泰莱微波 Talent Microwave

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Low Noise Amplifier

0.01-3GHz/2.0dB NF/44dB Gain/20dBm P1dB Model: TLLA10M3G-44-20

TLLA10M3G-44-20 is a low noise amplifier with a typical small signal gain of 44 dB and a nominal noise figure of 2.0 dB across the frequency range of 0.01 to 3 GHz. The DC power requirement for the amplifier is +12 V DC/80 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 0.01-3GHz
- Gain: 44dB Typ
- Noise Figure: 2.0dB 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	0.01		3	GHz
小信号增益 Small Signal Gain	42	44		dB
增益平坦度 Gain Flatness		±2.0		dB
噪声系数 Noise Figure		2.0		dB
线性输出功率 Output P1dB		20		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		+12		V DC
直流电流 DC Supply Current		80		mA
阻抗 Impedance		50		Ohms

*Performance may degrade below 300 MHz. Please refer to below typical test plots

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
重量 Weight	55	g

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绝对最大值 Absolute Maximum Ratings:

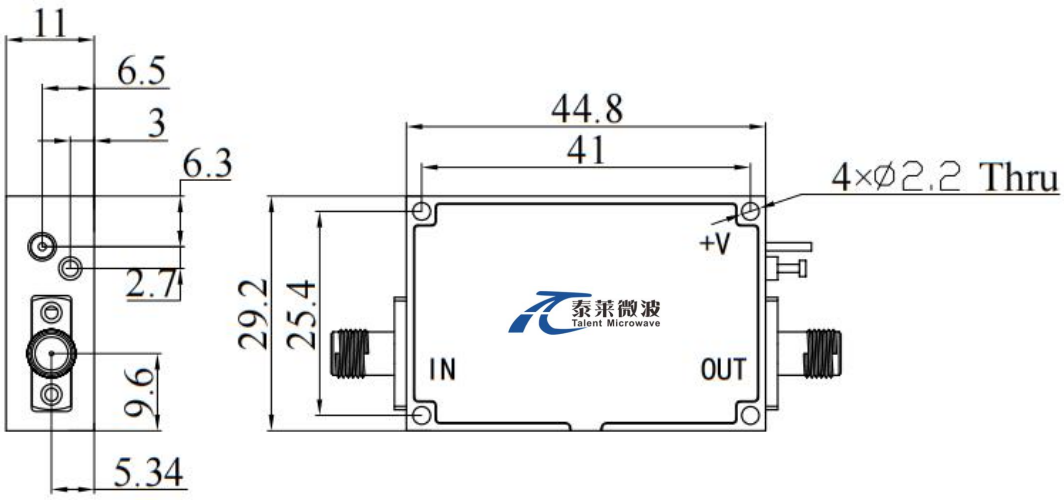
参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+12 V
输入功率 RF Input Power	+15 dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V



Simple 220V System
Available SAC option

外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm



***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	℃
存储温度 Non-operating Temperature	-55		+125	℃
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			

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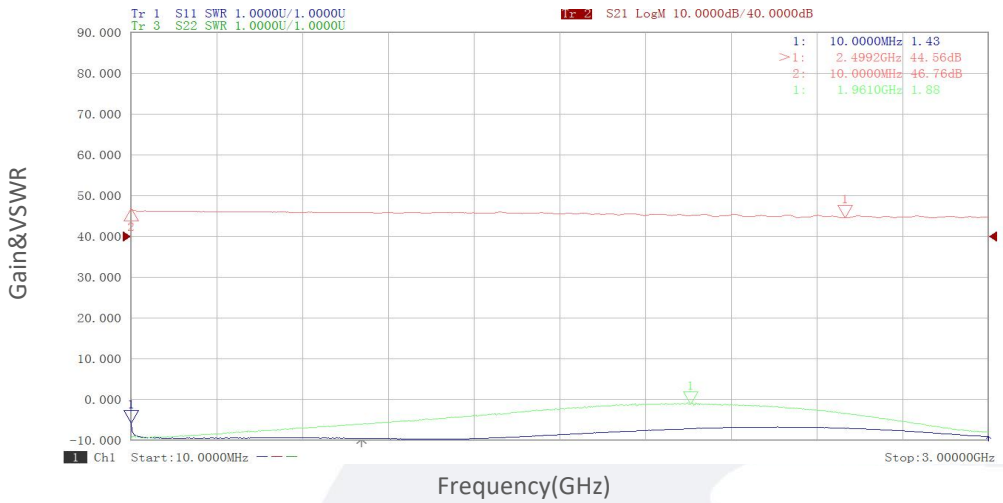
订货信息 Ordering Information:

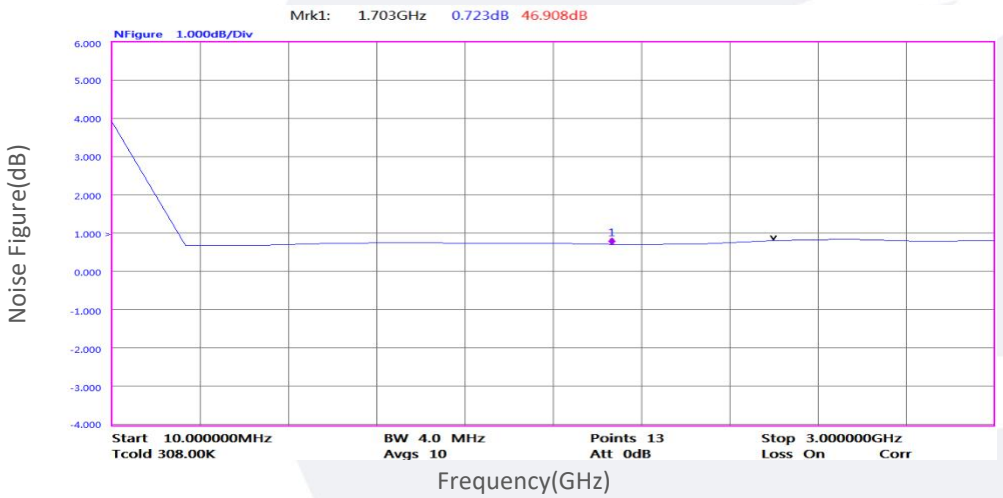
标准型号 Base Number	描述 Description	版本号 Revision
TLLA10M3G-44-20	Low Noise Amplifier, 0.01-3GHz, Noise Figure:2.0dB, Gain:44 dB,P1dB:20dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA10M3G-44-20-HS	Low Noise Amplifier, 0.01-3GHz, Noise Figure:2.0dB, Gain:44 dB,P1dB:20dBm,+12V DC,With Heatsink	Rev.1.1

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.

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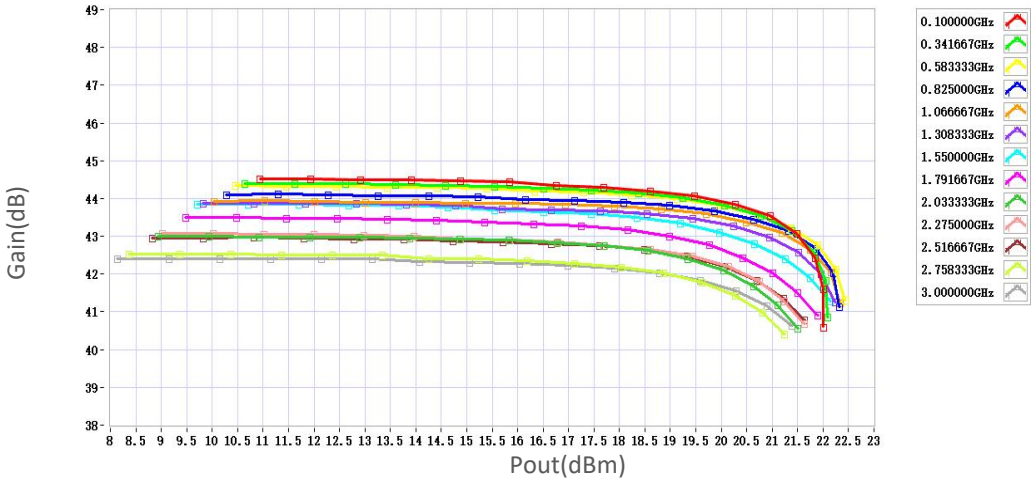
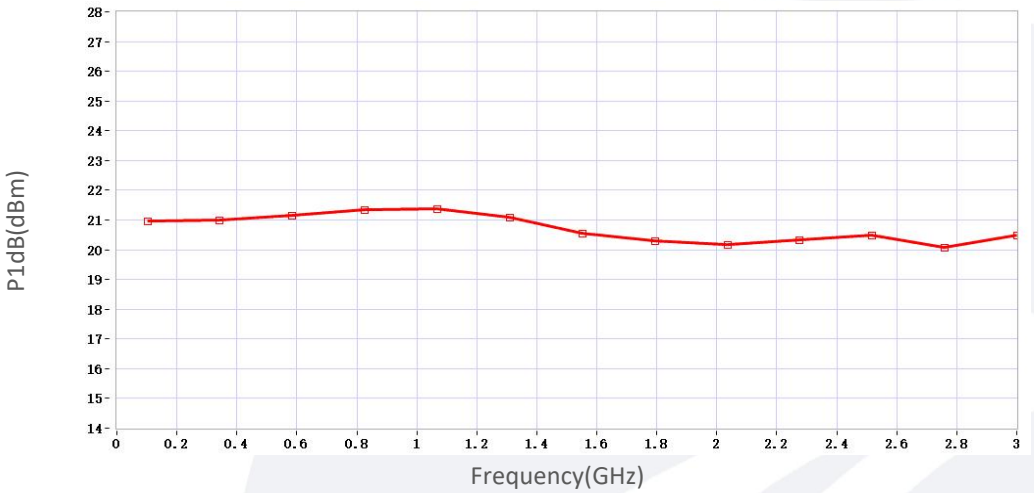
典型曲线 Typical Performance Data:

Gain vs Output Power



P1dB vs Frequency



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