

Power Amplifier

0.1-20GHz/25dB Gain/30dBm Psat

Model: TLPA0.1G20G-25-31

TLPA0.1G20G-25-31 is a power amplifier with a minimum small signal gain of 25 dB and a minimum Psat of 30 dBm across the frequency range of 0.1 to 20 GHz. The DC power requirement for the amplifier is +8 VDC/1300 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 0.1-20GHz
- Gain: 25dB Min
- Output Power P1dB: 30dBm Min
- 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		Band A: 0.1-0.4; Band B: 0.4-0.6; Band C: 0.6-20			GHz
小信号增益 Small Signal Gain	@0.1-0.4GHz	24	25		dB
	@0.4-0.6GHz	24	25		
	@0.6-20GHz	25	27		
增益平坦度 Gain Flatness	@0.1-0.4GHz		±1		dB
	@0.4-0.6GHz		±1		
	@0.6-20GHz		±1		
线性输出功率 Output P1dB	@0.1-0.4GHz	26	28		dBm
	@0.4-0.6GHz	28	30		
	@0.6-20GHz	28	30.5		
饱和输出功率 Output Psat	@0.1-0.4GHz	29	30		dBm
	@0.4-0.6GHz	30	32		
	@0.6-20GHz	30	32		

电气特性 Electrical Characteristics:

参数 Parameter		Min	Typ	Max	单位 Units
驻波 VSWR	@0.1-0.4GHz		2.2		:1
	@0.4-0.6GHz		2		
	@0.6-20GHz		2		
直流电压 DC Voltage			+8		V DC
直流电流 DC Supply Current			1300		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	Feedthru capacitor	
尺寸 Size	44*52*13	mm

绝对最大值 Absolute Maximum Ratings:

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

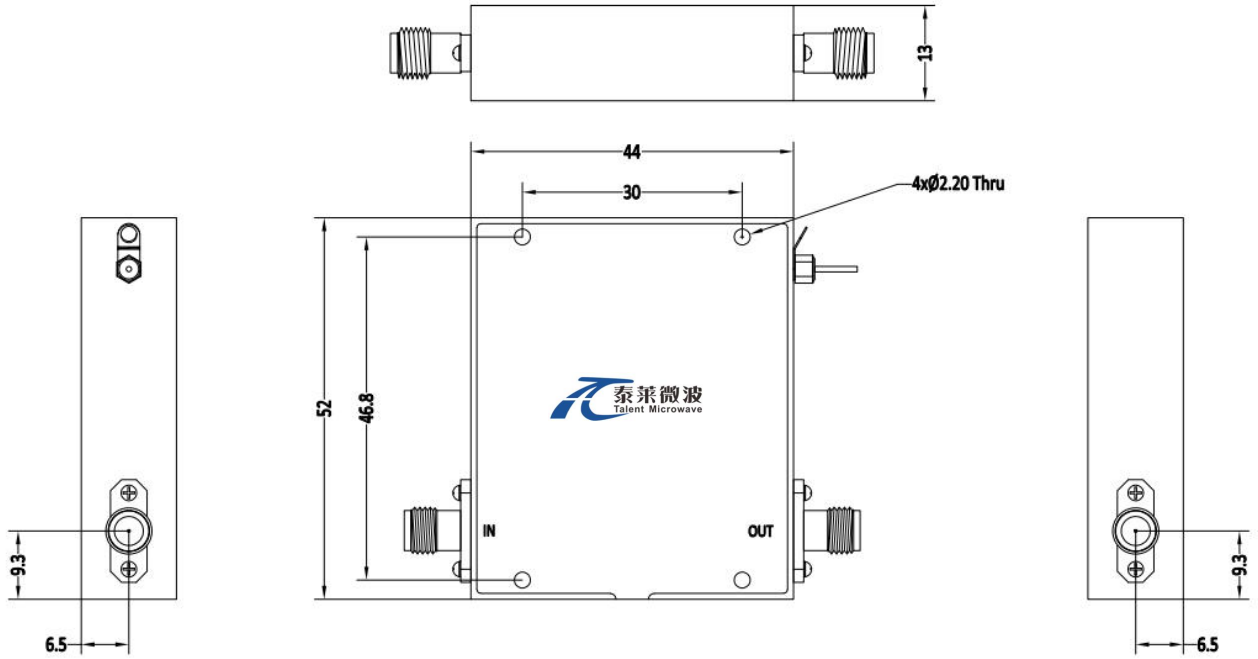


温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature*	-40		+60	°C
存储温度 Non-operating Temperature*	-50		+70	°C
相对湿度 Relative humidity		95		%
海拔 Altitude		30,000		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			

