50-18

TLLA0.5G6G-50-18 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 0.5 to 6 GHz. The DC power requirement for the amplifier is +8 V DC/250 mA. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 0.5-6GHz
- 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	0.5		6	GHz
小信号增益 Small Signal Gain	50			dB
增益平坦度 Gain Flatness		±2.8		dB
噪声系数 Noise Figure		1.8	2	dB
线性输出功率 Output P1dB	10			dBm
输入驻波 Input VSWR		2.2	2.5	:1
输出驻波 Output VSWR		2.2	2.5	:1
直流电压 DC Voltage		+8		V DC
直流电流 DC Supply Current		250		mA
阻抗 Impedance		50		Ohms

### 机械特性 Mechanical Specifications:

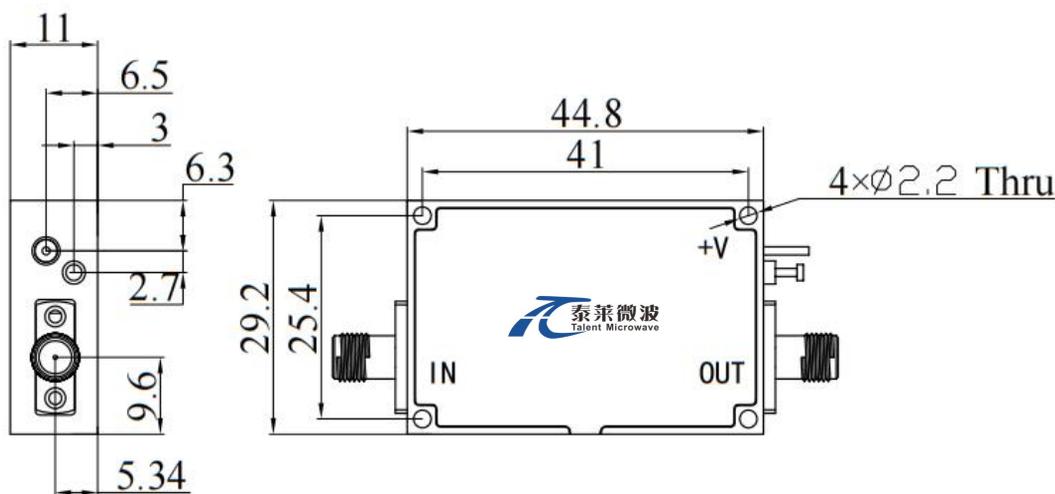
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/SMA Female	
直流偏置 DC Bias	Solder Pin	
尺寸 Size	44.8*29.2*11	mm
重量 Weight	50	g

**绝对最大值 Absolute Maximum Ratings:**

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+12
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


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


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

**温度环境 Environmental Conditions:**

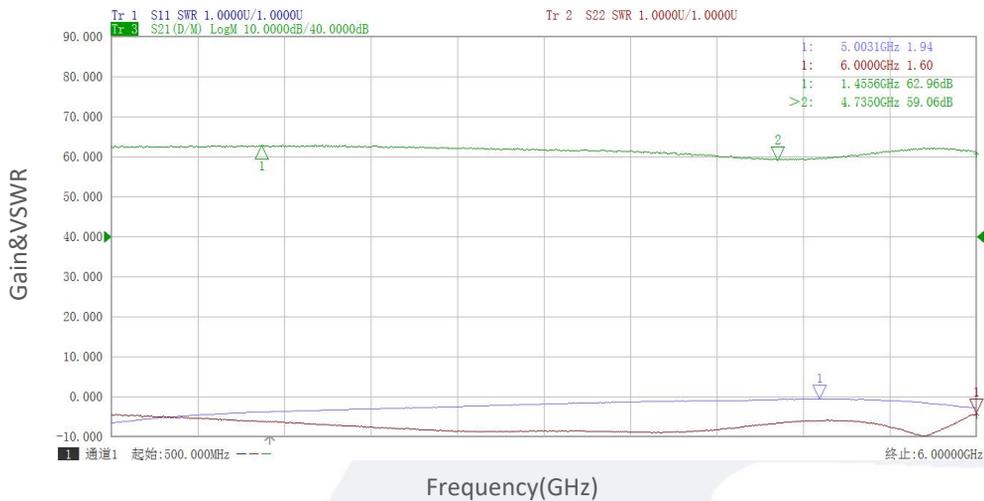
参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature	-45		+85	°C
存储温度 Non-operating Temperature	-55		+125	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	50,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

