

Low Noise Amplifier

18-50GHz/4.5dB NF/35dB Gain/14dBm P1dB

Model: TLLA18G50G-35-45

TLLA18G50G-35-45 is a low noise amplifier with a minimum small signal gain of 35 dB and a maximum noise figure of 4.5 dB across the frequency range of 18 to 50 GHz. The DC power requirement for the amplifier is +12 V DC/300 mA. The input and output port configuration offers coax adapter structure with 2.4mm female.

Features:

- Frequency range: 18-50GHz
- Gain: 35dB Min
- Noise Figure: 4.5dB 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	18		50	GHz
小信号增益 Small Signal Gain	35			dB
增益平坦度 Gain Flatness		±3.0		dB
噪声系数 Noise Figure		4	4.5	dB
线性输出功率 Output P1dB	10	14		dBm
饱和输出功率 Output Psat	12	15		dBm
输入驻波 Input VSWR		1.8	2.2	:1
输出驻波 Output VSWR		2		:1
直流电压 DC Voltage	+10	+12	+15	V DC
直流电流 DC Supply Current		300		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	2.4mm Female/2.4mm Female	
直流偏置 DC Bias	Solder Pin	
尺寸 Size	44.8*29.2*11	mm
重量 Weight	50	g

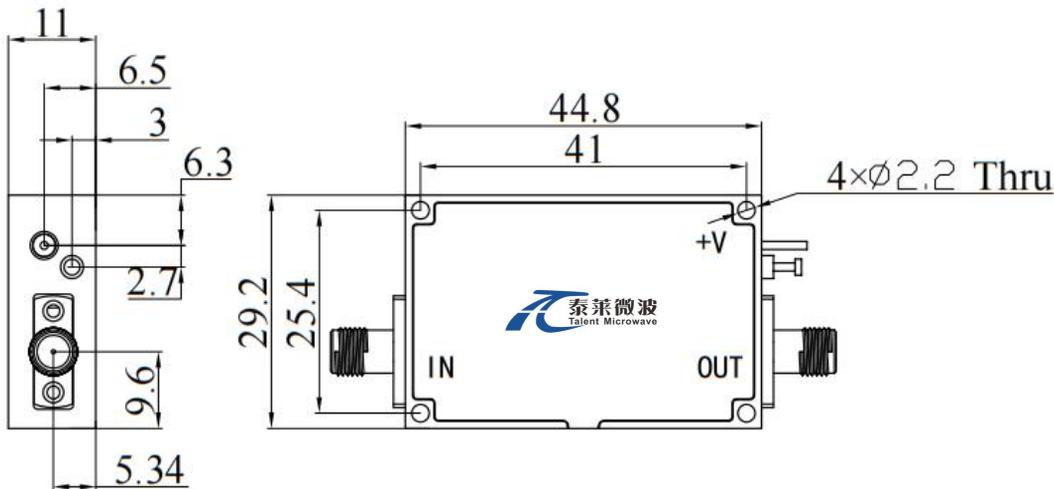
绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+15 V
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.

