

Low Noise Amplifier

0.1-8GHz/4.5dB NF/22dB Gain/21 dBm P1dB

Model: TLLA0.1G8G-22-45

TLLA0.1G8G-22-45 is a low noise amplifier with a typical small signal gain of 22 dB and a nominal noise figure of 4.5 dB across the frequency range of 0.1 to 8 GHz. The DC power requirement for the amplifier is +10 V DC/300 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 0.1-8GHz
- Gain: 22dB Typ
- Noise Figure: 4.5dB 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	0.1		8	GHz
小信号增益 Small Signal Gain	20	22		dB
增益平坦度 Gain Flatness		±3.0		dB
噪声系数 Noise Figure		4.5		dB
线性输出功率 Output P1dB		21		dBm
饱和输出功率 Output Psat		22		dBm
输入驻波 Input VSWR		1.8		:1
输出驻波 Output VSWR		1.8		:1
直流电压 DC Voltage	+8	+10	+15	V DC
直流电流 DC Supply Current		300		mA
阻抗 Impedance	50			Ohms

机械特性 Mechanical Specifications:

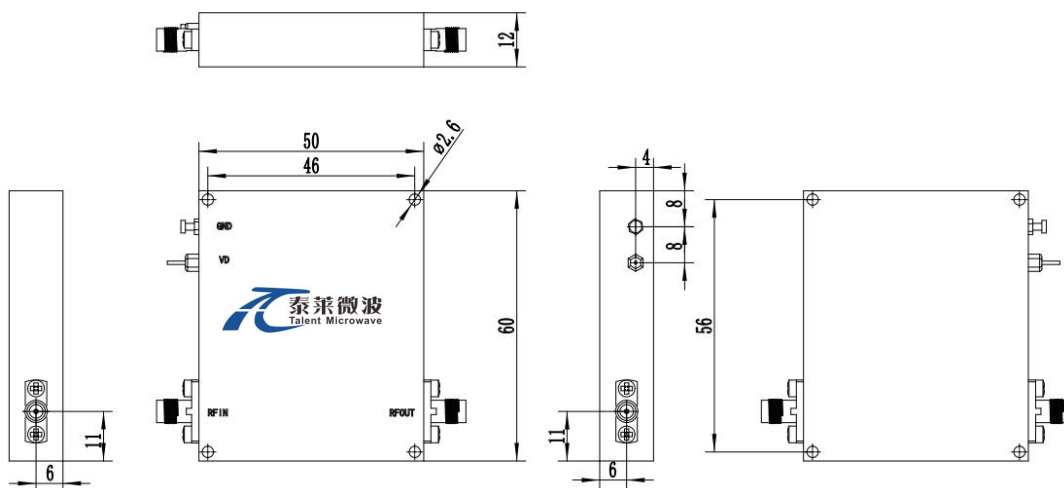
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/SMA Female	
直流偏置 DC Bias	Solder Pin	
尺寸 Size	50*60*12	mm

绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+15 V
输入功率 RF Input Power	+15 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:

