

Low Noise Amplifier

50KHz-50GHz/5.5dB NF/38dB Gain/14dBm P1dB

Model: TLLA50K50G-38-50

TLLA50K50G-38-50 is a low noise amplifier with a typical small signal gain of 38 dB and a nominal noise figure of 5.5 dB across the frequency range of 50 KHz to 50 GHz. The DC power requirement for the amplifier is +6 V DC/180 mA. The input and output port configuration offers coax adapter structure with 2.4mm female.

Features:

- Frequency range: 50KHz-50GHz
- Gain: 38dB Typ
- Noise Figure: 5.5dB 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		50KHz-50GHz			
小信号增益 Small Signal Gain		36	38		dB
增益平坦度 Gain Flatness			±2.5		dB
噪声系数 Noise Figure			5.5		dB
线性输出功率 Output P1dB	@10MHz-40GHz		14		dBm
	@40-50GHz		9		
输入驻波 Input VSWR			1.8		:1
输出驻波 Output VSWR			1.8		:1
直流电压 DC Voltage			+6	+12	V DC
直流电流 DC Supply Current			180		mA
阻抗 Impedance		50			Ohms

机械特性 Mechanical Specifications:

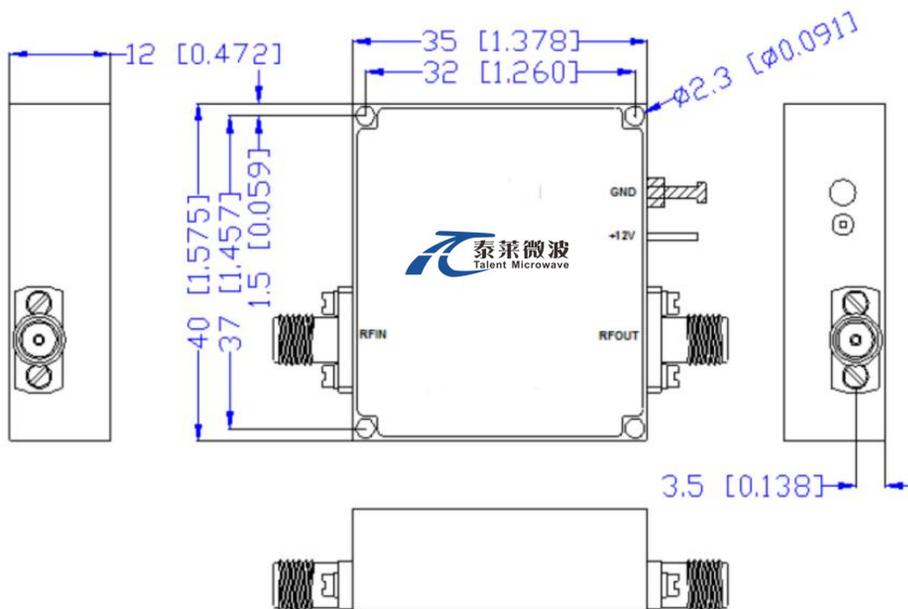
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	2.4mm Female/2.4mm Female	
直流偏置 DC Bias	Solder Pin	
尺寸 Size	35*40*12	mm

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	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:

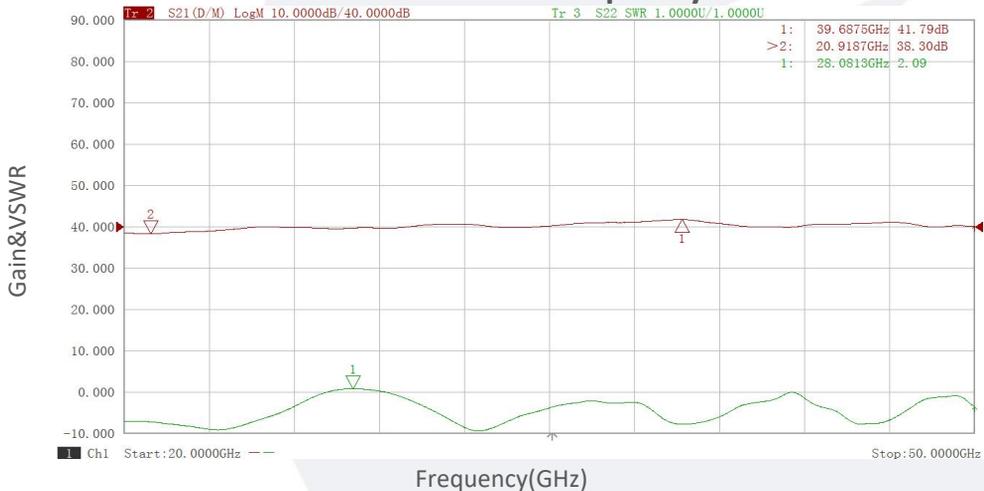
标准型号 Base Number	描述 Description	版本号 Revision
TLLA50K50G-38-50	Low Noise Amplifier, 50KHz-50GHz, Noise Figure: 5.5dB, Gain: 38 dB, P1dB: 14dBm, +6V DC, Without Heatsink	Rev.1.1
TLLA50K50G-38-50-HS	Low Noise Amplifier, 50KHz-50GHz, Noise Figure: 5.5dB, Gain: 38 dB, P1dB: 14dBm, +6V DC, With Heatsink	Rev.1.1

典型曲线 Typical Performance Data:

Gain&VSWR vs Frequency



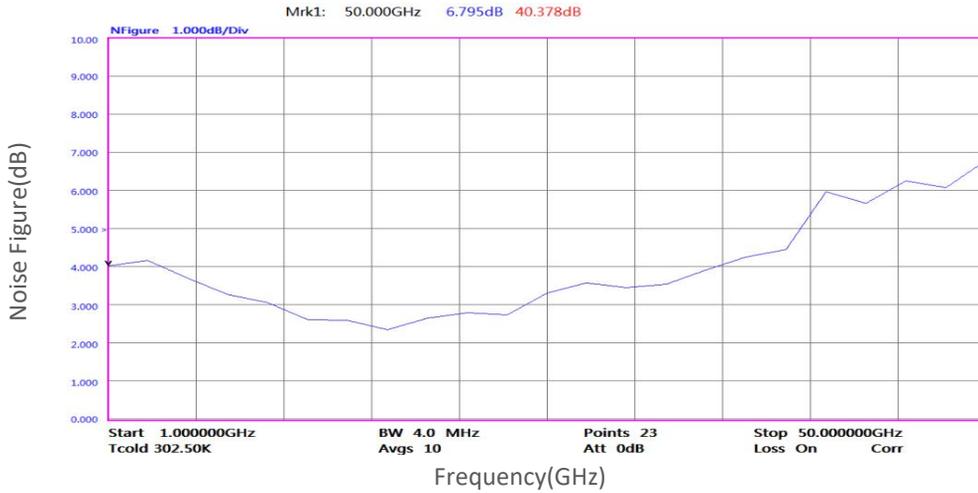
Gain&VSWR vs Frequency



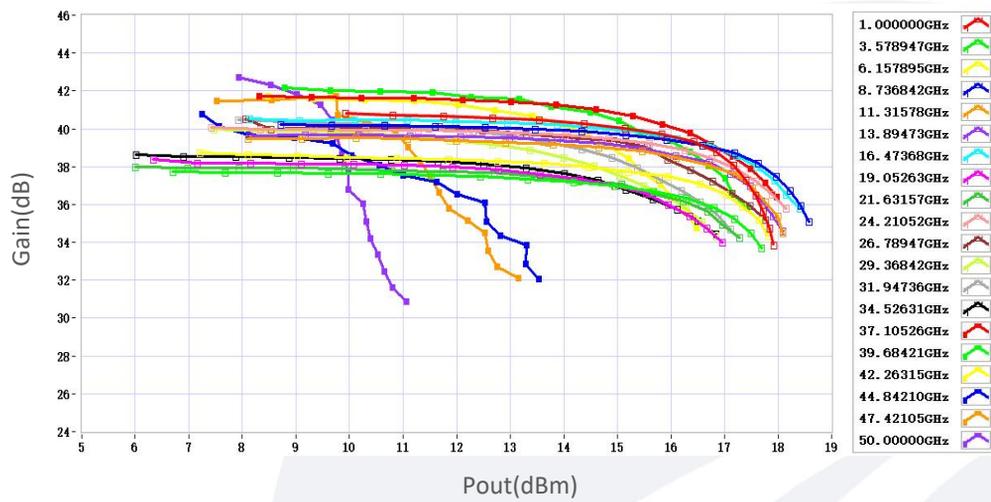
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