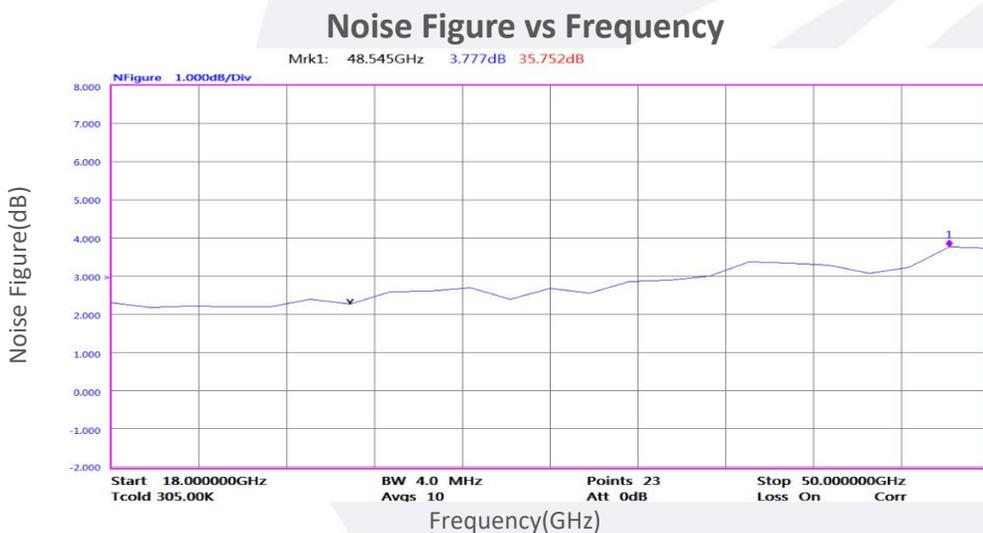
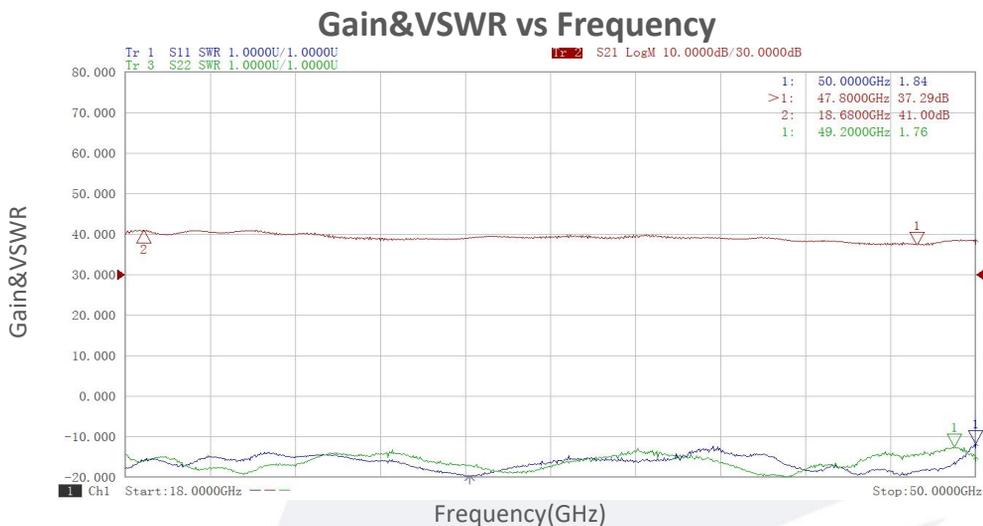
温度环境 Environmental Conditions:

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
TLLA18G50G-35-45	Low Noise Amplifier, 18-50GHz, Noise Figure:4.5dB, Gain:35 dB,P1dB:14dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA18G50G-35-45-HS	Low Noise Amplifier, 18-50GHz, Noise Figure:4.5dB, Gain:35 dB,P1dB:14dBm,+12V DC,With Heatsink	Rev.1.1

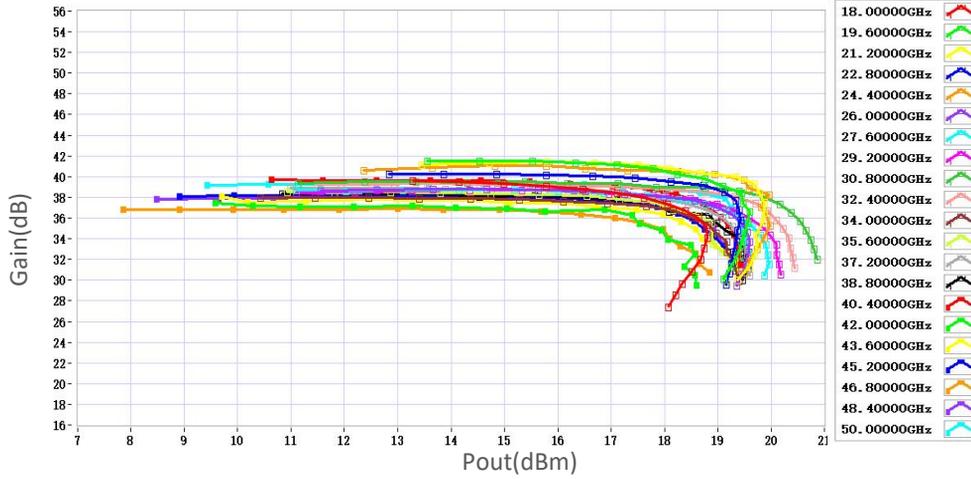
典型曲线 Typical Performance Data:



