

Low Noise Amplifier

1.5-4.5GHz/5.5dB NF/15dB Gain/20dBm P1dB

Model: TLLA1.5G4.5G-15-55

TLLA1.5G4.5G-15-55 is a low noise amplifier with a typical small signal gain of 15 dB and a nominal noise figure of 5.5 dB across the frequency range of 1.5 to 4.5 GHz. The DC power requirement for the amplifier is +5.5 V DC/125 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 1.5-2.5GHz
- Gain: 15dB 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	1.5		4.5	GHz
小信号增益 Small Signal Gain	14	15		dB
相位噪声 Phase Noise	-162@10kHz			dBc/Hz
噪声系数 Noise Figure		5.5		dB
线性输出功率 Output P1dB		20		dBm
饱和输出功率 Output Psat		21		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	+5	+5.5	+8	V DC
直流电流 DC Supply Current		125		mA
阻抗 Impedance	50			Ohms

机械特性 Mechanical Specifications:

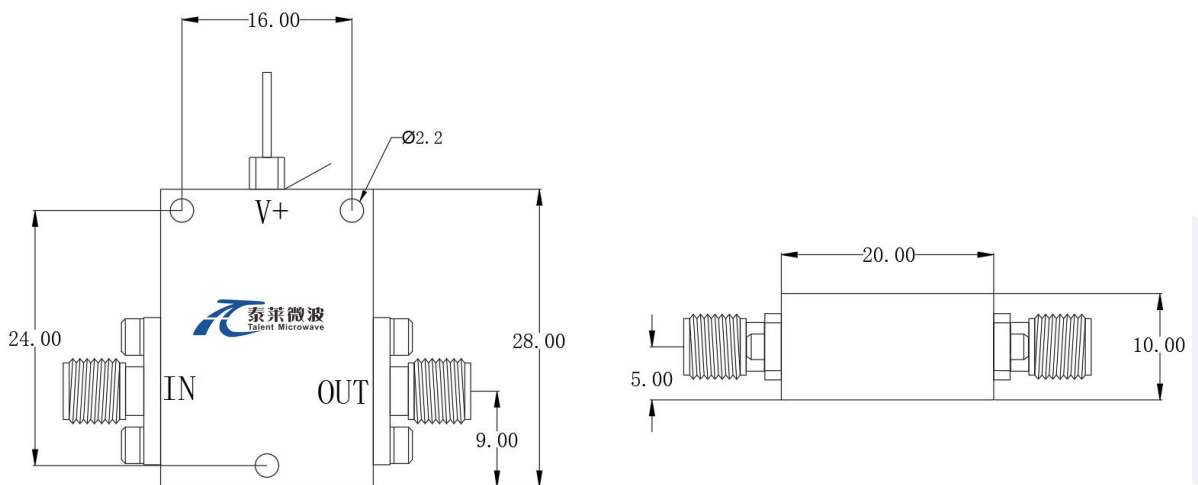
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/SMA Female	
直流偏置 DC Bias	Solder Pin	
尺寸 Size	20*28*10	mm

绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+8 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
TLLA1.5G4.5G-15-55	Low Noise Amplifier, 1.5-4.5GHz, Noise Figure:5.5dB, Gain:15 dB,P1dB:20dBm,+5.5V DC,Without Heatsink	Rev.1.1
TLLA1.5G4.5G-15-55-HS	Low Noise Amplifier, 1.5-4.5GHz, Noise Figure:5.5dB, Gain:15 dB,P1dB:20dBm,+5.5V DC,With Heatsink	Rev.1.1