

## Low Noise Amplifier

**11.75-12.75GHz/1.1dB NF/61dB Gain/11dBm P1dB**
**Model: TLLA11.75G12.75G-60-13**

TLLA11.75G12.75G-60-13 is a low noise amplifier with a typical small signal gain of 61 dB and a nominal noise figure of 1.1 dB across the frequency range of 11.75 to 12.75 GHz. The DC power requirement for the amplifier is +12 V DC/70 mA. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 11.75-12.75GHz
- Gain: 61dB Typ
- Noise Figure: 1.1dB 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	11.75		12.75	GHz
小信号增益 Small Signal Gain	60	61		dB
增益平坦度 Gain Flatness		±1		dB
噪声系数 Noise Figure		1.1	1.3	dB
线性输出功率 Output P1dB	11			dBm
输入驻波 Input VSWR		1.8	2	:1
输出驻波 Output VSWR		1.8	2	:1
直流电压 DC Voltage		+12		V DC
直流电流 DC Supply Current		70		mA
阻抗 Impedance		50		Ohms

### 机械特性 Mechanical Specifications:

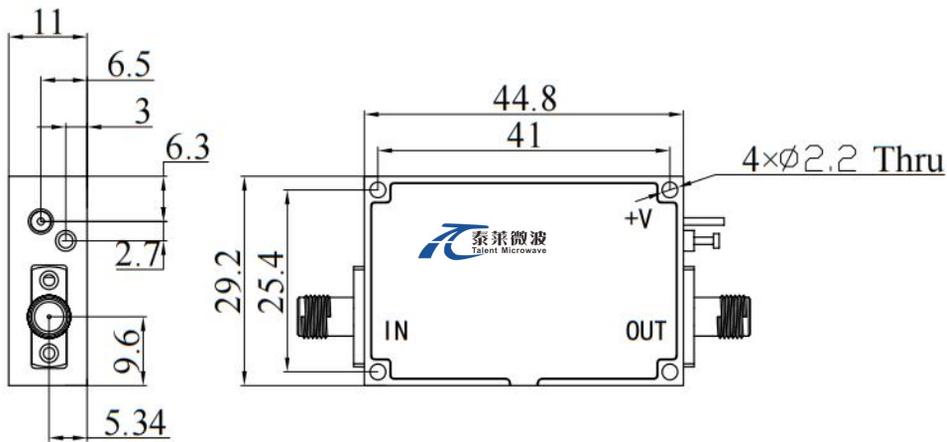
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/SMA Female	
直流偏置 DC Bias	Solder Pin	
尺寸 Size	44.8*29.2*11	mm

### 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.

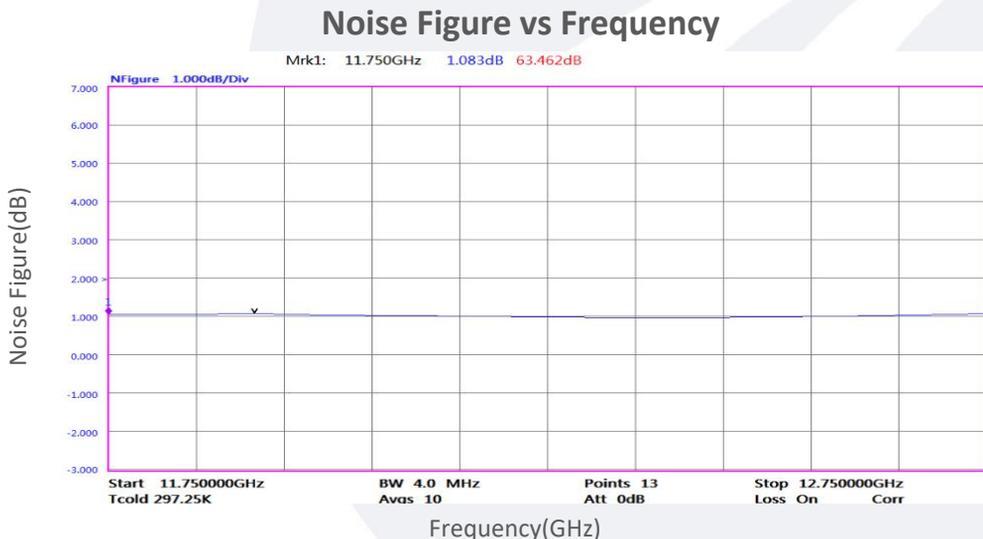
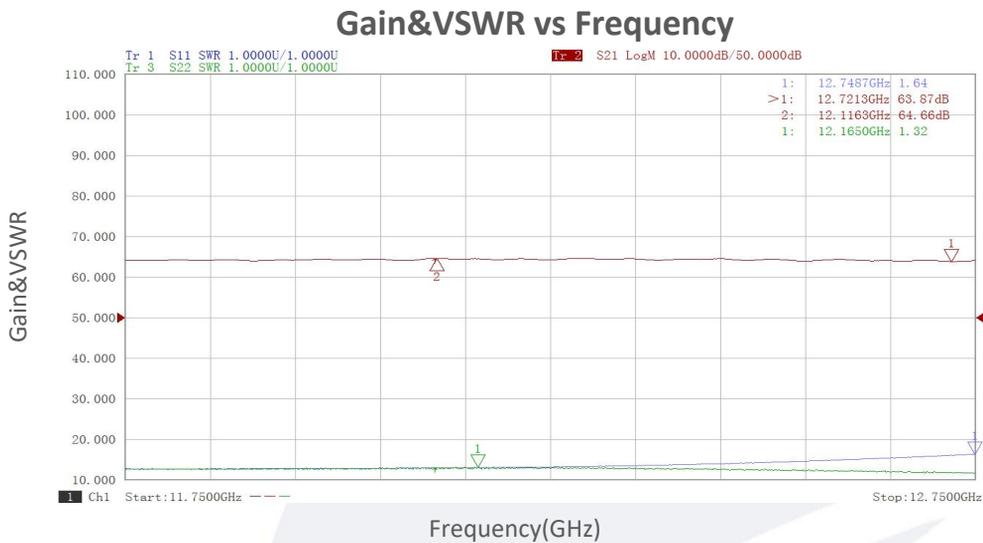
### 温度环境 Environmental Conditions:

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
TLLA11.75G12.75G-60-13	Low Noise Amplifier, 11.75-12.75GHz, Noise Figure:1.1dB, Gain:61dB,P1dB:11dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA11.75G12.75G-60-13-HS	Low Noise Amplifier, 11.75-12.75GHz, Noise Figure:1.1dB, Gain:61dB,P1dB:11dBm,+12V DC,With Heatsink	Rev.1.1

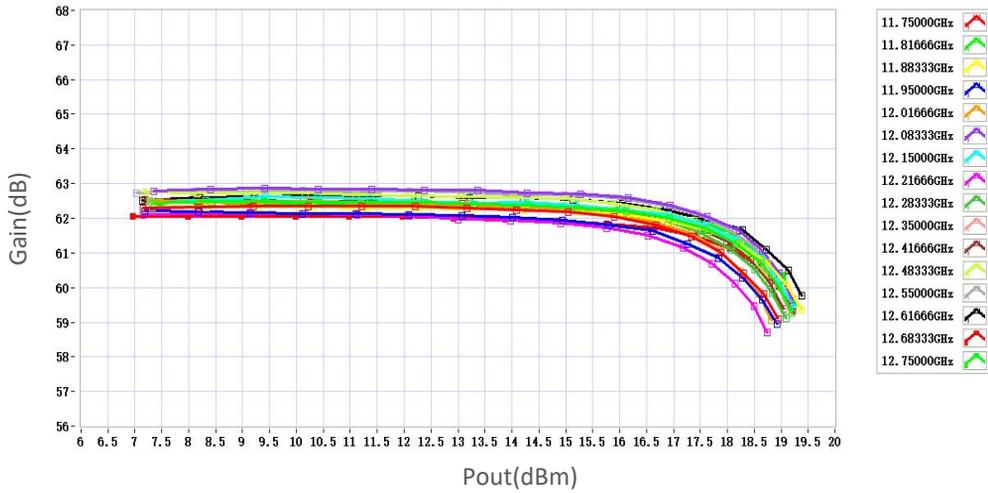
## 典型曲线 Typical Performance Data:



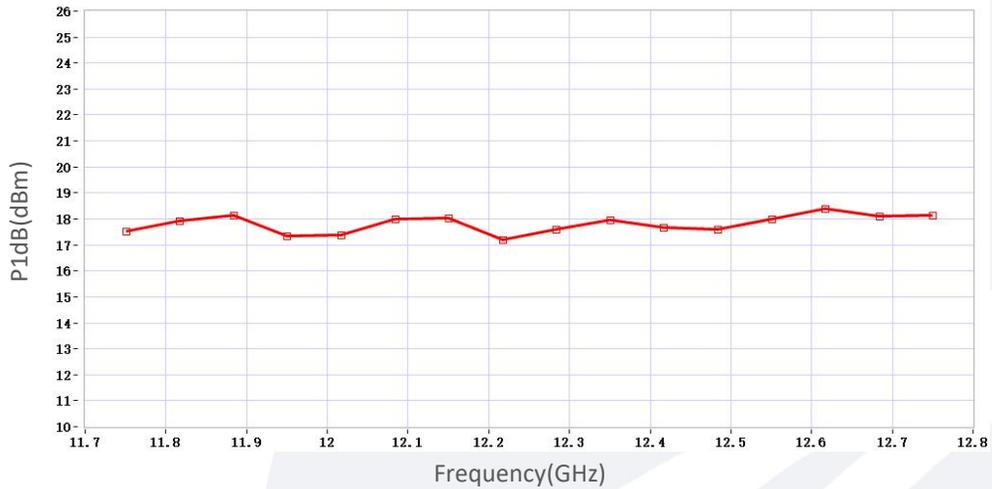
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

Gain vs Output Power



P1dB vs Frequency



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