泰莱微波 Talent Microwave

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Low Noise Amplifier

50KHz-20GHz/3.0dB NF/35dB Gain/15dBm P1dB　　Model: TLLA50K20G-35-30

TLLA50K20G-35-30 is a low noise amplifier with a typical small signal gain of 35 dB and a nominal noise figure of 3.0 dB across the frequency range of 50KHz to 20 GHz. The DC power requirement for the amplifier is +12 V DC/150 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Ultra Wide Band:50KHz-20GHz
- Gain: 35dB Min
- Noise Figure: 3.0dB 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		50KHz-20GHz		
增益 Gain	35	37		dB
增益平坦度 Gain Flatness		±1.5		dB
噪声系数 Noise Figure		3		dB
线性输出功率 Output P1dB		15		dBm
输入驻波 Input VSWR			2	:1
输出驻波 Output VSWR			2	:1
直流电压 DC Voltage	+10	+12	+15	V DC
直流电流 DC Supply Current		150		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
重量 Weight	55	g

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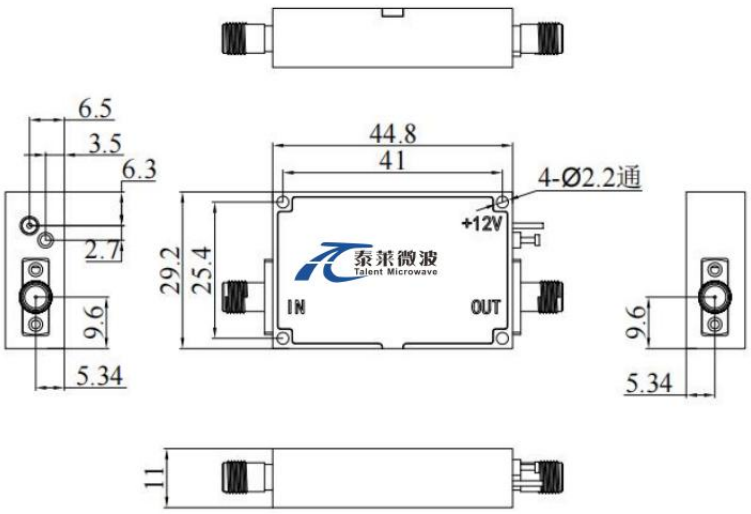
绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+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	℃
存储温度 Non-operating Temperature	-55		+125	℃
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			