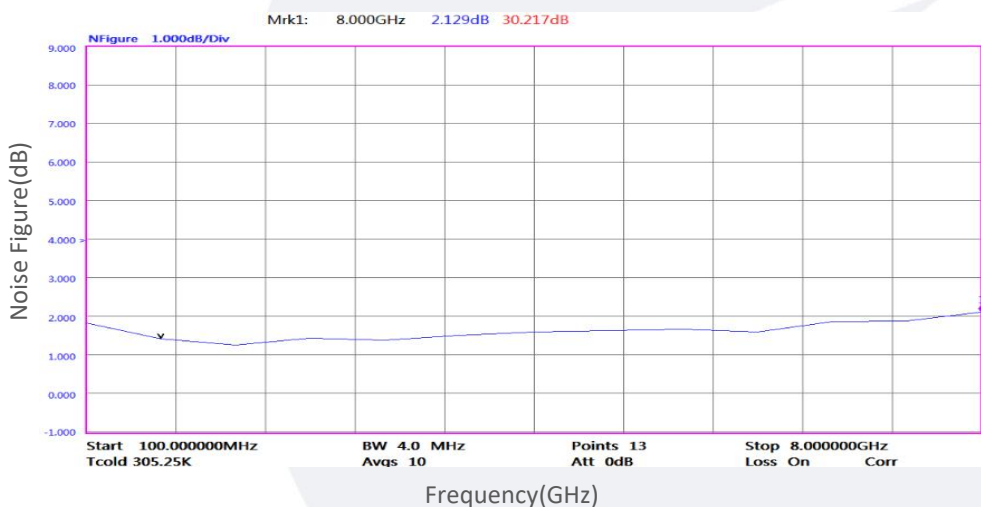
标准型号 Base Number	描述 Description	版本号 Revision
TLLA0.1G8G-22-45	Low Noise Amplifier, 0.1-8GHz, Noise Figure:4.5dB, Gain:22 dB,P1dB:21dBm,+10V DC,Without Heatsink	Rev.1.1
TLLA0.1G8G-22-45-HS	Low Noise Amplifier, 0.1-8GHz, Noise Figure:4.5dB, Gain:22 dB,P1dB:21dBm,+10V DC,With Heatsink	Rev.1.1

典型曲线 Typical Performance Data:

Gain&VSWR vs Frequency



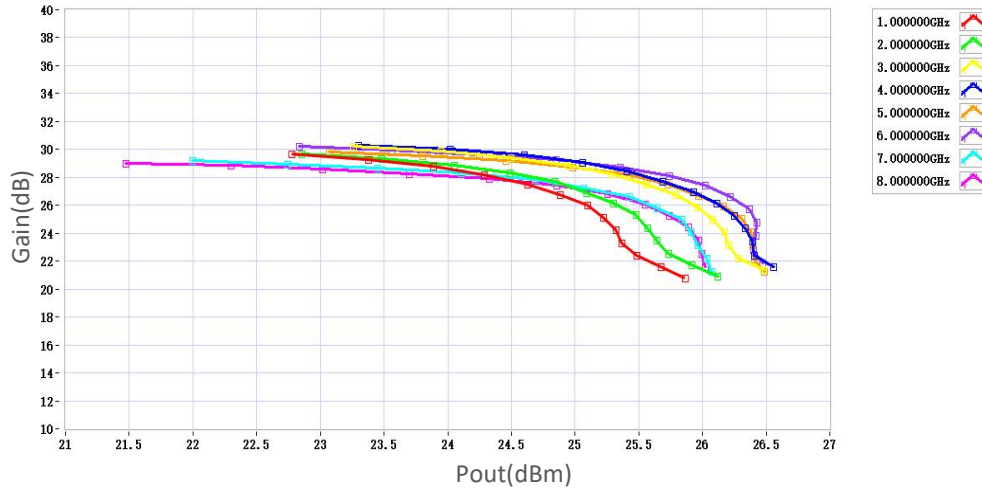
Noise Figure vs Frequency



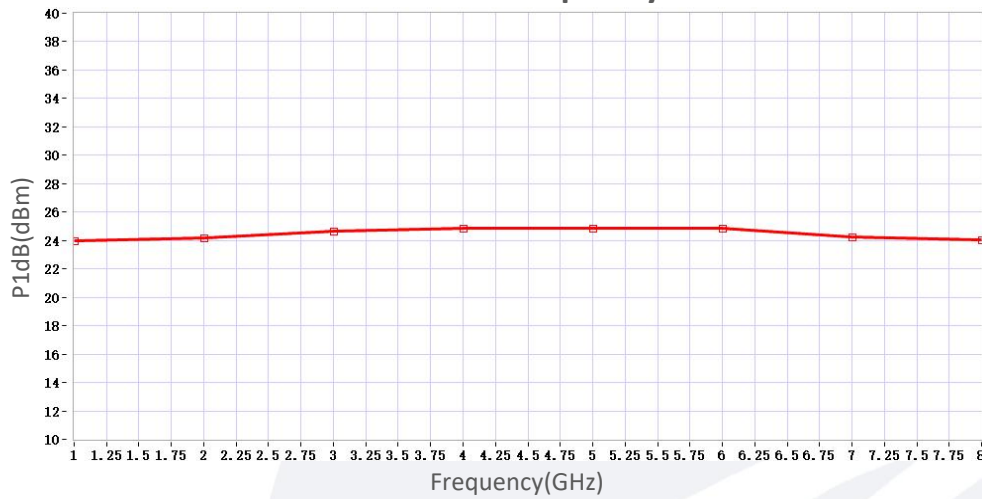
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

