泰莱微波
Talent Microwave

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Power Amplifier

50KHz-20GHz/32dB Gain/22dBm P1dB

Model: TLPA50K20G-32-22

TLPA50K20G-32-22 is a power amplifier with a typical small signal gain of 32 dB and a nominal P1dB of 22 dBm across the frequency range of 50 KHz to 20 GHz. The DC power requirement for the amplifier is +12 VDC/240 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 50KHz-20GHz
- Gain: 32dB Typ
- Output Power P1dB: 22dBm Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

电气特性 Electrical Characteristics:

参数 Parameter	Min	Typ	Max	单位 Units
频率范围 Frequency range	50KHz		20GHz	
小信号增益 Small Signal Gain		32		dB
增益平坦度 Gain Flatness		±2		dB
线性输出功率 Output P1dB	20	22		dBm
噪声系数 Noise Figure		3		dB
输入驻波 Input VSWR		2.2		:1
输出驻波 Output VSWR		2.2		:1
直流电压 DC Voltage	+10	+12	+13	V DC
直流电流 DC Supply Current		240		mA
阻抗 Impedance		50		Ohms

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

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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*36*11	mm

绝对最大值 Absolute Maximum Ratings:

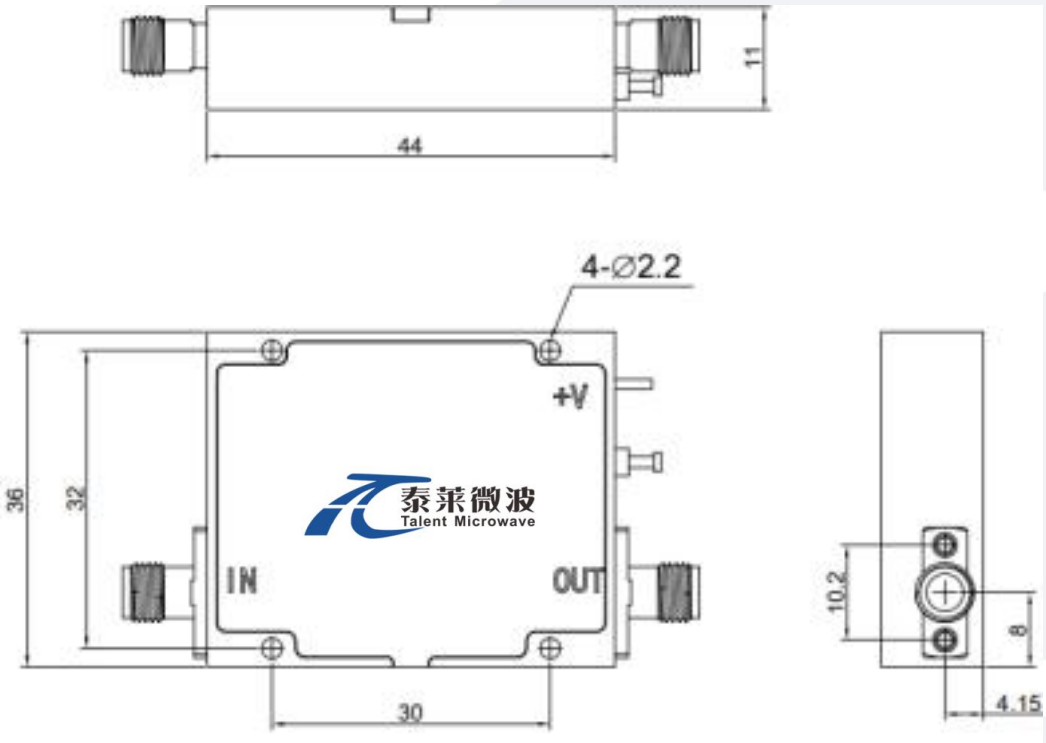
参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+13 V
输入功率 RF Input Power	+10 dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V



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.

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温度环境 Environmental Conditions:

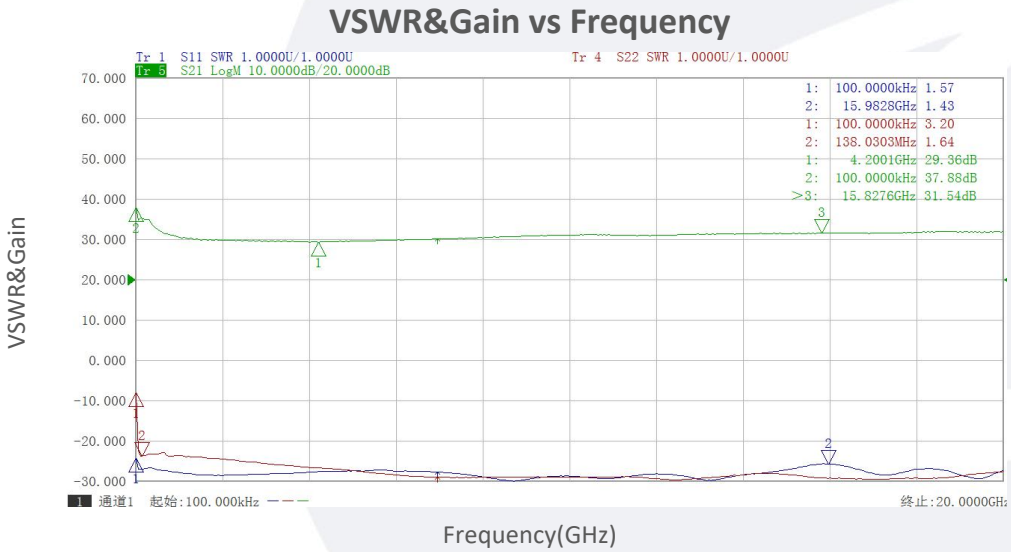
参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature*	-40		+60	℃
存储温度 Non-operating Temperature*	-50		+70	℃
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	20g,11ms,saw-tooth			
冲击 Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

*Note: For a wider temperature range, please consult the manufacturer.

