

Power Amplifier

0.5-6GHz/40dB Gain/40 dBm Psat

Model: TLPA0.5G6G-40-40-A

TLPA0.5G6G-40-40-A is a power amplifier with a minimum small signal gain of 40 dB and a minimum Psat of 40 dBm across the frequency range of 0.5 to 6 GHz. The DC power requirement for the amplifier is +30 VDC/0.5 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 0.5-6GHz
- Gain: 40dB Min
- Output Power Psat: 40dBm 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	0.5		6	GHz
小信号增益 Small Signal Gain	40	43		dB
增益平坦度 Gain Flatness		±2.5	±3.5	dB
线性输出功率 Output P1dB	37	38		dBm
饱和输出功率 Output Psat	40			dBm
杂散 Spurious		-60		dBc
谐波抑制 Harmonic		-15	-11	dBc
输入驻波 Input VSWR		1.5	2.5	:1
直流电压 DC Voltage		+30		V DC
直流电流 DC Supply Current		0.5	2	A
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	125*95*12	mm

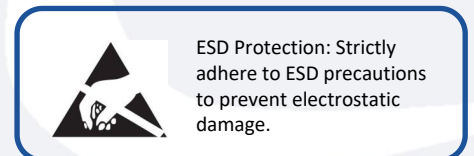
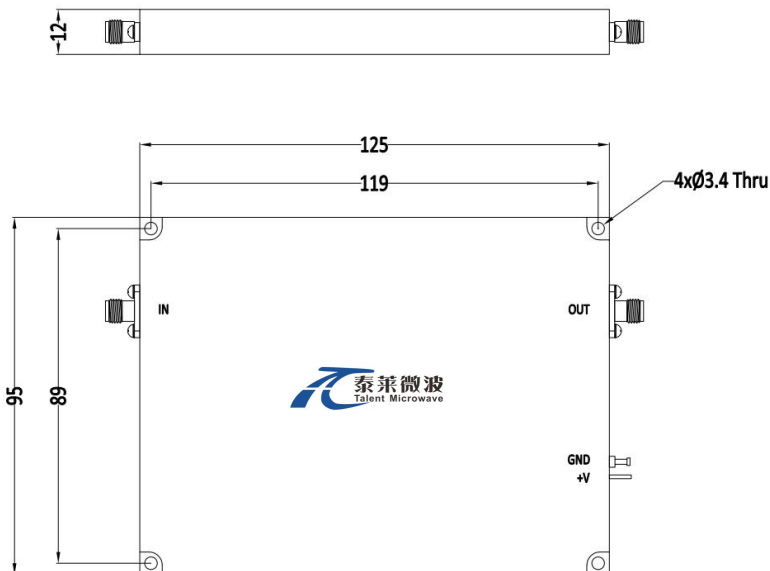
绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+32 V
输入功率 RF Input Power	+8 dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V



外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm



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

使用说明 Instruction Manual:

Power on		Power off	
1	Connect ground and RF input connector	1	Turn off RF signal
2	Connect the RF output port to the load (The VSWR of the load should be less than 3:1)	2	Disconnect the 28V power supply to the amplifier
3	Connect the 30V power supply to the fan	3	Disconnect the RF connectors
4	Turn on the RF signal and ensure that the input signal does not exceed 8dBm		

温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature*	-40		+50	°C
存储温度 Non-operating Temperature*	-50		+60	°C
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			

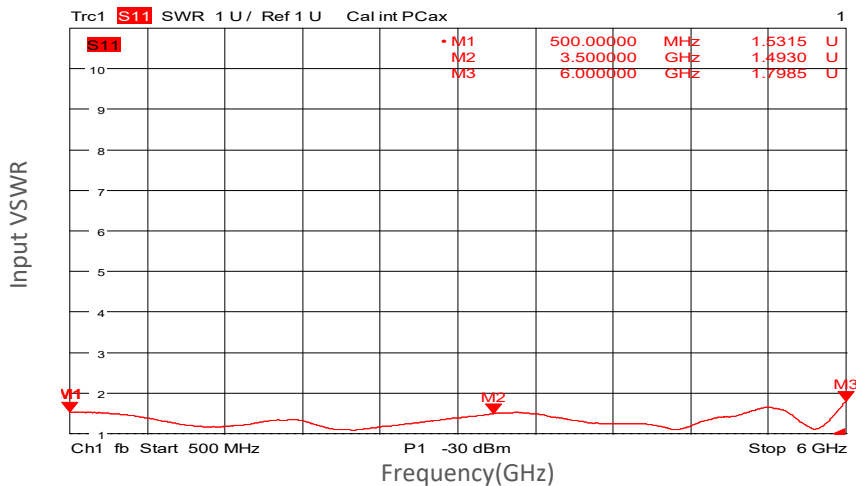
*Note: For a wider temperature range, please consult the manufacturer.