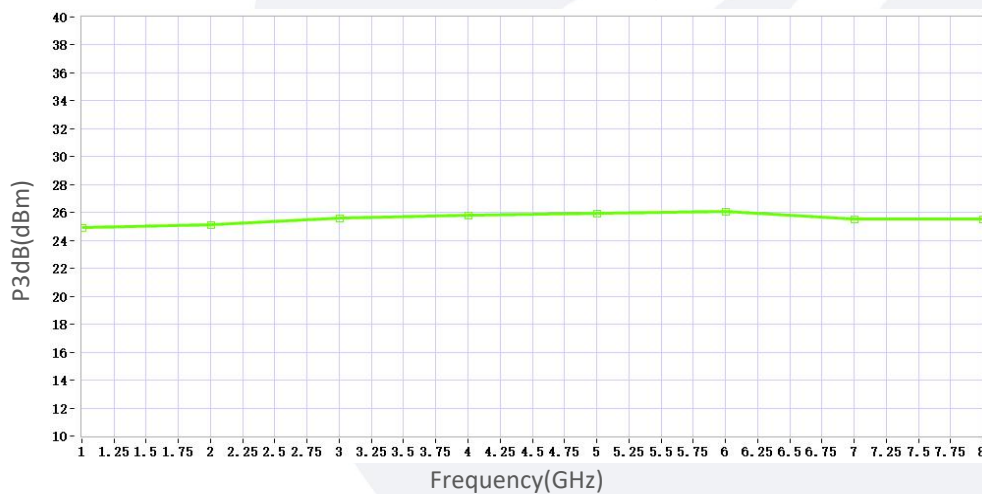
Gain vs Output Power



P1dB vs Frequency



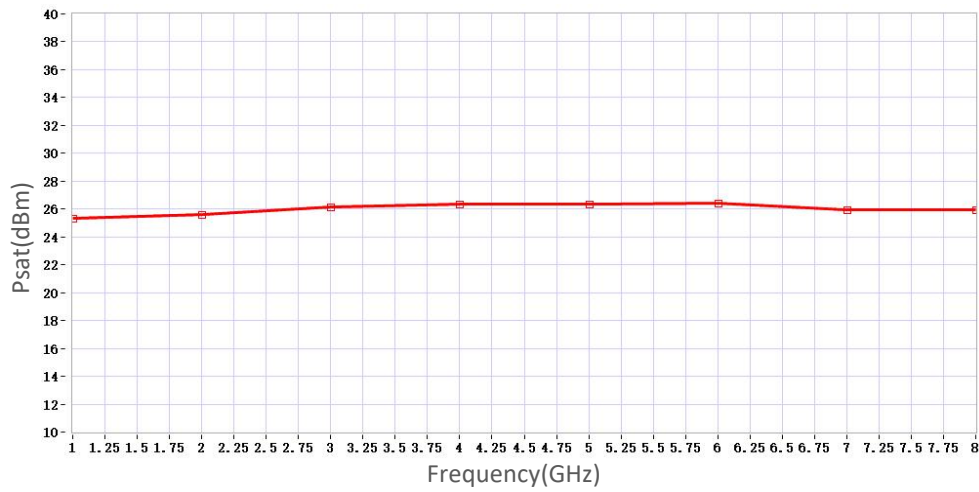
P3dB vs Frequency



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:

Psat 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.