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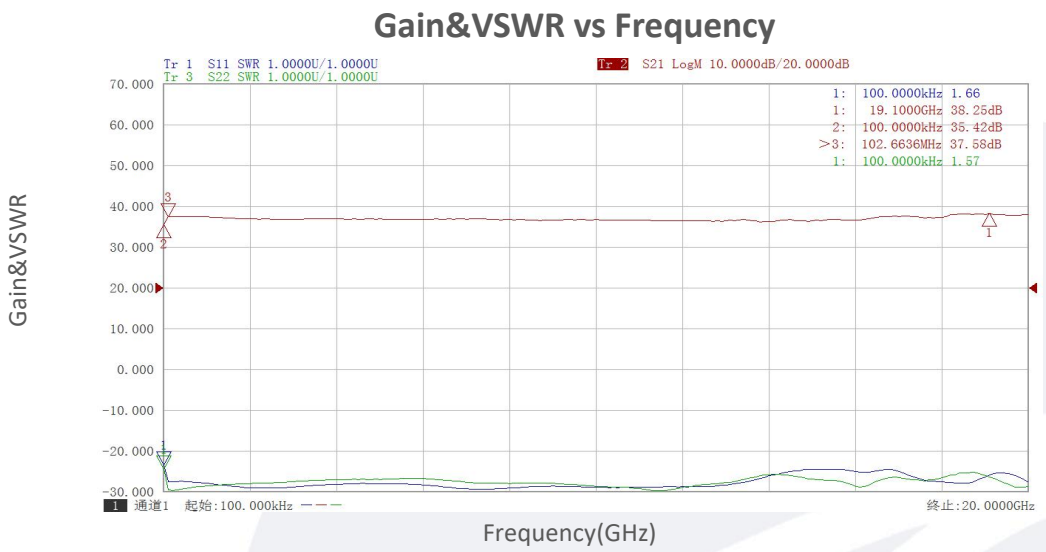
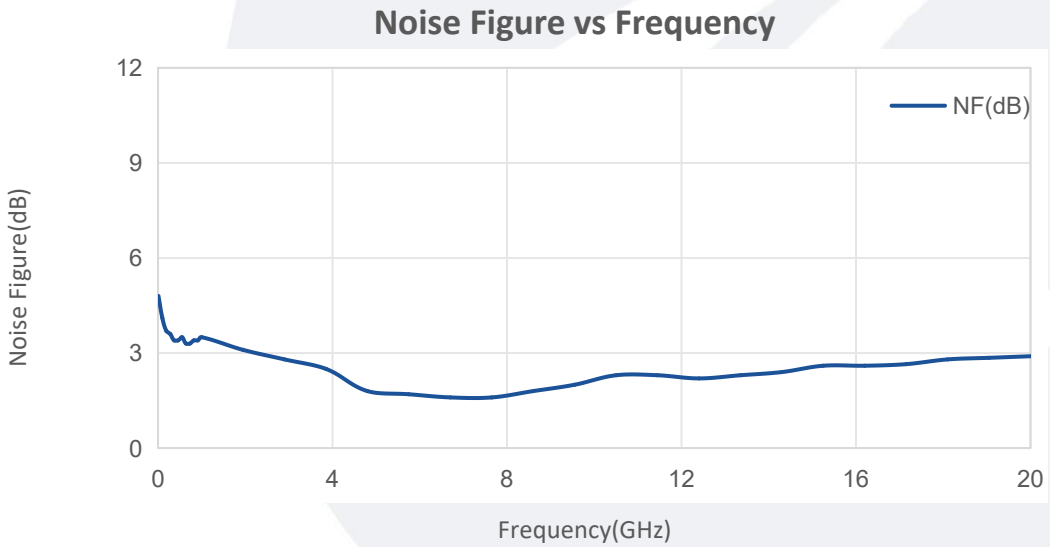
订货信息 Ordering Information:

标准型号 Base Number	描述 Desciption	版本号 Revision
TLLA50K20G-35-30	Low Noise Amplifier, 50K-20GHz, Noise Figure:3.0dB, Gain:35 dB,P1dB:15dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA50K20G-35-30-HS	Low Noise Amplifier, 50K-20GHz, Noise Figure:3.0dB, Gain:35 dB,P1dB:15dBm,+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.