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

外形图 Outline Drawing: Unit:mm



*****Heat Sink Required During Operation**



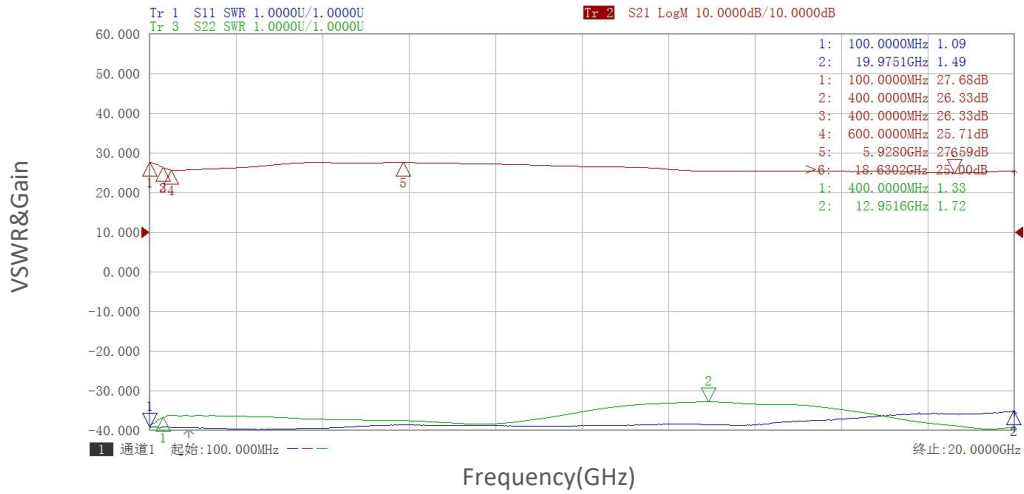
ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

订货信息 Ordering Information:

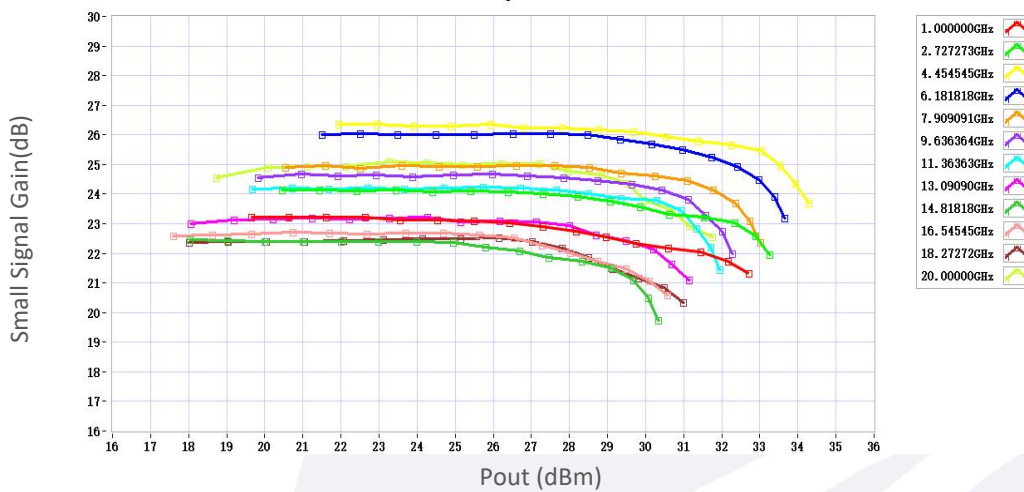
标准型号 Base Number	描述 Description	版本号 Revision
TLPA0.1G20G-25-31	Power amplifier 0.1-20GHz, Gain:25dB,Psat:30dBm,+8V DC,Without Heatsink.	Rev.1.1
TLPA0.1G20G-25-31-HS	Power amplifier 0.1-20GHz, Gain:25dB,Psat:30dBm,+8V DC,With Heatsink.	Rev.1.1

典型曲线 Typical Performance Data:

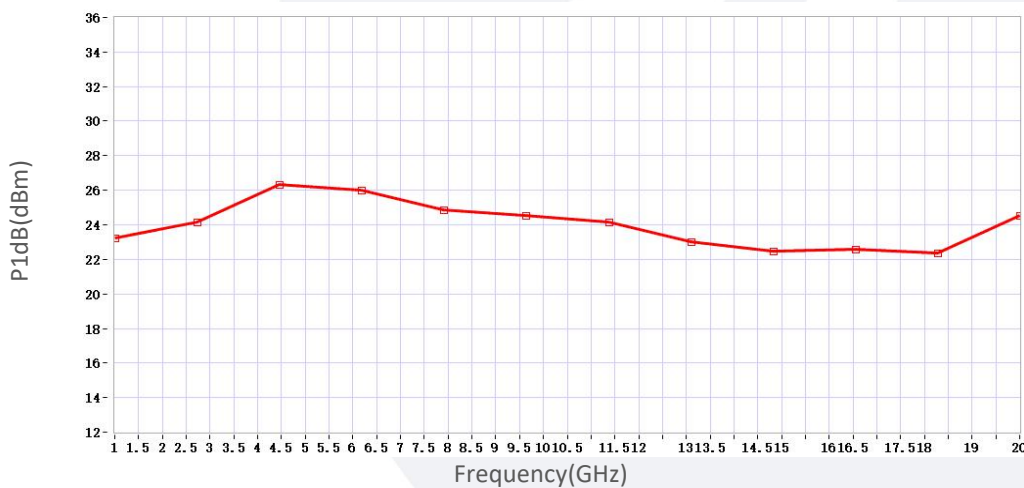
VSWR&Gain vs Frequency



Small Signal Gain vs Frequency



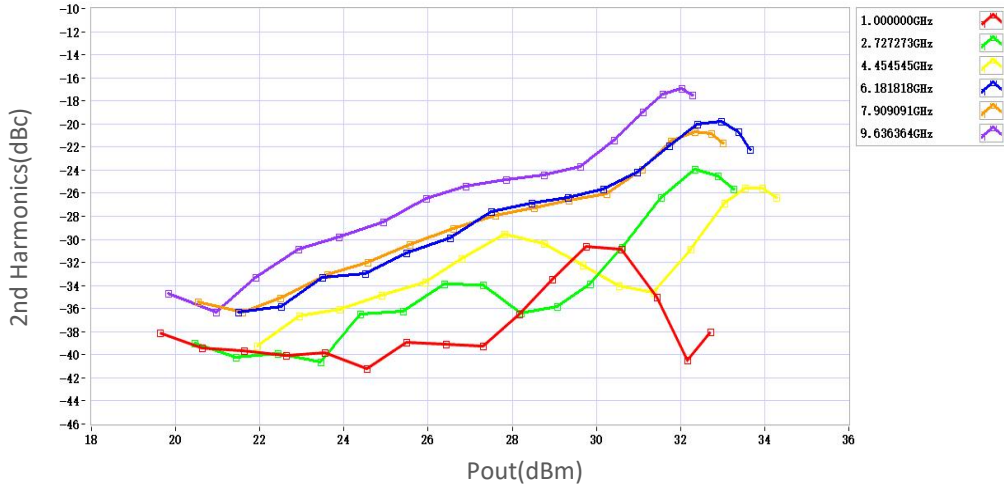
P1dB vs Frequency



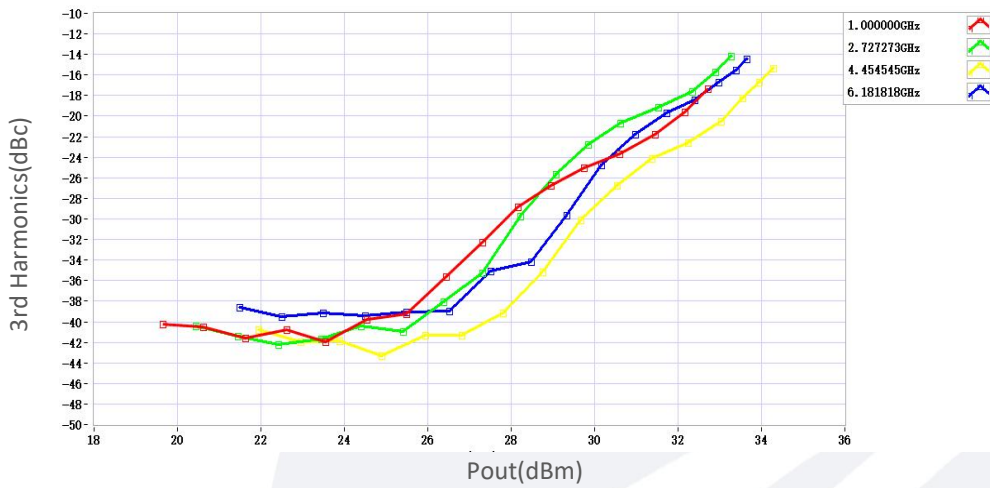
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

2nd Harmonics vs Output Power



3rd Harmonics vs Output Power



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.