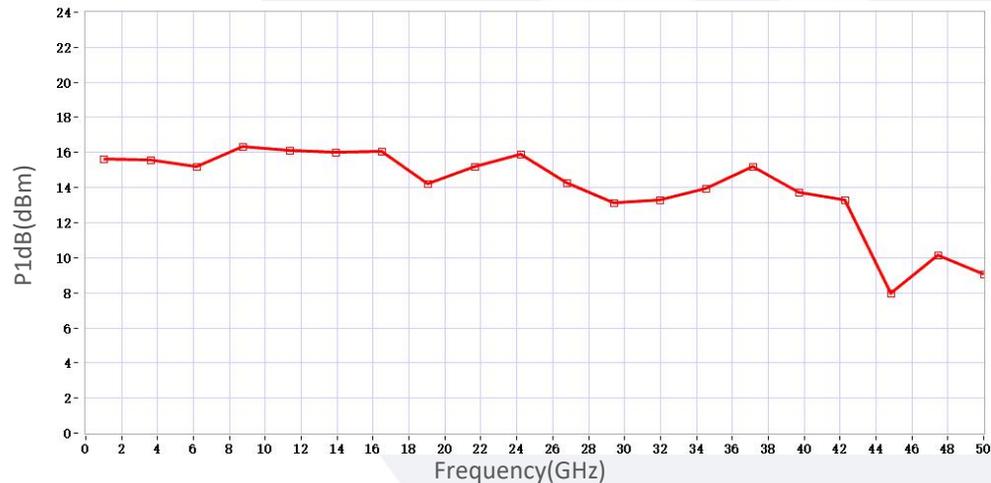
Noise Figure vs Frequency



Gain vs Output Power



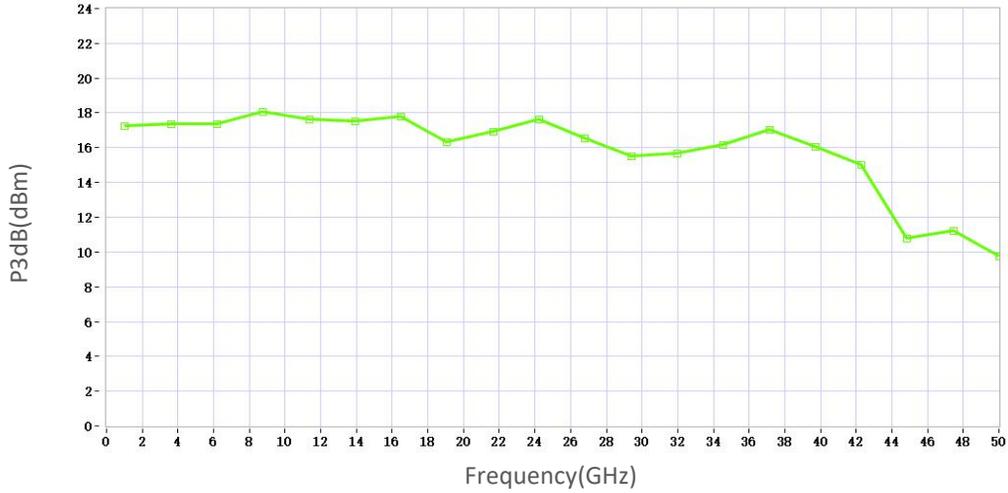
P1dB vs Frequency



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典型曲线 Typical Performance Data:

P3dB vs Frequency



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