## 订货信息 Ordering Information:

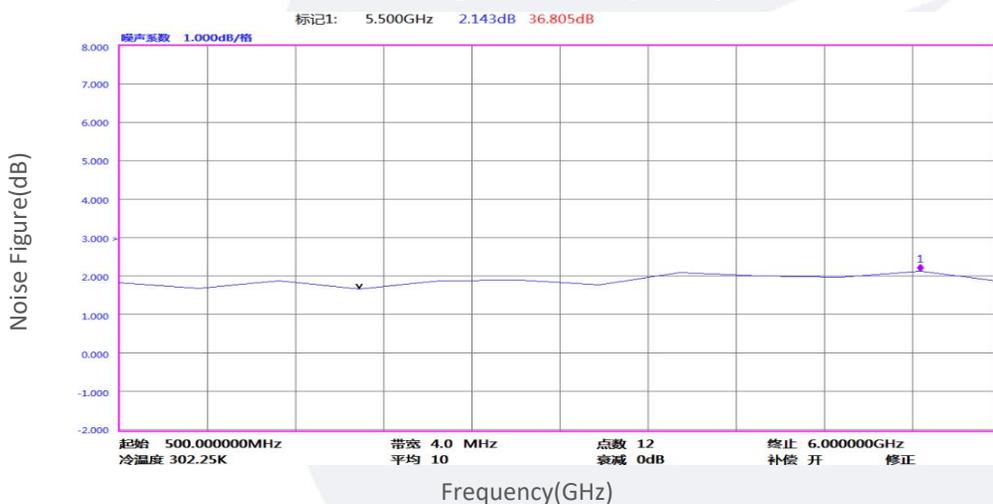
标准型号 Base Number	描述 Description	版本号 Revision
TLLA0.5G6G-50-18	Low Noise Amplifier, 0.5-6GHz, Noise Figure:1.8dB, Gain: 50dB,P1dB:10dBm,+8V DC,Without Heatsink	Rev.1.1
TLLA0.5G6G-50-18-HS	Low Noise Amplifier, 0.5-6GHz, Noise Figure:1.8dB, Gain: 50dB,P1dB:10dBm,+8V DC,With Heatsink	Rev.1.1