订货信息 Ordering Information:

标准型号 Base Number	描述 Description	版本号 Revision
TLPA50K20G-32-22	Power amplifier 50KHz-20GHz, Gain:32dB,P1dB:22dBm,+12V DC,Without Heatsink	Rev.1.1
TLPA50K20G-32-22-HS	Power amplifier 50KHz-20GHz, Gain:32dB,P1dB:22dBm,+12V DC,With Heatsink	Rev.1.1

典型曲线 Typical Performance Data:

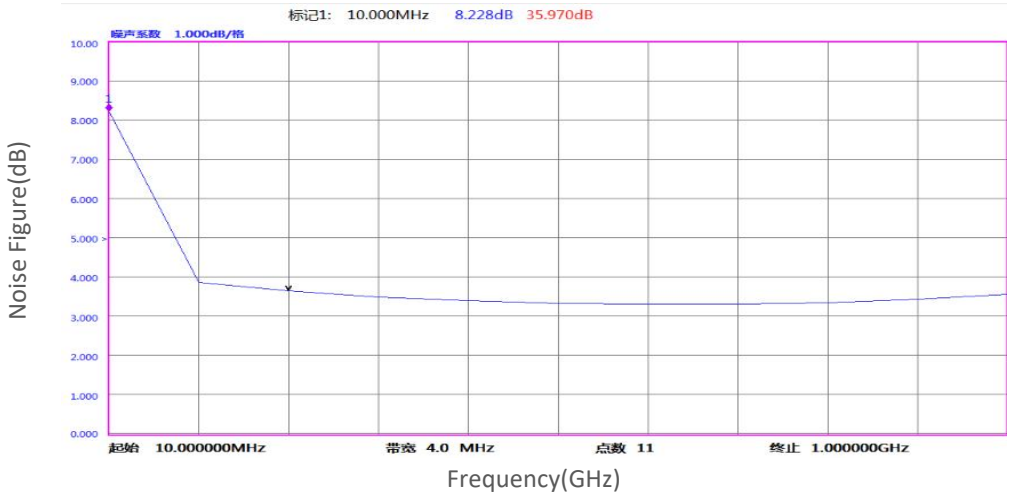


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

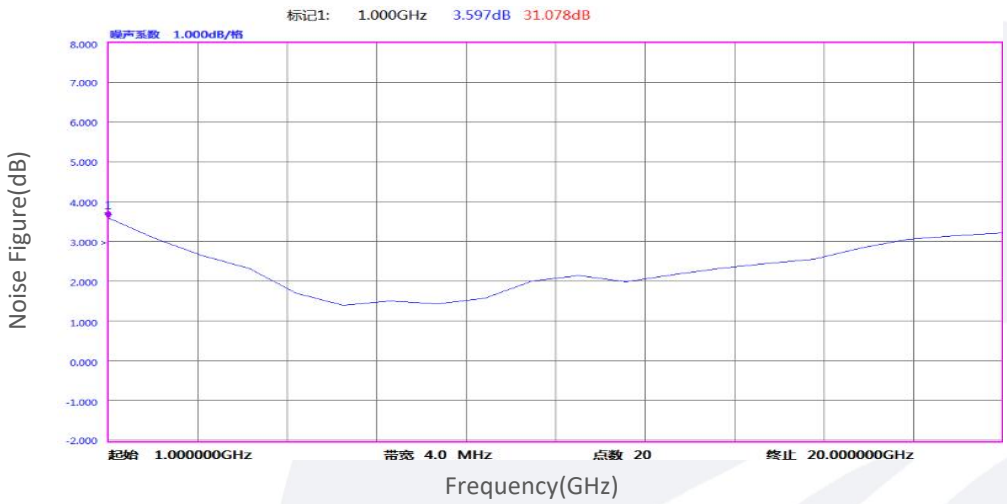
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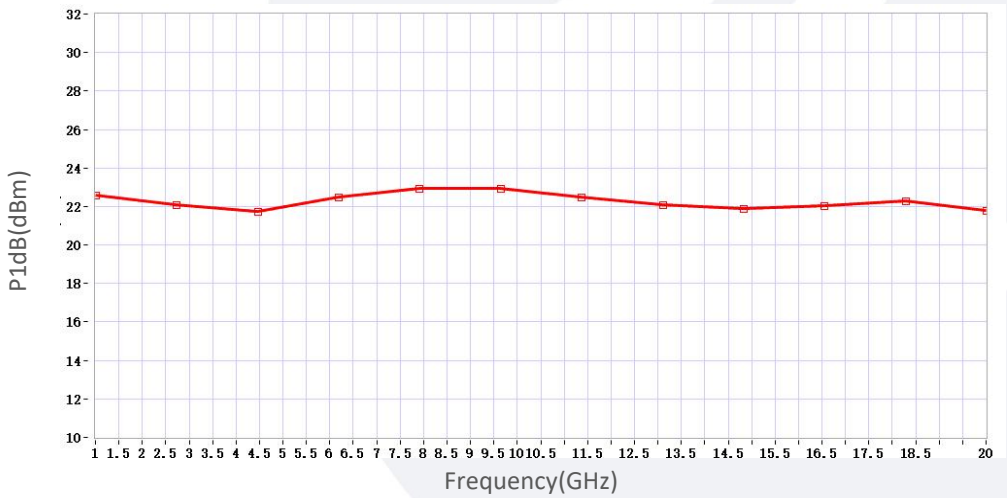
Noise Figure vs Frequency



Noise Figure vs Frequency



P1dB vs Frequency



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