泰莱微波 Talent Microwave

Suzhou Talent Microwave,Inc
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Low Noise Amplifier

50KHz-53GHz/5.0dB NF/12dB Gain/15dBm P1dB

Model: TLLA50K53G-12-50

TLLA50K53G-12-50 is a low noise amplifier with a typical small signal gain of 12 dB and a nominal noise figure of 5.0 dB across the frequency range of 50KHz to 53 GHz. The DC power requirement for the amplifier is +8 V DC/160 mA. The input and output port configuration offers coax adapter structure with 2.4mm female.

Features:

- Ultra Wide Band:50KHz-53GHz
- Gain: 12dB Typ
- Noise Figure: 5.0dB 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-53GHz		
增益 Gain		12		dB
增益平坦度 Gain Flatness		±4.0		dB
噪声系数 Noise Figure*		5.0		dB
线性输出功率 Output P1dB		15		dBm
输出三阶交调 Output IP3		20		dBm
输入驻波 Input VSWR		2		:1
输出驻波 Output VSWR*		2		:1
直流电压 DC Voltage	5	8		V DC
直流电流 DC Supply Current		160		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	2.4mm Female/2.4mm Female	
直流偏置 DC Bias	Solder Pin	
尺寸 Size	44.8*29.2*11	mm

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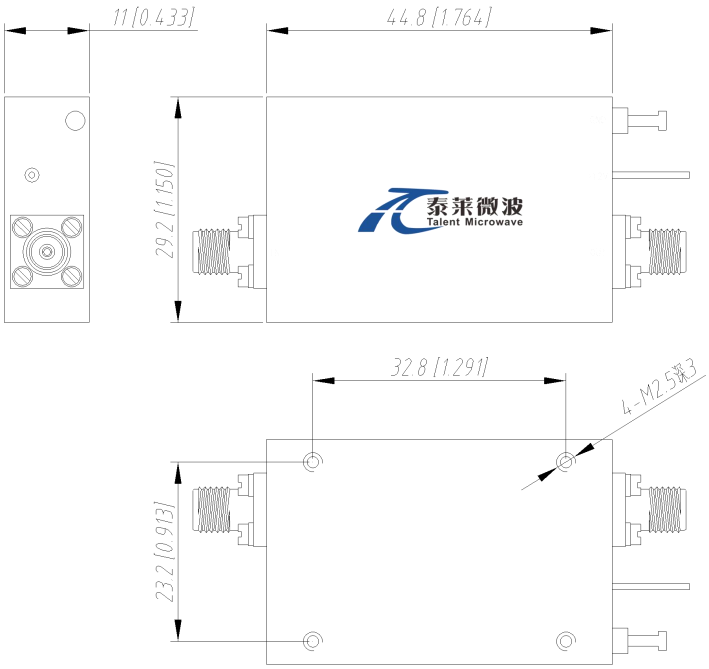
绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+12 V
输入功率 RF Input Power	+10 dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V

外形图 Outline Drawing:

Unit:mm



***Heat Sink Required During Operation

OBSERVE PRECAUTIONS
ELECTROSTATIC SENSITIVE
DEVICES

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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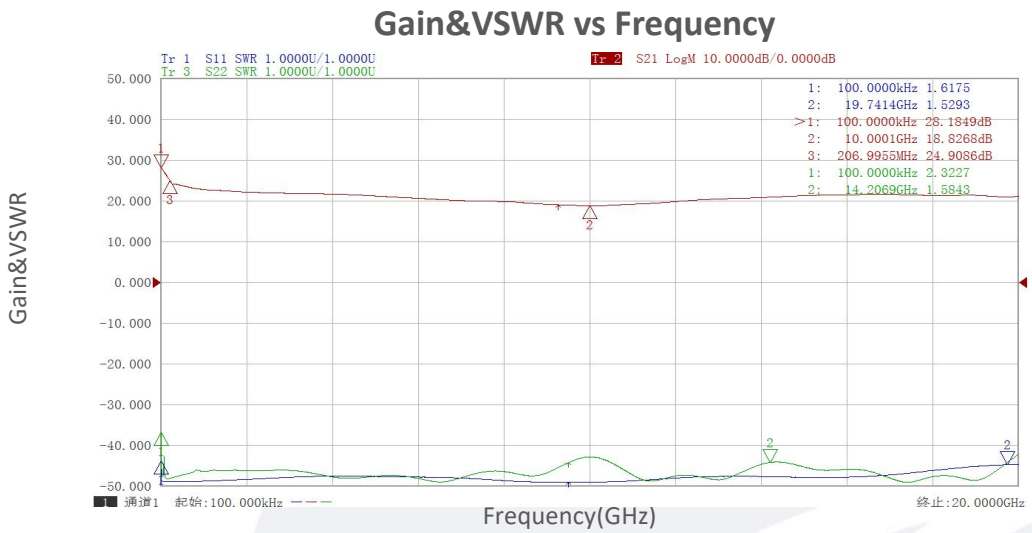
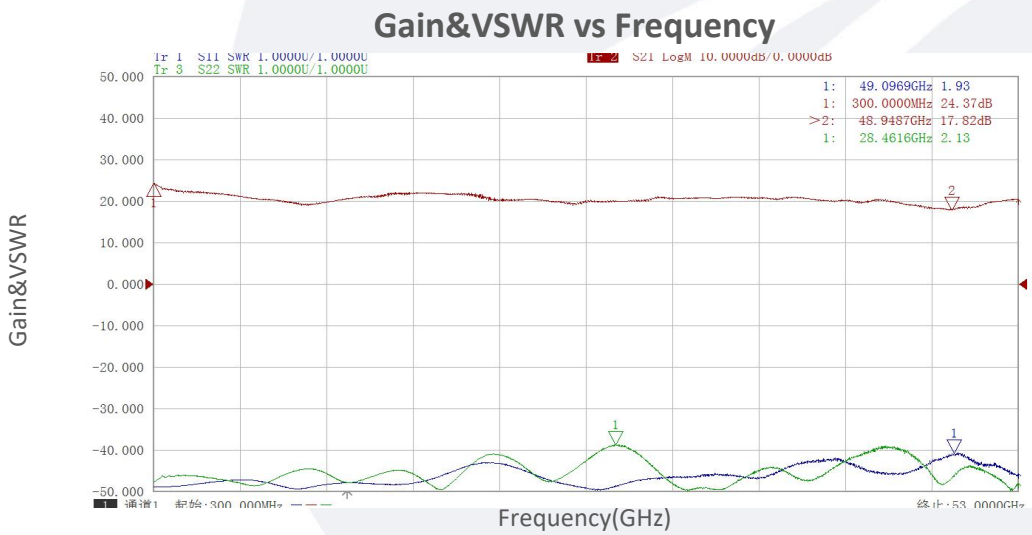
订货信息 Ordering Information:

标准型号 Base Number	描述 Desciption	版本号 Revision
TLLA50K53G-12-50	Low Noise Amplifier, 50KHz-53GHz, Noise Figure:5.0dB, Gain:12 dB,P1dB:15dBm,+8V DC,Without Heatsink	Rev.1.1
TLLA50K53G-12-50-HS	Low Noise Amplifier, 50KHz-53GHz, Noise Figure:5.0dB, Gain:12 dB,P1dB:15dBm,+8V 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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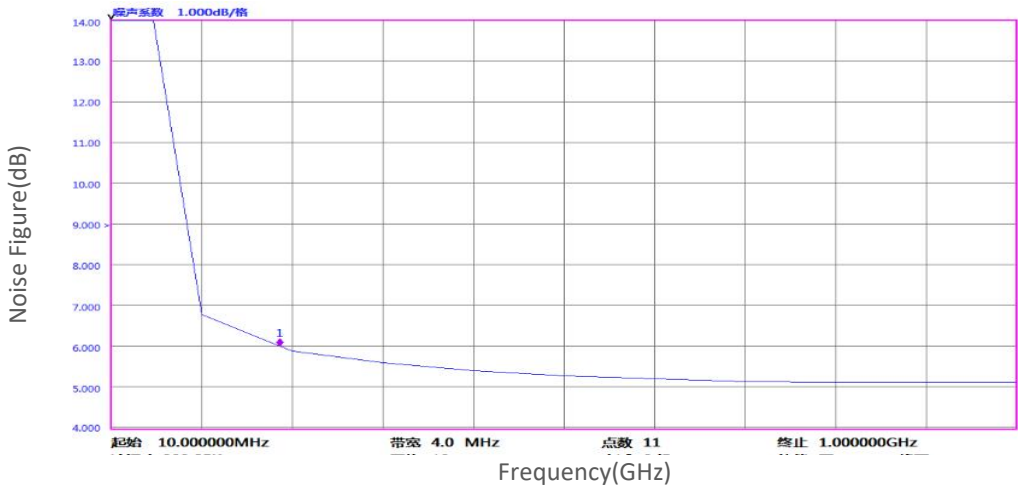
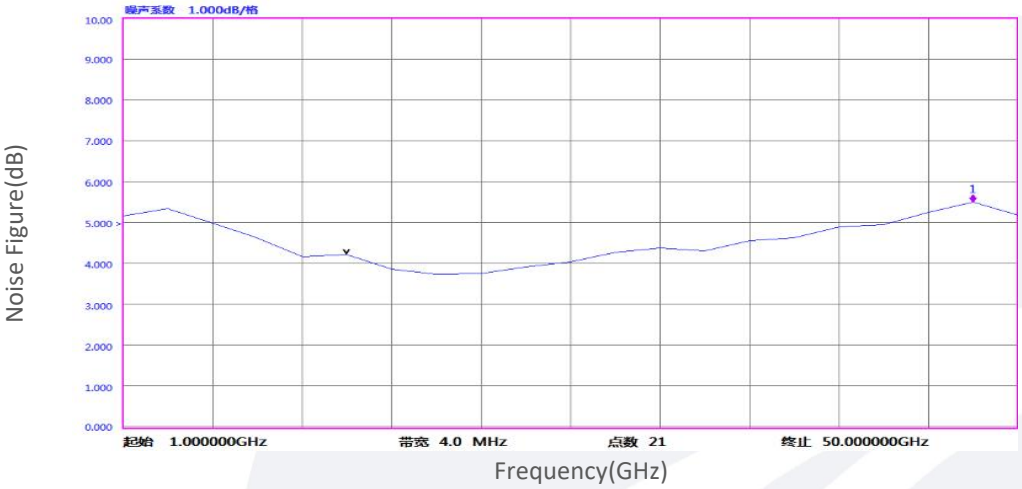
典型曲线 Typical Performance Data:

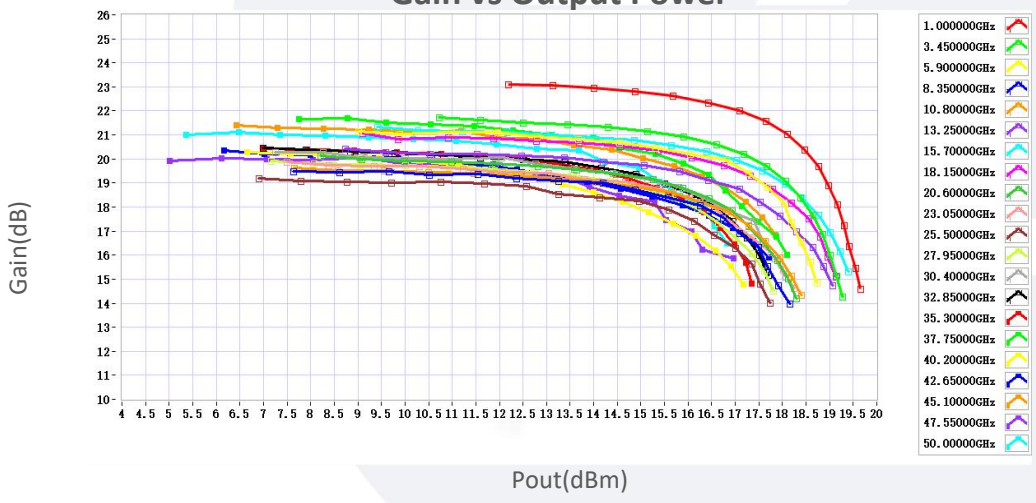
Noise Figure vs Frequency



Noise Figure vs Frequency



Gain vs Output Power



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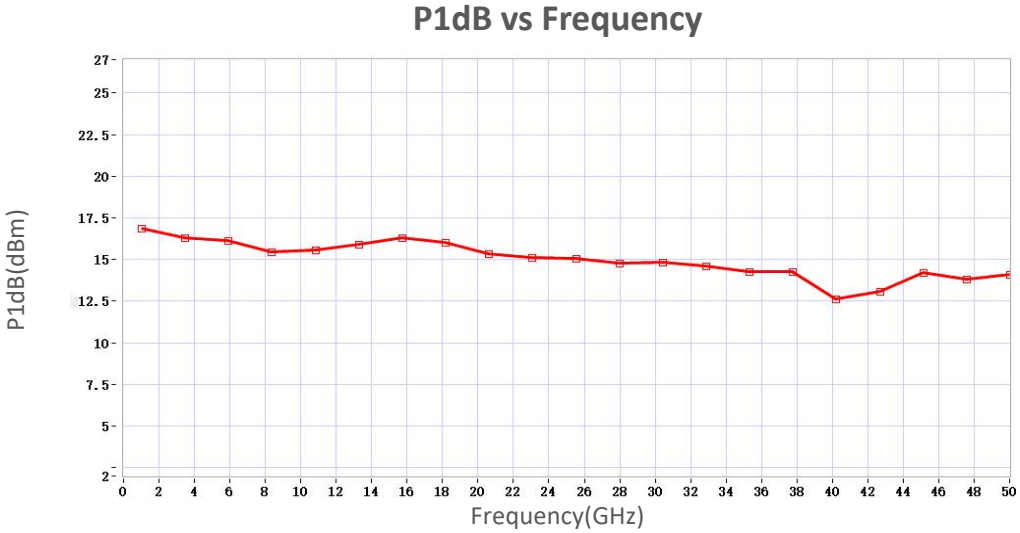

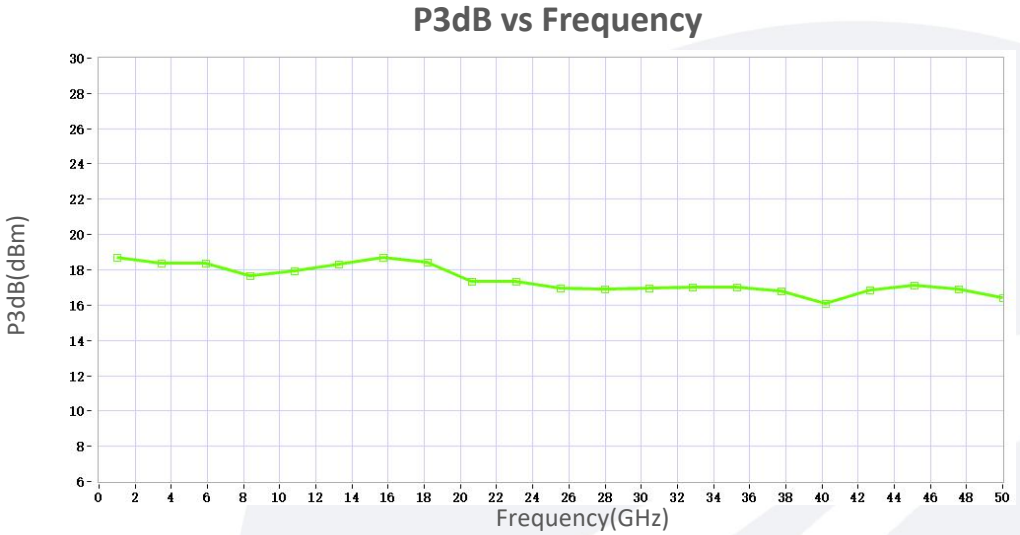

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