## 典型曲线 Typical Performance Data:

### Gain&VSWR vs Frequency



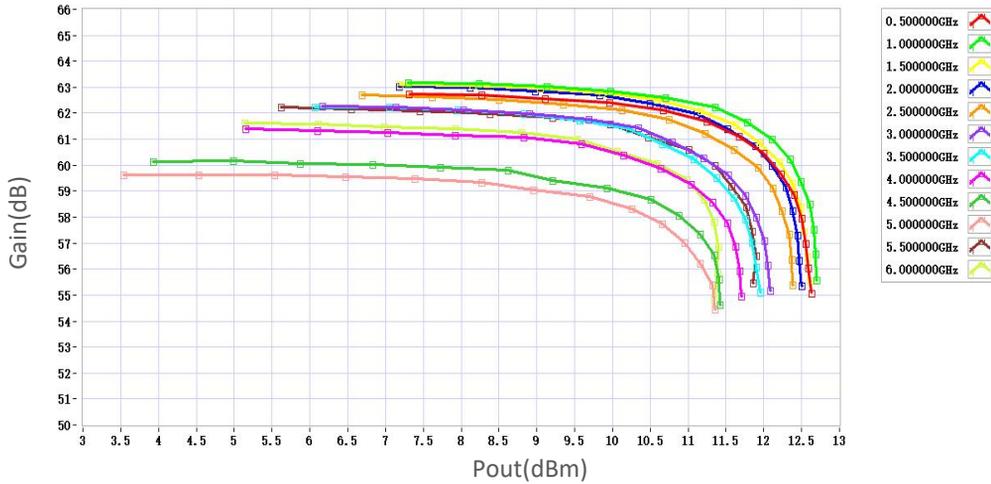
### Noise Figure vs Frequency



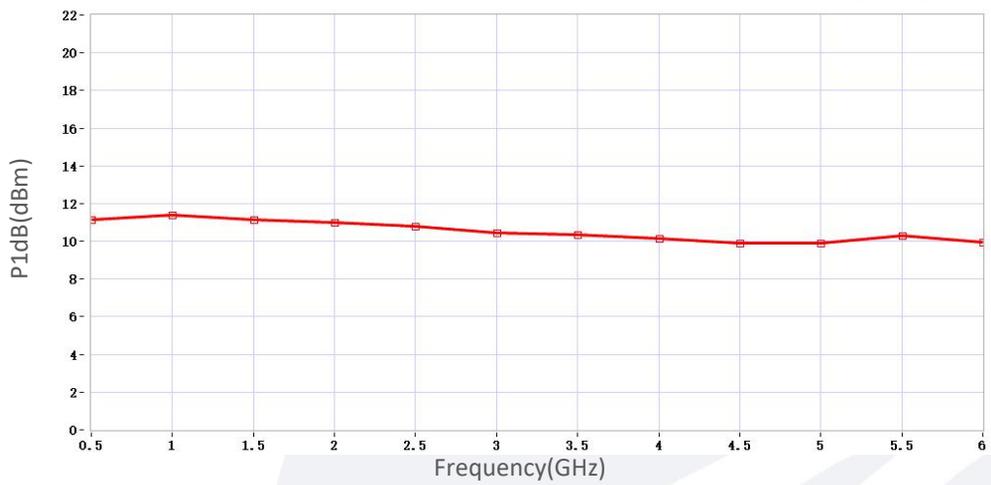
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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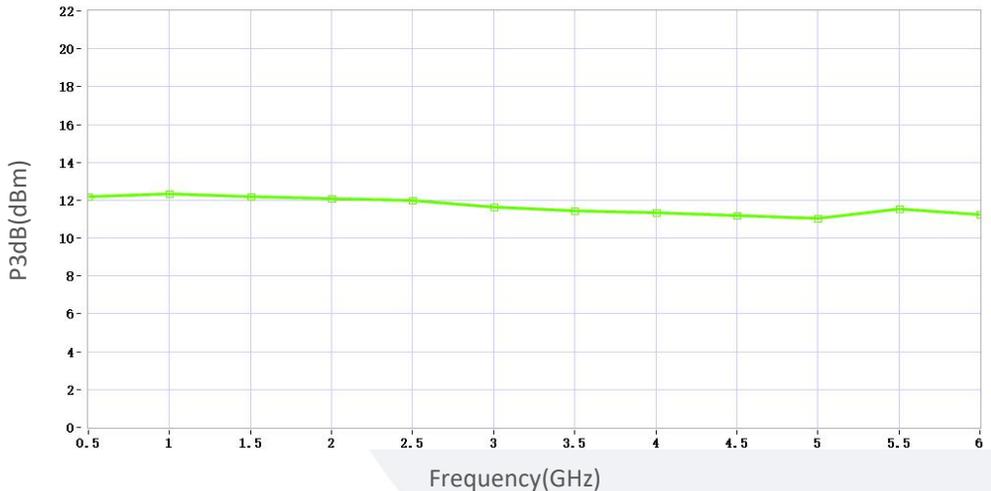
### Gain vs Output Power



### P1dB vs Frequency



### P3dB vs Frequency



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