订货信息 Ordering Information:

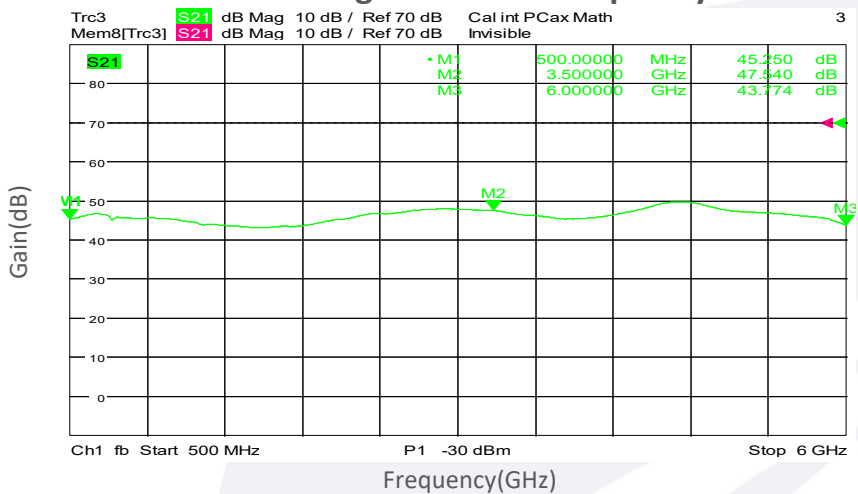
标准型号 Base Number	描述 Description	版本号 Revision
TLPA0.5G6G-40-40-A	Power amplifier 0.5-6GHz, Gain:40dB,Psat:40dBm,+30V DC,Without Heatsink	Rev.1.1
TLPA0.5G6G-40-40-A-HS	Power amplifier 0.5-6GHz, Gain:40dB,Psat:40dBm,+30V DC,With Heatsink	Rev.1.1

典型曲线 Typical Performance Data:

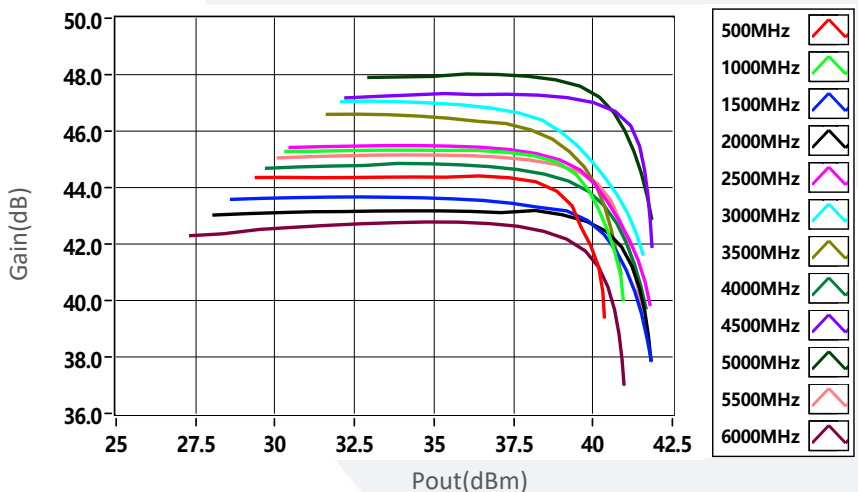
Input VSWR vs Frequency



Small Signal Gain vs Frequency



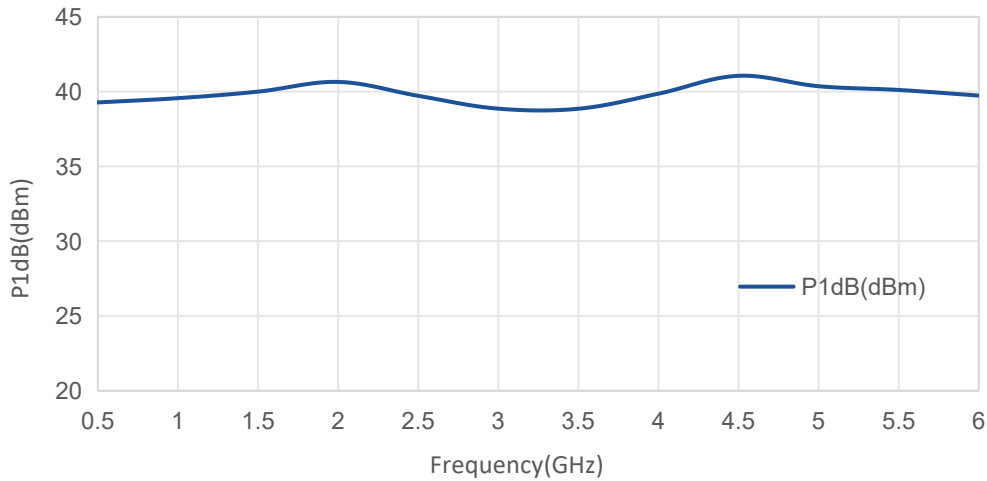
Gain vs Output Power



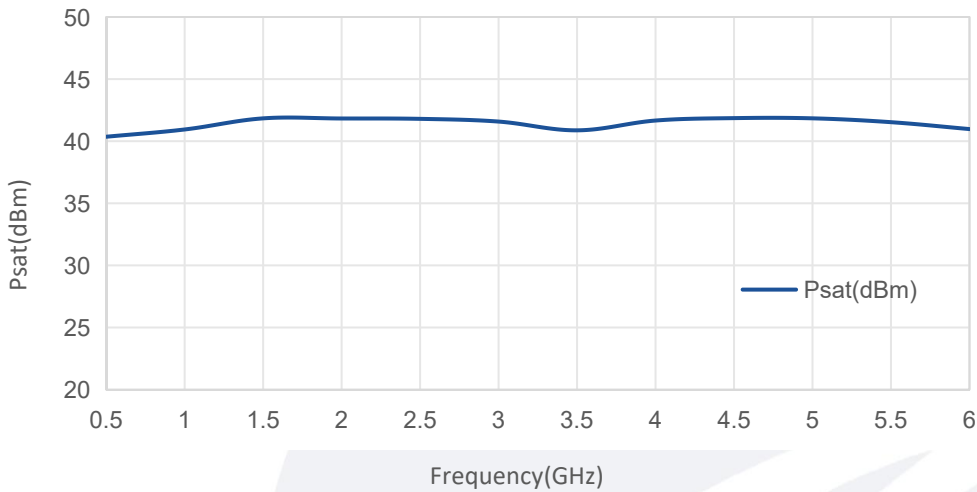
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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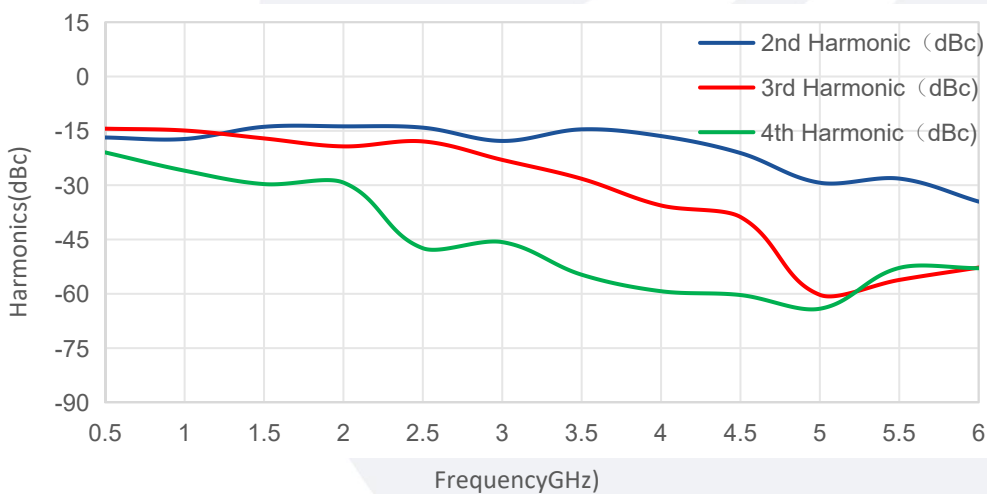
P1dB vs Frequency



Psat vs Frequency



Harmonics vs Frequency



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