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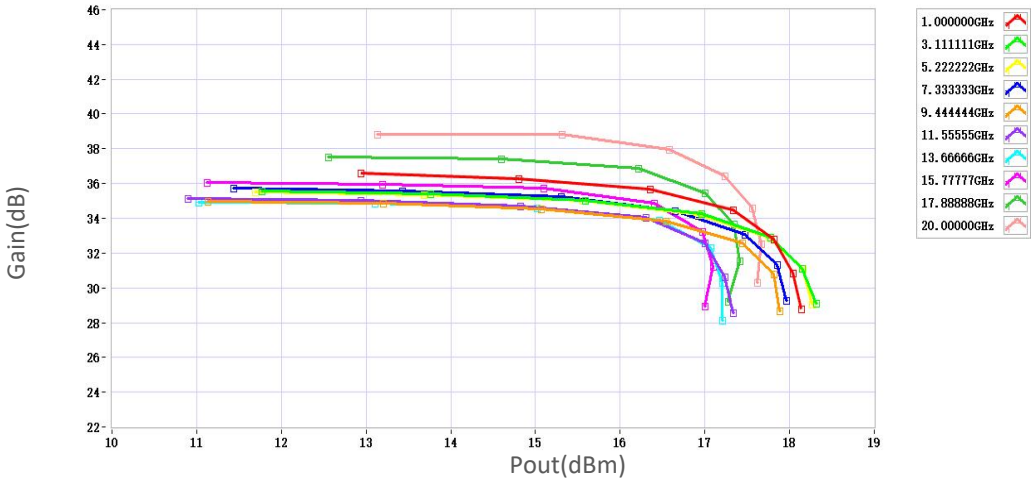
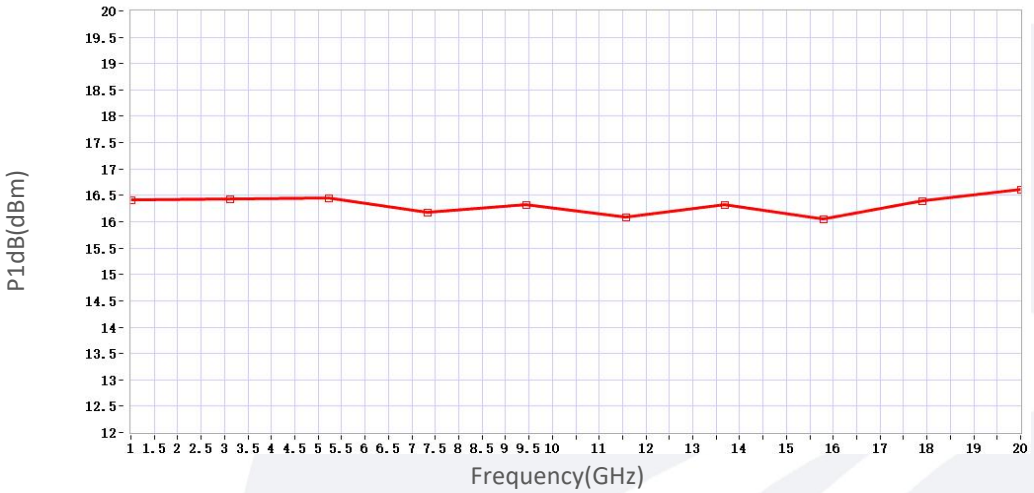
典型曲线 Typical Performance Data:

Gain vs Output Power



P1dB vs Frequency



P3dB vs Frequency

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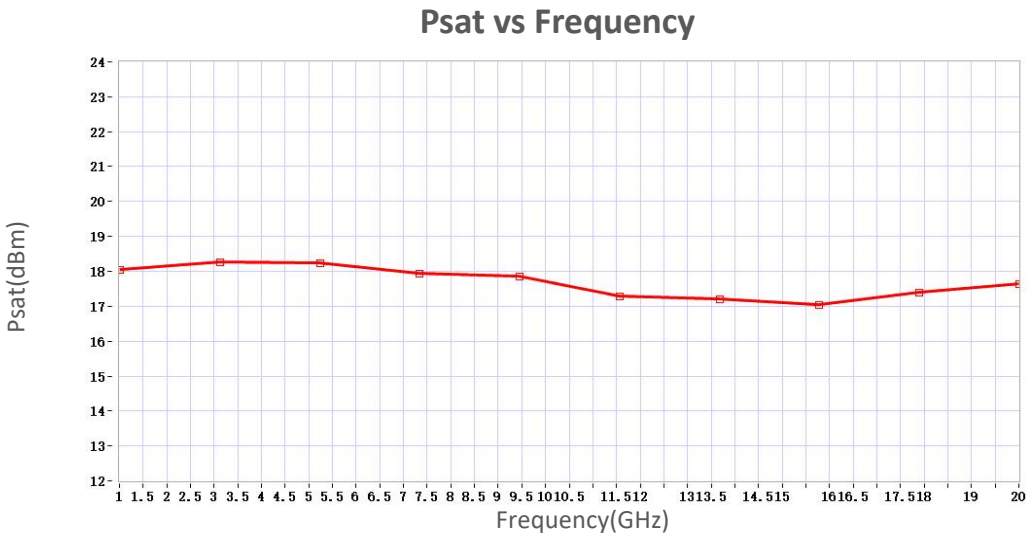

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