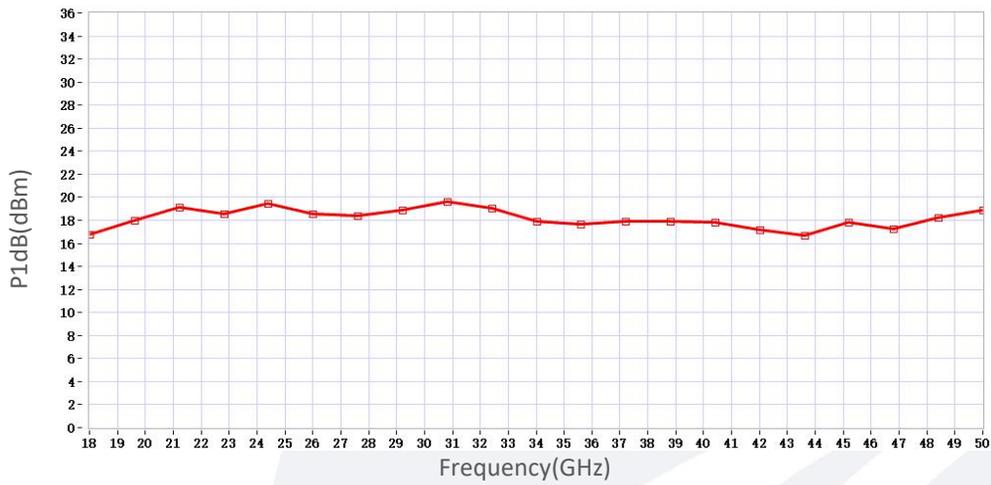
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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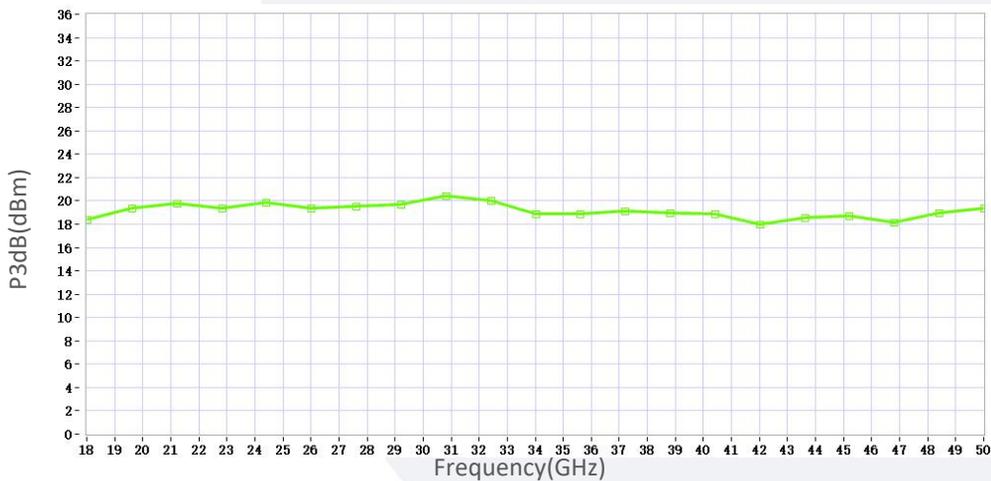
Gain vs Output Power



P1dB vs Frequency



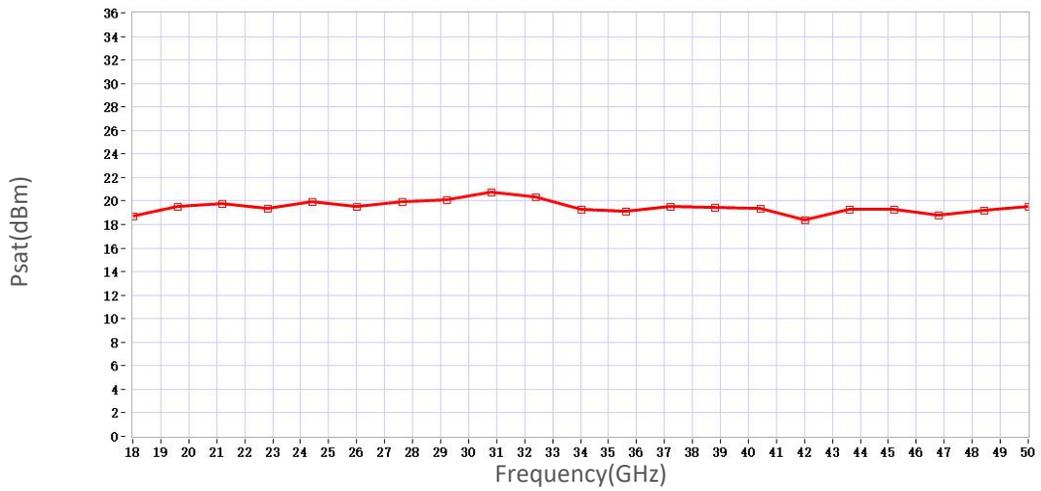
P3dB vs Frequency



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典型曲线 Typical Performance Data:

Psat vs Frequency



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